Cambois Data Centre Campus

Reserved Matters Application Phase 1

Ecological Impact Assessment

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Cambois Data Centre Campus: Phase 1

Ecological Impact Assessment

Author	Steph Davies
Checker	Sian Jones
Reviewer	Sian Jones
Approver	Katie Prebble
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1 Introduction

1.1 Overview

1.1.1 Arcadis Consulting (UK) Limited has been commissioned by QTS (the Project Developer and Operator) to undertake an Ecological Impact Assessment (EcIA) to support a reserved matters application (RMA) for *'(for access, layout, scale, appearance and landscaping) pursuant to outline planning permission 24/04112/OUTES, for two data centre buildings including ancillary office space (Use Class B8), security gatehouse and associated landscaping and infrastructure on Phase 1 of the data centre campus'.* This is referred to as **Phase 1** works.

1.1.2 Outline planning (Planning Reference: 24/04112/OUTES) (herein referred to as the 'Proposed Development') was obtained in May 2025.

1.1.3 Subsequently, a RMA for Phase A Enabling Works including site preparation, earthworks and other works required prior to the construction and operation of the data centre campus (Planning Reference: 25/01725/REM) was submitted in May 2025. For the purposes of this Phase 1 assessment, it is assumed that the RMA for Phase A Enabling Works has been permitted and implemented as Phase 1 is reliant on the completion of Phase A Enabling Works.

1.1.4 The redline boundary (red shaded area) as shown in **Inset 1-1**, is referred to as the 'Site' and is the extent of the reserved matters planning application boundary for Phase 1, covering Data Centres 1 and 2 (DC1+DC2). The blue line boundary as shown in **Inset 1-1** depicts the outline planning application boundary and is referred to as the "Survey Area".

1.2 Site Location and Description

1.2.1 The Site comprises previously developed land that was used for the storage of coal for the former Blyth Power Station at Cambois, Northumberland. It is located approximately 2 kilometres (km) north of Blyth town centre and approximately 29km north of Newcastle-Upon-Tyne city centre. The Site is located wholly within the Northumberland County Council (NCC) administrative boundary.

Inset 1-1: Site location

1.3 Phase 1 Proposed Works

1.3.1 **Table 1-1** summarises the construction activities required for Phase 1. It is anticipated that around 1,200 people at peak will be required during this construction phase.

Table 1-1 – Construction activities

Category	Activity
Mobilisation and site setup	Build site access control, temporary roads, car parking, welfare accommodation.
Mobilisation and site setup	Installation of temporary services to serve the above, including below ground infrastructure.
Infrastructure	Trenching and installation of permanent below ground ducts & services, (fibre, High Voltage (HV) and Medium Voltage (MV) power, water, sprinkler, drainage).

Category	Activity
Substructure	DC piling and foundations.
Substructure	DC ground floor slab.
Superstructure	Installation of DC steel frame & equipment gantries, staircases, floors two and three.
Superstructure	DC external envelope, cladding, roof, doors and openings, roller shutters.
Mechanical and electrical plant (MEP) fit out	Installation of MEP containment from equipment gantries, roof, inside DCs.
MEP fit out	Install MEP ducts, cabling, fire detection, fire suppression equipment, Building Maintenance Systems (BMS).
Internal fit out	Installation of internal walls & finishes, ceilings, fire stopping, front of house, back of house installations.
Infrastructure	Install permanent roads, loading bays, fuel fill points, central fire suppression plant, security guard house.
MEP fit out	Delivery, assembly and connection of MEP equipment on gantries, roof and plant rooms. Includes generator fuel systems.
Landscaping	Hard & soft landscaping within scope of DC1+DC2.
Testing and Commissioning	Pre-functional and functional performance testing of MEP equipment and systems.
Testing and Commissioning	Integrated systems testing.

The Phase 1 construction works are targeted to commence in Q3 2026, subject to reserved matters permissions. It is anticipated that DCs 1 and 2 will be operational in Q3 2029. A breakdown of the Phase 1 construction programme is provided in Table 1-1.

Table 1-2 – Phase 1 Construction programme

Construction Activity	Date
DC 01 Start Piling and Foundations	Q3 2026
DC 01 Construction Completion	Q2 2029
DC 02 Start Piling and Foundations	Q1 2027
DC 02 Construction Completion	Q3 2029

1.4 Aims and Objectives of this Report

1.4.1 The purpose of this report is to provide an assessment of the protected and/or notable habitats and species which occur or have the potential to occur within or near to the Site, which could be impacted by the Phase 1 Works. The aims of this assessment are to:

- Establish the baseline ecological conditions of the Site in the absence of Phase 1 Works;
- Identify Important Ecological Features (IEFs) that could be potentially affected by the Phase 1 Works;

- Assess the potential impacts and significant effects of the Phase 1 Works on IEFs before any proposed mitigation;
- Outline any proposed mitigation and make an assessment of the residual impacts on IEFs and
- Identify opportunities for enhancement in line with national and local planning policy.

2 Relevant Legislation, Policy and Guidance

2.1 Relevant Legislation

2.1.1 The following legislation (**Table 2-1**) has been considered with regard to the methodology and assessment included in this report. A baseline assessment has been undertaken to identify which Important Ecological Features (IEFs) are relevant to the Phase 1 Works (see Section 4) which considered this legislation when identifying IEFs. Details relating to avoidance, mitigation, compensation and enhancement of these IEFs are also provided within this report.

Table 2-1 – Relevant UK Legislation

Legislation	Details
Conservation of Habitats and Species Regulations 2017 (as amended) ('Habitats Regulations') (HMSO, 2019)	The Habitats Regulations require authorities on behalf of the Secretary of State to maintain a list of sites which are important for either habitats or species (UK's National Sites Network – Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)) and to provide protection for these sites through designation, planning and other controls. The Habitats Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licenses by the appropriate authorities (Natural England). Licenses may be granted for a number of purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on the favourable conservation status of the species concerned.
The Wildlife and Countryside Act (WCA) 1981 (as amended) (HMSO, 1981)	The Act is the main mechanism for legislative protection of wildlife in England. It gives protection to native species (particularly threatened species), their resting places and places of shelter by making it an offence to kill, injure, take, damage, destroy, sell, or possess them (with exceptions). The Act gives protection to certain species of wild plants and safeguards important habitats by making it an offence to damage or destroy certain types of designated habitats, such as Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs). This Act also prohibits the spread and release of certain non-native species into the wild.
Protection of Badgers Act 1992 (HMSO, 1992)	Badger (*Meles meles*) and their setts are protected under the Protection of Badgers Act (1992). This protects badgers and their setts by making it an offence to: • Wilfully kill, injure, or take a badger • Damage a badger sett or any part of it • Destroy a badger sett • Obstruct access to, or any entrance of, a badger sett • Disturb a badger when it is occupying a badger sett A licence from Natural England is required for any activity that would result in obstruction, disturbance, or closure (temporarily or permanently) of an active sett. If a main sett requires closure, mitigation must be provided by the construction of an artificial sett along with proof of uptake by badgers.

Legislation	Details
Countryside and Rights of Way Act 2000 (HMSO, 2000)	The Act places a duty on government departments to have regard for the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity. It also strengthens legal protection for species considered to be threatened under the WCA 1981 and increases powers for the protection and management of Sites of Special Scientific Interest (SSSIs).
The Natural Environment and Rural Communities (NERC) Act 2006 (HMSO, 2006)	The NERC Act places a duty upon public bodies to maintain Section 41 (S41) lists of flora, fauna, and habitats and to consider these ecological features as a material consideration in planning. It also requires decision-makers to have regard to the conservation of biodiversity in England, when carrying out their normal functions.
Invasive Alien Species (Permitting and Enforcement) Order 2019 (HMSO, 2019)	This order strengthens the legislation in relation to widely spread species of European Union concern; requiring effective management measures to be put in place to minimise their impacts. A person who plants or otherwise causes to grow in the wild any specimen which is of a species of plant which is included in Part 2 of Schedule 2 is guilty of an offence.
The Environment Act 2021 (HMSO, 2021)	In line with the 25 Year Plan for the Environment, new development should identify and pursue opportunities for securing measurable net gains for biodiversity and for the wider environment. The Environment Act 2021 introduces a mandatory requirement for 10% biodiversity net gain for new developments to ensure that they enhance biodiversity and create new green spaces for local communities to enjoy. Integrating biodiversity net gain into the planning system will provide a step change in how planning and development is delivered. There is also a strong focus on delivering environmental net gain. This would preferably be achieved on-site, however there are options to deliver these gains off-site and this would be demonstrated via the Statutory Biodiversity Metric calculation tool.
Marine and Coastal Access Act 2009 (HMSO, 2009)	The Act provides a system of marine management and established the Marine Management Organisation (MMO). It includes a marine planning system with provisions for the Government's general policies for the marine environment, and for marine plans. It also changed the system of marine licensing, and modified the way licensing, conservation and fisheries rules are enforced, while providing for the designation of conservation zones and an Exclusive Economic Zone for England and Wales. The system for managing migratory and freshwater fish was amended by this Act and it enabled recreational access to the English coast.
Salmon and Freshwater Fisheries Act 1975 (HMSO, 1975)	This Act provides the framework for legislation relating to the input of polluting materials into watercourses, construction, alteration and removal of in-channel obstructions, closed season for fishing, licencing and enforcement.
Eels (England and Wales) Regulations 2009 (HMSO, 2009)	These regulations afford powers to the Environment Agency (EA) to implement measures for the recovery of European eel (*Anguilla Anguilla*) stocks and have important implications for operators of abstractions and discharges.
Conservation of Seals Act 1970 (HMSO, 1970)	Common seals (*Phoca vitulina*) and grey seals (*Halichoerus grypus*) are specifically afforded protection from killing, injuring or capturing under this Act.

2.2 Policy

2.2.1 The following national and local planning policy (**Table 2-2**) has been considered with regard to the methodology and assessment included in this report.

Table 2-2 – Relevant National and Local Policies

Policy	Details
National Planning Policy Framework (NPPF) (MHCLG, 2024)	The NPPF sets out how the planning system should protect and enhance nature conservation interests. Planning policies and decisions should contribute to and enhance the natural and local environment by: • Protecting and enhancing sites of biodiversity value; • Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services and of trees and woodland; and • Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks. To protect and enhance biodiversity and geodiversity, plans should: • Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and steppingstones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and • Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.
Northumberland Local Plan 2016 to 2036 (NCC, 2016)	The following policies within the Northumberland Local Plan 2016 to 2036 relate to biodiversity and nature conservation: • Policy ENV 1 - Approaches to assessing the impact of development on the natural, historic and built environment (Strategic Policy). This policy "sets out the strategic approaches to assessing the impact of development on the natural, historic, and built environment. It emphasises the weight to the afforded to the statutory purposes and special qualities of designated and non-designated nature assets and sites including international and national designations". • Policy ENV 2 - Biodiversity and Geodiversity. This policy "relates to the effects of development on biodiversity and geodiversity. It addresses minimising adverse impacts, and maximising opportunities for biodiversity net gain. The policy specifically deals with addressing adverse effects on habitats and species, including through using developer contributions to the Coastal Mitigation Service". • Policy ENV 5 - Northumberland Coast Area of Outstanding Natural Beauty. This policy relates specifically to conserving and enhancing the qualities of the Northumberland Coast AONC. It sets out considerations that should be included when assessing developments, with note that "where new building or engineering works are proposed, the Council will require the submission of detailed plans and will not grant outline planning permission, unless they contain sufficient supporting information by which the impact of the proposed development on the special qualities of the AONB can be judged". • Policy STP 1: Spatial Strategy. This policy aims to "deliver sustainable development which enhances the vitality of communities across Northumberland, supports economic growth, and which conserves and

Policy	Details
	enhances the County's unique environmental assets". This includes a point to not presume to favour sustainable development, where the development may impact protected areas or habitats set out in the NPPF, including "Sites of Special Scientific Interest; land designated as Green Belt, Local Green Space, an Area of Outstanding Natural Beauty, or defined as Heritage Coast; irreplaceable habitats".
Northumberland Biodiversity Action Plan (BAP) (Northumberland Biodiversity Partnership, 2008)	The Northumberland Biodiversity Partnership is a collection of organisations and individuals working together to conserve, enhance and promote biodiversity in Northumberland. A total of 24 habitats and 22 species are listed in the Biodiversity Action Plan (BAP), selected on their level of protection, current threatened status and local knowledge for their extent and condition in Northumberland.

3 Methodology

3.1 Overview

3.1.1 This EcIA has been prepared in accordance with the Guidelines for Ecological impact Assessment produced by the Chartered Institute of Ecology and Environmental Management (CIEEM) (2018) and includes a desk-based study, field survey, assessment and evaluation.

3.1.2 The current guidance on ecological impact assessments (CIEEM, 2018) recommends that all ecological factors that occur within the zone of influence (ZoI) for a proposed development are investigated: The ZoI is variable depending on the ecological receptors affected. **Table 3-1** summarises the search areas used for ecological receptors.

3.1.3 A wide range of ecological receptors were considered during the desk study and the field survey. Various factors were considered (geographic location, barriers to movement, suitability of habitats, presence and location of records in the desk study) and lead to the conclusion that there would be no presence of certain receptors within the ZoI. Thus, only those ecological receptors that were considered relevant to the Site have been considered below.

3.1.4 The field surveys were initially undertaken in 2024 and 2025 to support the outline application and covered the entire outline planning application boundary (Planning Reference: 24/04112/OUTES) referred to as the 'Survey Area'. The results of these surveys remain valid to support the reserved matters application.

3.2 Desk Study

3.2.1 A desk study was undertaken in June 2024 to identify any existing ecological information relating to the Survey Area and its surroundings with relevant search buffers included in **Table 3-1** below.

3.2.2 Data was obtained from the Environmental Records Information Centre (ERIC) North East for ecological records of protected and notable species, habitats and designated sites information within 2km of the Survey Area. Publicly available data, publications, reports and online databases were also used. These include:

- Multi-Agency Geographical Information for the Countryside (MAGIC) (Defra and Natural England, 2024) website was used to search for statutory designated sites of nature conservation value, granted European Protected Species Mitigation (EPSM) licence applications within the last 10 years, ancient woodland and Habitats of Principal Importance (HPI) in England listed under Section (S)41 of the NERC Act 2006 (HMSO, 2006).
- OS mapping (OpenStreetMap, 2024) and aerial imagery (Google, 2024) were studied to place habitats within the ZoI in the wider context; identify potential ecological features that may not be evident on the ground during the field survey; and identify potential barriers to animal movements (such as road networks, built development and major watercourses).
- NCC planning portal to search for previous Ecological Impact Assessments undertaken within the Survey Area and adjacent to the Survey Area. In particular, an Environmental Statement (ES) was previously undertaken by Britishvolt of the Survey Area (Britishvolt, 2021).

Table 3-1 – Desk Study Search Buffers

Designation	Search Area from Survey Area
International or European statutory designated sites	Survey Area and within 10 km of the Survey Area
National statutory designated sites	Survey Area and within 5 km of the Survey Area
Other statutory designated sites Non-statutory designated sites Protected and notable species Granted EPSM licences	Survey Area and within 2 km of the Survey Area
Ponds	Survey Area and within 500 m of the Survey Area
Watercourses	Survey Area and within 200 m of the Survey Area
Protected and notable habitat (including ancient woodland)	Survey Area and within 200 m of the Survey Area

3.3 Field Survey

3.3.1 The field surveys were initially undertaken in 2024 and 2025 to support the outline planning application and covered the entire outline planning application boundary (Planning Reference: 24/04112/OUTES) referred to as the Survey Area. The results of these surveys remain valid to support the reserved matters application.

UK Habitat Classification Survey

3.3.2 The field survey identified and mapped habitats in compliance with the UK Habitat Classification (UKHab) guidance documents (UKHab Ltd, 2023). Primary habitats within the Survey Area were classified using Level 3 and Level 4 of the UKHab hierarchy. Any invasive non-native plant species were also recorded and mapped. These surveys were completed by suitably qualified Arcadis ecologists between 05 – 07 June 2024 and 26 – 28 June 2024.

3.3.3 An extended Phase 1 habitat survey was undertaken at the same time as the UKHab survey. The surveys followed methodology in line with the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017). These surveys included searches of the Survey Area for field signs of protected and species of principal importance (HMSO, 2006).

3.3.4 An updated walkover of the Site was undertaken on 11 July 2025, following the same methods, to determine any changes to the baseline ecological conditions since this initial visit in June 2024.

Terrestrial Invertebrates

3.3.5 A transect was designed following a modified version of the methodology used in the UK Butterfly Monitoring Scheme (UKBMS, 2024) to record all species of butterfly within the Survey Area. A total of three transect surveys were completed on 27 June 2024, 27July 2024 and 08 August 2024 by Arcadis ecologists.

Amphibians

3.3.6 Nine waterbodies were identified within 500m of the Survey Area during a review of OS mapping (OpenStreetMap, 2024) and aerial imagery (Google, 2024) and verified during the field surveys. All nine ponds were subject to Habitat Suitability Index (HSI) assessments undertaken in accordance with best practise guidelines (ARG UK, 2015). Environmental DNA (eDNA) surveys were completed of eight of the ponds, after it was found one of them had dried up. Water samples for eDNA testing were collected following standard guidance (Biggs *et al.,* 2014). These surveys were completed by Natural England great crested newt (GCN) (*Triturus cristatus*) survey licenced Arcadis ecologists on 03-04 June and 26 June 2024.

Reptiles

3.3.7 A search of areas and features, thought suitable for reptiles, was undertaken concurrently with the UK Habitat surveys and followed guidance by Froglife (Froglife, 2015). This included surveying for reptiles within suitable temperatures (10-20^{o}C), focusing on suitable locations (such as sun traps, south facing features and embankments) and searching suitable refugia (such as debris and log piles).

3.3.8 In conjunction with the ground investigation (GI) works, an Ecological Clerk of Works (ECoW) was assigned to supervise the invasive surveys. The ECoW completed refugia spot checks across the Survey Area, from 13 May 2024 to 28 June 2024 and 27 August 2024 to October 2024.

Birds

Breeding Birds

3.3.9 A breeding bird assessment of the Survey Area was undertaken by completing territory mapping based on the methodology of the British Trust for Ornithology's (BTO) Common Bird Census (Stanbury A. J., 2021) (Stanbury A. J., 2024). Six transects were completed to assess the species and population sizes using the Survey Area. These surveys were undertaken on 03 May 2024, 22 May 2024, 05 June 2024, 24 June 2024, 10 July 2024 and 31 July 2024 by experienced ornithologists.

Non-Breeding Birds

3.3.10 A total of 21 wintering bird surveys were undertaken, with three separate surveys completed each month, during the period between August 2024 to January 2025 inclusive. The exception to this was in January 2025 where a total of six surveys were undertaken. The three separate survey types aim to record differing activity at high tide, low tide and dusk. This will assess how the Survey Area is used by non-breeding birds, including those which are qualifying features of the nearby protected designated sites. These surveys have been undertaken in accordance with the BTO Wetland Bird Survey guidance (British Trust for Ornithology, 2017) and nocturnal survey guidance (Bird Survey & Assessment Steering Group, 2023). Surveys were completed between August 2024 and January 2025 by experienced ornithologists.

Bats

Roosting Bats

3.3.11 All trees and structures, within and immediately adjacent to the Survey Area, were subject to an external visual assessment for suitability to support roosting bats, undertaken from ground-level. In accordance with the Bat Conservation Trust (BCT) Good Practice Guidelines (Collins, 2023), a daytime bat walkover (DBW) and ground level tree Assessment (GLTA) of the Survey Area was

undertaken on 05, 06, 07, 26 and 25 June 2024, by Arcadis ecologists, including a Natural England bat survey licenced surveyor.

3.3.12 An updated GLTA walkover of the Site was undertaken on 11 July 2025, following the same methods, to determine any changes to the baseline ecological conditions since this initial visit in June 2024.

3.3.13 As per the BCT Good Practice Guidelines (Collins, 2023) trees assessed as preliminary roost features (PRF) that are viable for multiple bats and have the potential to be used as a maternity roost, 'PRF-M' (that were safely accessible) were subject to three aerial close inspections on 25 July 2024, 22 August 2024 and 25 September 2024 by a bat licenced surveyor. Where trees assessed as PRF-M could not be safely accessed, dusk emergence surveys were undertaken on 31 July 2024, 23 August 2024 and 17 September 2024. to determine the presence/likely absence of roosting bats in these trees.

3.3.14 Hibernation surveys were conducted on trees with features assessed as having suitability to support hibernating bats during the coldest months of the year (December, January and February) in accordance with the BCT Good Practice Guidelines (Collins, 2023). Two separate aerial inspection surveys were completed, four weeks apart from each other on 14 January 2025 and 11 February 2025 by a Natural England bat survey licenced surveyor.

Foraging & Commuting Bats

3.3.15 In accordance with the BCT Good Practice Guidelines (Collins, 2023), three nighttime bat walkovers (NBW) were undertaken. A pre-determined transect was followed, taking full spectrum acoustic recordings and observations of any commuting and foraging bats within the Survey Area on 26 June 2024, 07 August 2024 and 27 September 2024.

3.3.16 Automated static monitoring surveys were also undertaken on Survey Area in accordance with the BCT Good Practice Guidelines (Collins, 2023). Static bat detectors were positioned at strategic locations according to a 'judgemental' sampling protocol in order to target areas of the Survey Area bats were more likely to use. The static bat detectors were left to record for a minimum of five nights on a seasonal basis on 22 May 2024, 08 July 2024 and 09 September 2024.

Badger

3.3.17 Evidence of badger within, and immediately adjacent to, the Survey Area were surveyed for concurrently with the UK Habitat surveys. The identification of badger field signs followed standard methodology detailed in "Surveying Badgers" (Harris, Cresswell, & Jefferies, 1989). This included surveying for badger setts, latrine/dung pits, foraging marks, feeding signs and pathways.

3.3.18 An updated walkover of the Site was undertaken on 11th July 2025, following the same methods, to determine any changes to the baseline ecological conditions since this initial visit in June 2024.

Ecological Impact Assessment and Evaluation

3.3.19 The ecological assessment was undertaken in accordance with CIEEM guidelines for EcIA (CIEEM, 2018). The CIEEM guidelines represent the current best practice for assessing the ecological impact of development projects. Baseline conditions were established from a desk study and field surveys. Details relating to these are provided within **Section 4**.

3.3.20 The CIEEM (2018) guidelines state the ecological features should be considered within a 'defined geographical context' (i.e. spatial scale) and recommends the following frame of reference:

- International and European;
- National;

- Regional;
- Metropolitan, County, vice-county or other Local Authority-wide area;
- River Basin District;
- Estuarine system/coastal cell; and
- Local.

3.3.21 Those ecological features of sufficient value to be considered in decision-making (i.e. those considered to be of 'Local' importance or above), and which it is considered could experience significant effects as a result of the proposed development (i.e. effects that could adversely affect the integrity of the habitat or the favourable conservation status of a species' population), have been classified as IEFs and considered in this detailed assessment (as outlined in CIEEM, 2018). Other ecological features (i.e. those which are of less than 'Local' importance) have been scoped out, and not subject to any further assessment within this impact assessment. The valuation criteria used in this assessment can be found within **Appendix A**.

3.3.22 Assigning importance to ecological features was based on professional judgement informed by available guidance and information and (where necessary) expert advice. Following the identification and valuation of the IEF, it is then necessary to investigate potential impacts on those features to understand how they might be affected by the proposed development.

3.3.23 When describing ecological impacts and effects, reference has been made to the following characteristics:

- Positive or negative;
- Extent;
- Magnitude;
- Duration;
- Frequency and timing; and
- Reversibility.

3.3.24 These categories, along with the geographical context of the ecological feature are utilised to determine the 'character' of the impact and define it as 'significant' or 'not significant'. It assumes that all embedded mitigation is in place before assessing the effects.

3.3.25 A significant effect is defined as one which is considered likely to affect the integrity or conservation status of an ecological feature. Where a significant effect is identified, the value of the feature will be used to help determine the geographical scale at which the effect is significant. Thus, any negative effect which is considered to significantly affect the integrity of a receptor of, for example national value, will be identified as being a nationally significant effect. This approach to determining the significance of effects is in line with CIEEM's best practice guidance (2018). The guidance requires that effects are determined to be 'significant' or 'not significant' with no reference to the level of significance.

3.3.26 CIEEM guidelines for EcIA moves away from the traditional matrix assessment of significant effects. In these matrices, the significance of an adverse impact (or beneficial impact) is calculated as the product of the magnitude of the impact and the value or sensitivity of the nature conservation resources affected. CIEEM guidelines propose an alternative approach which accommodates factors such as the size or conservation status of a species population, habitat quality or the natural geographical range of a species/habitat, for example.

3.3.27 Although the significance of impacts on ecological features will be determined in accordance with CIEEM guidelines, to allow consistent comparison of the significance of ecological effects with other disciplines, it is proposed to transpose any significant residual effects, derived after following CIEEM guidelines, into the more traditional levels of significance used in EIA based on the character of the

remaining effects. **Table 3-2** provides a framework for transposing the significance of residual ecological effects.

Table 3-2 – Conversion matrix

Characterisation of affects using CIEEM scale of significance	Classification of Impact: CIEEM	Classification of Impact: Traditional
Loss of, permanent damage to or adverse impact on any part of a site of international or national importance. Loss of a substantial part or key feature of a site of regional importance. Loss of favourable conservation status (FCS) of a legally protected species. Loss of or moderate damage to a population of nationally rare or scarce species.	Negative Significant Effect	Major Adverse
Temporary disturbance to a site of international or national importance, but no permanent damage. Loss of or permanent damage to any part of a site of regional importance. Loss of a key feature of local importance. A substantial reduction in the numbers of legally protected species such that there is no loss of FCS, but the population is significantly more vulnerable. Reduction in the amount of habitat available for a nationally rare or scarce species, or species that are notable at a regional or regional level.		Moderate Adverse
Temporary disturbance to a site of regional value, but no permanent damage. Loss of, or permanent damage to, a feature with some ecological value in a local context but that has no nature conservation designation. A minor impact on legally protected species but no significant habitat loss or reduction in FCS. A minor impact on populations of nationally rare or scarce species or species that are notable at a regional or regional level.		Minor Adverse
No impacts on-sites of international, national or regional importance. Temporary disturbance or damage to a small part of a feature of local importance. Loss of or damage to land of negligible nature conservation value. No reduction in the population of legally protected, nationally rare, nationally scarce or notable (regional level) species on the site or its immediate vicinity.	No Significant Effect	Negligible
Beneficial and adverse impacts balance such that resulting impact has no overall affect upon receptor.		Neutral
A small but clear and measurable gain in general wildlife interest, e.g. small-scale new habitats of wildlife value created where none existed before or where the new habitats exceed in area that habitats lost.	Positive Significant Effect	Minor Beneficial

Characterisation of affects using CIEEM scale of significance	Classification of Impact: CIEEM	Classification of Impact: Traditional
Larger new scale habitats (e.g. net gains over 1ha in area) created leading to significant measurable gains in relation to the objectives of biodiversity action plans.		Moderate Beneficial
Major gains in new habitats (net gains of at least 10 ha) of high significance for biodiversity being those habitats, or habitats supporting viable species populations, of national or international importance cited in Annexes I and II of the habitats Directive or Annex I of the Birds Directive.		Major Beneficial

3.4 Assumptions and Limitations

3.4.1 The following assumptions and limitations are relevant to this assessment. Any specific limitations to the survey effort are noted within the relevant technical appendices.

- The assessment has been made on the best available data, based on the information that has been gathered from stakeholders, other data sources and the ecological surveys undertaken in 2024 and 2025.
- A precautionary approach has been taken in the prediction of impacts. Where there is any doubt, a species will be assumed present, and an impact will be given the higher level of significance.
- When visiting pond W11 it was discovered that there were several other waterbodies north of the Survey Area (within 500m of the Survey Area). However, these waterbodies were inaccessible due to the presence of livestock. Several attempts were made to survey these waterbodies however, it was not possible due to overriding health and safety concerns. These waterbodies were assessed from a distance and appeared to be scrapes for wading birds rather than formal ponds and the banksides were heavily poached (by livestock). This was later confirmed by NCC, who manage these scrapes, and described the waterbodies as 'seasonal' which dry out annually. Given the absence of GCN in the other ponds within 500m of the Survey Area, the heavily poached nature and use as wader scrapes it is unlikely that these waterbodies are used by breeding GCN.
- Two hundred metre exclusion buffers around breeding little ringed-plover (*Charadrius dubius*) prevented access to certain areas of the Survey Area during some of the ecological surveys. These restricted areas were viewed with binoculars from the edge of the exclusion zone to search for field signs of protected and notable species. Due to the majority of the Survey Area being occupied by open mosaic habitats of on previously developed land, it was determined that this access restriction to a relatively small proportion of the Survey Area made no significant impact to the species recorded during the surveys. Additionally, once the little ringed plover fledged the Survey Area, these areas became accessible for further inspection and so does not pose a significant constraint to the survey results.
- A 'Spring' nighttime bat walkover was not undertaken, with the first survey being undertaken on 24 June 2024. Recorded bat activity has previously been low on the Survey Area (Britishvolt, 2021) with only common species previously recorded (common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and *Myotis* bats). Given the geographical location (coastal, northerly latitude) of the Survey Area and historic and current low recorded numbers of bats using the Survey Area, undertaking the first survey just outside of the optimal period is not considered a significant constraint to the survey results.
- The adult flight periods for dingy skipper are between late May and early July, with a brief period in late August, and therefore only one survey visit was conducted within this optimal flight period of dingy skipper (*Erynnis tages*). However, it is still possible to determine the presence of this

species as eggs and caterpillars are present on common foodplants between these optimal flight periods. As such this is not considered to be a significant constraint to the survey results.

4 Baseline Conditions

4.1 Reporting Outline

4.1.1 The results of the desk study and field survey are described below, with sites or features of particular nature conservation interest detailed as appropriate. The field surveys were initially undertaken in 2024 and 2025 to support the outline application and covered the entire outline planning application boundary (Planning Reference: 24/04112/OUTES) and is referred to as the 'Survey Area'. The results of these surveys remain valid to support the reserved matters application.

4.2 Desk Study

Designated Sites for Nature Conservation

4.2.1 No statutory designated sites were recorded within the Site. Eight statutory designated sites were recorded within their relevant ZoI in relation to the Phase 1 Works (as detailed in **Table 3-1** above).

4.2.2 No non-statutory designated sites were recorded within the Site. Two non-statutory designated sites were recorded within their relevant ZoI (as detailed in Error! Reference source not found. **3-1** above).

4.2.3 Error! Reference source not found. **4-1** summarises the potential for the Phase 1 Works to impact the recorded statutory and non-statutory designated sites within their relevant ZoI. Sites which require further consideration have been identified.

Table 4-1 – Statutory Designated Sites Identified During the Desk Study

Site Name and Designation	Distance and Direction from the Survey Area	Reason for Designation
Statutory Designated Sites		
Northumberland Marine SPA	0.2km east	Internationally important numbers of seabirds undertake maintenance and/foraging behaviour within Northumberland Marine SPA. These include those that breed at the following SPAs: Lindisfarne, Northumbria Coast, Farne Islands and Coquet Island. All but Northumbria Coast SPA are situated >10km from the Survey Area. The following 'Qualifying' species form the internationally important breeding populations across this area: • Sandwich tern (*Sterna sandvicensis*) (4,324 individuals; 19.66% of the GB population); • common tern (*Sterna hirundo)* (2,572 individuals; 12.86% of the GB population); • Arctic tern *Sterna paradisaea* (9,564 individuals; 9.02% of the GB population); • roseate tern (*Sterna dougallii)* (160 individuals; 93.02% of the GB population); • little tern (*Sternula albifrons)* (90 individuals; 2.37% of the GB population); • puffin (*Fratercula arctica)* (108,484 individuals; 1.05% of the biogeographic population); and

Site Name and Designation	Distance and Direction from the Survey Area	Reason for Designation
		• guillemot (*Uria aalge)* (65,751 individuals; 1.72% of the biogeographic population). The SPA also qualifies for designation due to its overall seabird assemblage, as it supports 214,669 individual seabirds over the breeding season (2010-2014). Species present in Nationally important numbers and are as such 'Listed' species within the assemblage, include: • cormorant (*Phalacrocorax carbo)* (230 breeding adults); • European shag (*Gulosus aristotelis)* (1,677 breeding adults); • black-headed gull (*Chroicocephalus ridibundus)* (8,745 breeding adults); and • black-legged kittiwake (*Rissa tridactyla)* (8,667 breeding adults) which make up 1.37%, 3.11%, 3.36% and 1.17% of the UK populations respectively.
Northumbria Coast Ramsar	0.7km south-east	Designated for non-breeding populations of: • purple sandpiper (1.6% of the East Atlantic Flyway non-breeding population); and • turnstone (*Arenaria interpres)* (2.6% of the East Atlantic Flyway non-breeding population).
Northumbria Coast SPA	0.7km south-east	Designated for a breeding population of: • Arctic tern (2.92% of UK breeding population); and • little tern (1.7% of UK breeding population); Also designated for a population of: • non-breeding purple sandpiper (1.6% of the East Atlantic Flyway non-breeding population); and • turnstone (2.6% of the East Atlantic Flyway non-breeding population).
Northumberland Shore SSSI	0.2km east/0.3km south	The Northumberland Shore includes most of the coastline between the Scottish border and the Tyne Estuary. This complements the Lindisfarne SSSI, which it abuts, in providing important wintering grounds for shore birds, and it is of international, or national significance for six species: • purple sandpiper; • turnstone; • sanderling (*Calidris alba)*; • golden plover (*Pluvialis apricaria)*; • ringed plover*;* and • redshank (*Tringa tetanus)*. The Northumberland Shore as a whole is used by a wide variety of other shorebirds in winter, including up to: • 400 curlew (*Numenius Arquata*); • 1000 oystercatcher (*Haematopus ostralegus*); • 2000 dunlin (*Calidris alpina*); • 600 knot (*Calidris canutus*); • 150 bar-tailed godwit (*Limosa lapponica*); and • 4000 lapwing (*Vanellus vanellus*).

Site Name and Designation	Distance and Direction from the Survey Area	Reason for Designation
		Arctic and little terns breed on the shore during the summer. The inter-tidal zone is also favoured all year round as a feeding area for eiders (*Somateria mollissima)*, which are present along the coast in nationally important numbers and use the mudflats by the Coquet estuary as a feeding ground for their young.
Berwick to St Mary's Marine Conservation Zone (MCZ)	0.3km east	The site has been designated in recognition of its nationally important numbers of eider duck. The eider is a species of sea duck which feeds on marine molluscs which can be found on the inshore waters of the Northumberland coast throughout the year. The Farne Islands and Coquet Island are important local breeding sites for the bird. The site stretches from Berwick-upon-Tweed in the north to St Mary's Island in the south and covers an area of 634km^2.
Coquet to St Mary's MCZ	0.3km east	This site helps protects several different types of rock and sediment on the shoreline and on the seabed. The seabed protected by this site is made up of rock, sand, mud and sediment. This range of habitats provides a home for a large variety of life. For example, the coarse sediment is home to animals such as bristleworms, sand mason worms, small shrimp-like animals, burrowing anemones, and cockles. Rocks in shallow water (infralittoral rocks) are a habitat for kelp and red seaweed, whilst the deep water (circalittoral) rock is a habitat for cup coral, sea-fans, and anemones, and sponges. These complex habitats and communities also support mobile species such as starfish, sea urchins, crabs, and lobsters. The site also supports a range of intertidal habitats, which are above water at low tide and underwater at high tide. One of these habitats is intertidal under boulder communities. Boulders create shaded areas that provide a refuge to sea squirts, sea mats, and sponges. The undersides of the boulder provide a habitat for animals like sea slugs, long-clawed porcelain crabs and brittlestars, which shelter and feed in the damp shaded conditions.
Cresswell and Newbiggin Shores SSSI	1km north-east	This site has been identified as of national importance by the Geological Conservation Review - Cresswell and Newbiggin Shores is important for both Westphalian and Quaternary studies.
Willow Burn and Pasture SSSI	4.8km west	Willow Burn Pasture is an area of unimproved species-rich neutral grassland established on former ridge and furrow cultivation, and now managed as pasture. There has been some invasion by scrub, and wetter areas support tall herb communities.
Castle Island Local Nature Reserve (LNR)	1.2km north-west	Urban fringe: Woodland
Non-Statutory Designated Sites		
Blyth Estuary Local Wildlife Site (LWS)	0.3km south-west	The Blyth Estuary LWS covers habitats such as mudflats and saltmarsh which provide suitability for various notable species of bird, migratory fish, otters and seals.
Wansbeck Estuary LWS	0.65km north	Wansbeck Estuary is designated for its varied habitats of mudflats and saltmarsh which support a diverse community of wading birds.

Important Habitats including Ancient Woodland

4.2.4 The desk study identified nine Habitats of Principal Importance (HPI) within 2km of the Survey Area, including deciduous woodland (nearest is within the Site), coastal sand dunes (nearest is 25m east), purple moor grass and rush pasture (nearest is 0.19km north west), coastal saltmarsh (nearest is 0.2km south-west), mudflats (nearest is 0.28km south), maritime cliff and slope (nearest is 1km north-east), good quality semi-improved grassland (nearest is 1.6km west), lowland meadows (nearest is 1.6km west), and ancient woodland (nearest is 1.65km north-west).

4.3 Habitats

4.3.1 Full details of the results of the UK Habitat Classification survey were provided as part of the outline planning application (NCC reference. 24/04112/OUTES), Document Ref.3.3 (Volume 3 ES Appendix 5.1 UK Habitat Classification). The results are shown in **Figure 1.**

Table 4-2 – UKHab types (areas) present and approximate percentage of the total Survey Area and Site

Habitat	Survey Area		Site (Phase 1 Works)	
	Area (ha)	Approximate % of total area	Area (ha)	Approximate % of total area
Developed land; sealed surface	21.84	21.35%	18.85	33.29%
Sparsely vegetated land	21.82	21.33%	12.15	21.46%
Other neutral grassland	19.95	19.50%	8.34	14.73%
Open mosaic habitat on previously developed land	17.47	17.08%	5.37	9.48%
Other woodland; broadleaved	8.49	8.29%	5.85	10.33%
Scrub (mixed, blackthorn, bramble, gorse)	7.86	7.68%	1.78	3.14%
Other wetlands	3.97	3.89%	3.97	7.01%
Ponds	0.90	0.88%	0.32	0.57%
Totals	**102.30ha**	**100%**	**56.63ha**	**100%**

4.3.2 The following habitats have been identified within the Survey Area:

Other neutral grassland (g3c)

4.3.3 Sown grassland covers the majority of the pulverised fuel ash (PFA) and furnace bottom ash (FBA) mounds in the east of the Survey Area. Several other areas of grassland exist around the Survey Area including a triangle in the south of the Survey Area.

4.3.4 Within the Site, there is a strip of other neutral grassland and a circular mound in the west and there is an area of other neutral grassland in the east of the Site north of the settling ponds.

Other woodland; broadleaved (w1g)

4.3.5 There are areas of woodland across the Survey Area with planted areas on the slopes of the PFA/FBA mounds in the east of the Survey Area.

4.3.6 Within the Site, in the south, are areas of plantation broadleaved woodland in proximity to the main access route and a small area of woodland surrounds the eastern settling pond in the south-east of the Site.

- Blackthorn scrub (h3a)

4.3.7 There is an area of dense scrub dominated by blackthorn which surrounds the triangle of other neutral grassland in the south of the Survey Area, adjacent to the housing estate. A portion of this falls within the Site.

- Bramble scrub (h3d)

4.3.8 Areas of scrub dominated by bramble exist along the path between the two PFA/FBA mounds in the north-east of the Survey Area. Within the Site bramble scrub is present immediately north of the wetland area on each bank of Cow Gut.

- Gorse scrub (h3e)

4.3.9 A significant patch of gorse scrub exists on the northern PFA/FBA mound within the Survey Area. No gorse scrub is present within the Site.

- Mixed scrub (h3h)

4.3.10 There were three distinct areas of mixed scrub around the Survey Area, where no one species was dominant. The largest of these areas was found in the east of the Survey Area. Another area is located on the southern PFA/FBA mound within the Survey Area. Within the Site there is an area of mixed scrub around the settling ponds.

- Other wetlands (f2f)

4.3.11 There is a large area of standing water in the south of the Site, dominated by rush species.

- Developed land; sealed surface (u1b)

4.3.12 Sealed surfaces were the most prevalent habitat within the Survey Area largely found within the centre. These areas comprised tarmacked surfaces and access roads.

- Buildings (u1b5)

4.3.13 There are three buildings and structures present within the Survey Area, including a single storey, brick-built substation in the south-west of the Survey Area (B1), an overbridge in the east of the Survey Area (B2) and a temporary, prefabricated, three storey cabin in the west of the Survey Area (B3). Buildings B1 and B3 fall within the Site.

- Sparsely vegetated urban land (u1f): Open mosaic habitats of previously developed land (80)

4.3.14 Extensive areas of the Survey Area and Site are dominated by sparsely vegetated urban land. Large areas have been hard-surfaced with the main substrates being free draining brick/rubble, tarmac and concrete.

4.3.15 Some of these areas have been classified ‘open mosaic habitat on previously developed land’ (OMHPDL). These areas were found to meet all five of the criteria by Joint Nature Conservation Committee (2010) and UK Habitat Classification definition (detailed within Document Ref.3.3 (Volume 3 ES Appendix 5.1 UK Habitat Classification) of outline planning application (NCC reference. 24/04112/OUTES)), including size, previously disturbed nature, vegetated areas, the areas have been previously hard surfaced but have been undisturbed for so long that a diverse

successive community of plant and ephemeral communities have colonised large portions of these areas.

- Other standing water (r1g)

4.3.16 There are five standing waterbodies within the Survey Area, including two settling ponds in the south-east of the Survey Area (W2 and W3), a pond derived from Maw Burn in the east of the Survey Area (W6), a large area of open standing water in the north of the Survey Area (W10) and a dry pond in the west of the Survey Area (W12). Three waterbodies (W2, W3 and W12) fall within the Site.

4.3.17 The Survey Area was historically drained by two watercourses: Maw Burn, which flows from the north-west of the Survey Area to the east, eventually discharging into the North Sea, and Cow Gut, which flow from the west of the Survey Area to the south-east before discharging into the Blyth Estuary to the south. Parts of Maw Burn and Cow Gut fall within the Site.

4.3.18 Extensive areas of these watercourses are culverted under the Survey Area however, some sections flow above ground within the Survey Area. Open concrete ditches encircle the areas of hardstanding within the Survey Area. The majority of these concrete ditches were dry at the time of survey or with very little water. A large proportion of these concrete ditches fall within the Site.

- Invasive non-native species

4.3.19 Various invasive non-native species (INNS) listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and The Invasive Alien Species (Enforcement and Permitting) Order 2019 were identified within the Survey Area, including Japanese knotweed (*Reynoutria japonica*), Japanese rose (*Rosa rugosa*), New Zealand pigmyweed (*Crassula helmsii*). Japanese rose, and New Zealand pigmyweed fall within the Site.

4.3.20 Other invasive species such as pirri-pirri burr (*Acaena novae-zelandiae*), lady's mantle (*Alchemilla mollis*) and buddleia (*Buddleja davidii*) were also found throughout the Survey Area. Sea buckthorn (*Hippophae rhamnoidesis*) frequent throughout many parts of the Survey Area. This species is native to parts of the east coast of Britain, but it has been introduced widely outside of its native range, where it is often invasive.

4.3.21 All of these INNS (with the exception of Japanese knotweed) fall within the Site however some will have been removed as part of the Enabling Works Phase A.

Protected and Notable Species

Terrestrial Invertebrates

4.3.22 Full details regarding the results of the terrestrial invertebrate surveys were provided as part of the outline planning application (NCC reference. 24/04112/OUTES), Document Ref.3.3 (Volume 3 ES Appendix 5.2 Terrestrial Invertebrate Survey Report). The results are shown in **Figure 2**.

4.3.23 A review of data provided by ERIC returned 86 records of 12 species of protected/notable invertebrates within 2km of the Survey Area, including three species of butterfly, eight species of moth, and a single species of bee. Ten of these species are listed under S41 of the NERC Act (2006). Of these records only two species of butterfly, grayling (*Hipparchia semele*) and wall (*Lasiommata megera*), were located within the Survey Area. These two species also accounted for 69 of the records. The remainder of the S41 species pertained only to moths, with the closest record being 1.64km west of the Survey Area.

4.3.24 Over the three surveys undertaken between June and August 2024, a total of 115 butterflies were recorded consisting of ten species, including: grayling, wall, common blue (*Polyommatus icarus*),

green-veined white (*Pieris napi*), meadow brown (*Maniola jurtina*), peacock (*Aglais io*), red admiral (*Vanessa atalanta*), ringlet (*Aphantopus hyperantus*), and small skipper (*Thymelicus sylvestris*), speckled wood (*Pararge aegeria*). Of these species, only grayling and wall are considered of conservation value, both listed under S41 NERC Act (2006), all other species are considered common and widespread within the area and nationally.

4.3.25 Of the 115 field survey records, seven were identified as grayling, all located within the centre of the Survey Area within open mosaic habitats of previously developed land, utilising bare ground around sparsely vegetated mounds of rubble.

4.3.26 Eight of the records were identified as wall butterfly, most located in areas close to the eastern boundary of the Survey Area within open mosaic habitats of previously developed land in sparsely vegetated areas, and around other neutral grassland habitats.

4.3.27 Both grayling and wall were recorded within the Site.

Amphibians

4.3.28 Full details regarding the results of the amphibian surveys were provided as part of the outline planning application (NCC reference. 24/04112/OUTES), Document Ref.3.3 (Volume 3 ES Appendix 5.3 GCN Surveys). The pond locations are shown in **Figure 3** and results shown in **Figure 4**.

4.3.29 A review of data provided by ERIC did not return any records of GCN within 2km of the Survey Area. The data returned a single record of an amphibian within 2km of the Survey Area, relating to a smooth newt (*Lissotriton vulgaris*), from 2019. Only a 4-figure grid reference was provided, meaning the record could be from 1 to 3km west of the Survey Area.

4.3.30 Of the 12 waterbodies identified using OS mapping aerial imagery, only nine of these were found to exist during the field surveys. During the HSI surveys, these nine ponds within 500m of the Survey Area were assessed as having either ‘excellent’ or a ‘good’ HSI score. The subsequent eDNA surveys returned negative results for GCN DNA presence for eight of the ponds, with the final pond having dried up at the time of survey. This, plus the absence of any records returned from the local biodiversity record centre, suggests the likely absence of GCN from the Site and Survey Area and the immediate surrounding landscape.

4.3.31 One incidental sighting of common toad, a SPI, was recorded within the Site, north of the settling ponds (W2 and W3) (June 2024) and several sightings of smooth newt have been identified within the Survey Area during GI works in September 2024. As such, the Site and Survey Area does offer limited suitability to these more common and widespread species of amphibians. Habitats providing some level of suitability included the ponds and various terrestrial habitats including areas of woodland, scrub and grassland, providing shelter and cover for dispersal throughout the Site and Survey Area.

Reptiles

4.3.32 The desk study identified no records of reptiles within 2km of the Survey Area. However, NCC have disclosed incidental records of common lizard (*Zootoca vivipara*) on the dunes north of Wansbeck Estuary (approximately 1km north of the Survey Area) and south of Blyth.

4.3.33 While the Site and Survey Area has suitability for basking, resting, commuting and foraging reptile, no reptiles have been noted during the multiple survey visits during informal checking of refugia or during the ECoW supervision undertaken during the ongoing ground investigation works throughout May 2024 to October 2024. As such, no significant populations of reptiles are considered to be present within the Survey Area.

Birds

4.3.34 The desk study identified over 600 records of birds within 2km of the Survey Area, including species listed as qualifying features of the nearby designated sites. **Figure 5** shows statutory and non-statutory sites identified within 10km of the Survey Area with birds (breeding and non-breeding) listed as a designating feature.

Breeding Birds

4.3.35 Full details regarding the results of the breeding bird surveys were provided as part of the outline planning application (NCC reference. 24/04112/OUTES), Document Ref.3.3 (Volume 3 ES Appendix 5.4 Breeding Bird Survey Report). Survey results for each survey visit are provided in **Figure 6** and **Figure 7** shows breeding territories.

4.3.36 The breeding bird surveys recorded a total of 66 species within the Survey Area, of which 32 were breeding. Ground nesting species recorded in the open habitats included lapwing, little ringed plover, ringer plover and skylark (*Alauda arvensis*), all of which were noted within the Site.

4.3.37 The only species which forms a breeding Qualifying Feature of the Internationally designated sites (Northumberland Marine SPA and Northumbria Coast SPA/Ramsar) recorded during the survey work was sandwich tern. This was however on a single occasion and the bird was in flight over the Survey Area. Black-headed gull is a species listed as part of the seabird assemblage Qualifying Feature of the Northumberland Marine SPA; three records of this species was made during the surveys; however, these were non-breeding observations.

4.3.38 No species noted for their breeding numbers on the Northumberland Shore SSSI or Berwick to St Mary's MCZ were recorded during the surveys.

Non-Breeding Birds

4.3.39 Full details regarding the results of the non-breeding bird surveys were provided as part of the outline planning application (NCC reference. 24/04112/OUTES), Document Ref.3.3 (Volume 3 ES Appendix 5.5 Non-Breeding Bird Survey Report). Survey results for each survey visit are provided in **Figure 8**.

4.3.40 A total of 99 species have been recorded across the Survey Area and within the 500m buffer, including unidentified species recorded during dusk surveys due to poor light. Seventy-eight of these were recorded within the Survey Area and 57 species within the wider 500m buffer.

4.3.41 Purple sandpiper and turnstone, which are Qualifying species on the Northumbria Coast SPA, have been recorded off-site within the 500m buffer of the Survey Area. A maximum count of four turnstone and two purple sandpiper were recorded, both of which are insignificant in comparison with the SPA and Ramsar numbers (<1%).

4.3.42 In addition, the numbers of post-breeding sandwich tern (Qualifying species on the Northumberland Marine SPA) were recorded within the 500m buffer are insignificant in comparison with the SPA population.

4.3.43 Eider and sanderling are two species listed as notable on the Northumbria Coast Ramsar, which have been recorded in significant numbers within the 500m buffer, but not within the Site or the Survey Area.

Bats

4.3.44 Full details regarding the results of the bat surveys were provided as part of the outline planning application (NCC reference. 24/04112/OUTES), Document Ref.3.3 (Volume 3 ES Appendix 5.6 Bat Survey Report).

4.3.45 The desk study identified no records of European Protected Species (EPS) licences relating to bats within 2km of the Survey Area. A review of data search provided by ERIC returned records of the following species within 2km of the Survey Area:

- Common pipistrelle;
- Soprano pipistrelle;
- Nathusius' pipistrelle (*Pipistrellus nathusii*);
- Daubenton's bat (*Myotis daubentonii*); and
- Whiskered bat (Myotis mystacinus).

Roosting Bats

4.3.46 In June 2024, the GLTA resulted in various trees being identified within the Site with potential roosting features (PRFs), five assessed as PRF-I (a tree that is small, lacking in suitable surrounding habitats and only viable for individual bats or a small number of bats will be classed) and seven trees as PRF-M. The updated GLTA in July 2025 did not identify any further trees within the Survey Area, other than those identified in June 2024, with PRFs. No structures within the Site or Survey Area were identified with PRFs. Locations of the trees and structures are provided in **Figure 9**.

4.3.47 A combination of aerial inspection surveys and dusk emergence surveys, on the trees assessed as PRF-M, resulted in one of the trees being downgraded to PRF-I. The surveys did not record evidence of the presence of any bat roosts.

4.3.48 The subsequent aerial inspections resulted in three trees being assessed as having the potential to support a hibernation roost (T9, T10 and T12). Hibernation surveys of these trees did not identify any hibernating bats or residual evidence of roosting bats.

Foraging & Commuting Bats

4.3.49 During the three NBW surveys between June and October 2024, a total of 145 bat calls were recorded. Of the data analysed, the calls recorded were largely pipistrelle bats (common and soprano pipistrelles combined), totalling >95% of calls, followed by 4.14% noctules and the small remainder *Nyctalus* species. All species were recorded within the Site. The transect route is shown in **Figure 10** and survey results for each visit are given in **Figure 11**.

4.3.50 The automated static detectors recorded a total of 4,559 bat passes during the survey period (May to September 2024). Calls recorded were largely pipistrelle bats (common, soprano pipistrelles and Pipistrellus sp.), totalling 98% of calls. *Myotis* spp. made <2% and noctule and *Nyctalus* sp. combined was <1% of the total calls. The location of static detectors are shown in **Figure 10**.

4.3.51 Overall, the results show that the Survey Area generally had a low level of activity, predominantly used by common species such as common and soprano pipistrelle, with the occasional commuting noctule and *Myotis* spp. with the month of May having the highest recorded activity in the Survey Area.

Badger

4.3.52 A review of data provided by ERIC returned four records of badger within 2km of the Survey Area, three of which are related to vehicular fatalities. The remaining record is of a known outlier sett.

4.3.53 The woodland, scrub and grassland provide suitable habitat for commuting and foraging badger however, the Survey Area is surrounded on all sides by palisade fencing, which is likely to deter badger from entering the Survey Area. No evidence of badger was noted during the field surveys or during the ECoW supervision undertaken during the ongoing ground investigation works throughout May 2024 to September 2024.

4.3.54 No evidence of badger was noted during the updated walkover of the Site in July 2025.

Other Protected/ Notable Fauna

4.3.55 A review of the data search provided by ERIC returned 21 records of otter (*Lutra lutra*) within 2km of the Survey Area from the past 10 years. The closest record is approximately 0.6km to the north of the Survey Area, associated with River Wansbeck, no information regarding this record was provided. The Survey Area contains five waterbodies (W2, W3, W6, W10 and W12), three of which fall within the Site (W2, W3 and W12), with inundation/marginal vegetation with areas of scrub and woodland in close proximity. There are also open, concrete lined drains and small running ditches (Cow Gut and Maw Burn) which are partially culverted within the Site and Survey Area. The open concrete drains were mostly dry when surveyed in June 2024. There was a small amount of water in the open sections of Cow Gut and Maw Burn, however not suitable to support populations of fish (foraging resource for otter). The Site and Survey Area is sub-optimal for otter due to the absence of good quality foraging habitat. Connectivity is poor to areas of known otter presence (Wansbeck estuary and Blyth harbour) due to local roads and freight lines. No evidence of otter was noted during the survey.

4.3.56 The desk study identified no records of water vole (*Arvicola amphibius*) within 2km of the Survey Area. The Survey Area contains five waterbodies (W2, W3, W6, W10 and W12), three of which fall within the Site (W2, W3 and W12), which are considered to be sub-optimal for water vole. Waterbodies W2 and W3 and drainage ditches within the Site are concrete lined which is unsuitable for burrow creation. Waterbody W12 was dry at the time of survey. While waterbodies W6 and W10 (within the Survey Area) had some water depth, the bank profile of each was very shallow and unlikely to support burrowing water vole. Similarly, the small running ditches (Cow Gut and Maw Burn) have a shallow water depth (<20cm) and are shaded in many places by overhanging trees and scrub, particularly around the PFA mounds. The bank profile is shallow making it sub-optimal for burrowing around the PFA mounds and where the bank profile is suitable for burrow creation (in the north of the Survey Area), the banks are bare with little to no herbaceous vegetation for feeding. No evidence of water vole was noted during the survey. During consultation with NCC, it was discussed that water vole are likely to absent from the Survey Area, due to a lack of local records and sub-optimal habitats.

4.3.57 There were 31 records of red squirrel (*Sciurus vulgaris*) returned within 2km of the Survey Area. There are small, isolated parcels of woodland within the Site and Survey Area which have limited suitability for red squirrel. The woodlands are mainly broadleaved, whereas red squirrel prefer coniferous woodland types (where grey squirrel *Sciurus carolinensis* are absent) to feed on pines. The nearest desktop record is 0.8km west of the Survey Area in East Sleekburn (dated between 2014-2015). There is some coniferous woodland adjacent to the west of the Site, in East Sleekburn, which has connectivity to the Site and Survey Area. Given the availability of off-site preferred habitat, it's unlikely that red squirrel would use the sub-optimal woodland within the Site and Survey Area of lower foraging quality. Furthermore, no evidence of red squirrel or their dreys were identified during the bat GLTA survey. It should also be noted that there were multiple records of grey squirrel within 2km of the Survey Area further indicating the potential local absence of red squirrels.

4.3.58 A review of data provided by ERIC returned 18 records of hedgehog (*Erinaceus europaeus*) within 2km of the Survey Area. A hedgehog was incidentally recorded on Survey Area during GI works in September 2024. The grassland, scrub and woodland habitats within the Site provide suitable areas for commuting and foraging hedgehog.

4.3.59 A review of data provided by ERIC returned no records of protected or notable fish within 2km of the Survey Area in the past 10 years. The watercourses and waterbodies within the Survey Area are

considered unlikely to support fish species, including migrating species, due to the highly culverted and man-made nature of the watercourses.

4.3.60 A review of data provided by ERIC returned only two records of seals within 2km of the Survey Area in the past 10 years. These records both pertained to grey seals (*Halichoerus grypus*), which were both recorded to the south of the Survey Area along the Blyth Estuary, the closest of which was 1.05km from the Survey Area. The habitats within the Survey Area are not considered suitable to support seals.

4.4 Summary of Baseline Value

4.4.1 A summary of the receptors within the ZoI of the Phase 1 Works is included within **Table 4-3** As it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable (CIEEM, 2018), where receptors have been assessed as being of less than Local importance, or where the Phase 1 Works is not considered to have any impacts upon the receptors, these will be scoped out of further assessment.

4.4.2 Although many of these receptors are subsequently scoped out of further assessment, many will benefit from the embedded measures and habitat creation, detailed in the accompanying Phase 1 Biodiversity Net Gain Assessment (**RMA Document Ref: 3.7**).

Table 4-3 – Summary of baseline receptors and scoping of impacts in absence of mitigation

Important Ecological Feature (IEF)	Importance	Scoped In/Out	Justification for Scoping Out
Designated Sites			
Northumberland Marine SPA	International	**In**	N/A
Northumbria Coast Ramsar	International	**In**	N/A
Northumbria Coast SPA	International	**In**	N/A
Northumberland Shore SSSI	National	**In**	N/A
Berwick to St Mary's Marine Conservation Zone (MCZ)	National	**In**	N/A
Coquet to St Mary's MCZ	National	**In**	N/A
Cresswell and Newbiggin Shores SSSI	National	Out	The site is designated for geological features and is scoped out as it is not designated for any ecological features.
Willow Burn and Pasture SSSI	National	Out	The qualifying features for designation will not be affected by the Phase 1 Works due to distance (4.8km west of the Survey Area) and lack of feasible impact pathways.
Castle Island LNR	County	**In**	N/A
Blyth Estuary Local Wildlife Site (LWS)	Local	**In**	N/A
Wansbeck Estuary LWS	Local	**In**	N/A
Habitats			

Important Ecological Feature (IEF)	Importance	Scoped In/Out	Justification for Scoping Out
Other neutral grassland (g3c)	Less than Local	Out	This habitat is of limited ecological importance and is entirely replaceable. The BNG assessment will address any separate requirements of habitat loss under the Environment Act 2021. As such, this habitat is scoped out of further assessment within this EcIA.
Other woodland; broadleaved (w1g)	Local	**In**	N/A
Mixed scrub (h3h)	Less than Local	Out	Though scrub is listed within the Northumberland BAP, this habitat is of limited ecological importance and is entirely replaceable. The BNG assessment will address any separate requirements of habitat loss under the Environment Act 2021. As such, this habitat is scoped out of further assessment within this EcIA.
Other wetlands (f2f) Developed land; sealed surface (u1b) Buildings (u1b5)	Less than Local	Out	This habitat is of limited ecological importance and is entirely replaceable. The BNG assessment will address any separate requirements of habitat loss under the Environment Act 2021. As such, this habitat is scoped out of further assessment within this EcIA.
Sparsely vegetated urban land (u1f): Open mosaic habitats of previously developed land (80)	Local	**In**	N/A
Sparsely vegetated urban land (u1f): Ruderal or ephemeral	Less than Local	Out	This habitat is of limited ecological importance and is entirely replaceable. The BNG assessment will address any separate requirements of habitat loss under the Environment Act 2021. As such, this habitat is scoped out of further assessment within this EcIA.
Other standing water (r1g): ponds (42)	Local	**In**	N/A
Other standing water (r1g): ditches (50)	Less than Local	Out	The majority of the ditches within the Site and Survey Area (with the exception of Cow Gut and Maw Burn) were engineered drainage ditches. These ditches are heavily culverted across the Site and Survey Area and were dry/or had very low water volume. Cow Gut and Maw Burn have clear historic interventions and are culverted across the Site and Survey Area. These are not consistent with the description of a HPI. Potential impacts due to the diversion of Maw Burn will be addressed within the assessment of potential impacts on the two MCZs to the east of the Survey Area.
Invasive Non-Native Species	N/A	**In**	N/A
Protected and Notable Species			
Terrestrial Invertebrates (grayling and wall)	County	**In**	N/A

Important Ecological Feature (IEF)	Importance	Scoped In/Out	Justification for Scoping Out
Terrestrial Invertebrates (remaining priority species identified in the desk study)	Less than Local	Out	The closest record pertaining to other S41 terrestrial invertebrates was 1.64km west of the Survey Area. The invertebrate surveys within the Survey Area did not record any other S41 species. Any impacts are unlikely to be significant. General precautions will be carried out to mitigate any potential direct impacts on terrestrial invertebrates during construction.
Common Toad	Local	**In**	N/A
Other Common Amphibians	Less than Local	Out	One record of a smooth newt within 2km of the Survey Area from the previous 10 years. No further desk study records returned during the search. A small number of smooth newts and a single common toad, have been identified during the extensive GI works across the Site and Survey Area, supervised by an ECoW. Any impacts are unlikely to be significant. General precautions will be carried out to mitigate any potential direct impacts on amphibians during construction.
Reptiles	Local	**In**	N/A
Breeding Birds	County	**In**	N/A
Non-breeding Birds	County	**In**	N/A
Roosting Bats	Local	**In**	N/A
Commuting and Foraging Bats	Local	**In**	N/A
Badger	Local	**In**	N/A
Red squirrel	Local	**In**	N/A
Hedgehog	Local	**In**	N/A

4.5 Future Baseline

4.5.1 The future baseline describes the reasonably foreseeable baseline conditions that are anticipated in the future when the proposed development is operational. In the event the Phase 1 Works do not proceed; it is considered the baseline conditions of the Site would not significantly change. The Site contains OMHPDL which would likely continue to progress into further ephemeral vegetation and scrub with time. In the east of the Survey Area, the band of grassland, scrub and trees in the east on the large, PFA and FBA mounds would continue to progress through succession slowly, as these habitats were managed by the previous landowner.

4.5.2 Hydrosere succession of the ponds within the Site would likely continue, with vegetation colonising the mud forming in the base of the ponds, leading to the eventual drying up of the ponds.

4.5.3 Overall, were the current management of the Site to continue in the absence of Phase 1 Works, it is reasonable to assume the habitats and species present on Site would not change significantly but would continue to change and evolve through the process of succession over time.

5 Embedded Mitigation and Commitments

5.1 Overview

5.1.1 A hierarchical approach to mitigation was adopted through the design of the Phase 1 works which aimed to avoid adverse impacts on IEFs in the first instance through an iterative approach to design, e.g. informed positioning to avoid sensitive receptors where possible. In areas where avoidance was not possible, measures are proposed to prevent or reduce potentially significant negative effects. Where residual effects remain, measures to compensate against negative effects are also proposed, e.g. habitat creation to offset impacts associated with habitat loss and fragmentation where these cannot be avoided.

5.1.2 Mitigation measures are undertaken as a response to anticipated negative effects and can be described as:

- Primary – modifications to the location or design made during the design phase that are an inherent part of the proposed development and do not require additional action to be taken.
- Secondary – actions where potential effects could not be entirely designed out that will require foreseeable activity in order to achieve the anticipated outcome.
- Tertiary – actions that are inexorable, i.e. that will be undertaken to meet other existing legislative requirements or actions that are considered to be standard practices used to manage commonly occurring environmental effects.

5.1.3 Based on the results of survey and assessment, measures that lead to a reduction in negative effects (i.e. avoidance, mitigation or compensation) have been identified prior to an evaluation of the effects of impacts (i.e. these measures constitute 'embedded mitigation' which includes both primary and tertiary mitigation measures).

Primary Mitigation

5.1.4 Primary mitigation measures associated with the Phase 1 Works include consideration of IEFs to inform the selection and appraisal of design options and the methods used during construction. This consideration of IEFs throughout the design stage helps further reduce the potential effects of the Phase 1 Works.

5.1.5 The potential for collision between bird species and the DC buildings has been mitigated by designing out the requirement for windows within the buildings. It is widely accepted the main incidents of bird collisions with buildings occurs with building windows. The majority of the building area will be windowless.

Tertiary Mitigation

5.1.6 All construction activities will be governed by a Construction Environmental Management Plans (CEMP) for the various stages of works. The CEMP will be mandatory for all appointed contractors operating within the Phase 1 Works. The CEMP will set out mitigation measures to be implemented during the construction phase. Best practice measures that would be incorporated, include the below:

- Measures must be taken to prevent the spread of INNS. Appropriate exclusion zones will be demarcated and enforced around any areas of INNS to avoid spread or propagation. If/where necessary, eradication methods and appropriate biosecurity measures will be documented in a method statement and implemented during construction to prevent the spread of INNS.

- Any retained habitats will be adequately protected with the establishment of Construction Exclusion Zones (CEZ) and the British Standard 5837:2012 guidelines will be followed when working close to any retained trees and shrubs, as detailed within the Phase 1 Arboricultural Impact Assessment. To mitigate for the final loss of arboricultural features, and along with BNG and landscaping requirements, suitable tree re-provisioning will be completed on-site.
- Vegetation clearance will be timed to avoid the most sensitive time periods for previously identified protected and notable species. The bulk of vegetation clearance and Site clearance would be completed outside of the nesting bird season (generally taken to be March-September inclusive). If this cannot be done, then the Phase 1 Works will employ techniques to make the Site unsuitable for nesting species ahead of the nesting bird season. Vegetation and Site clearance would then commence under the watching brief of an ECoW.
- Should nesting birds be found, actions should be taken to prevent damage or destruction of the nest including additional actions to prevent disturbance for Schedule 1 species. An exclusion zone will be placed around the nest where no works will take place until the chicks have fledged the nest. The size of the exclusion zone will depend on the nesting species and its location within the development. Typically, Schedule 1 species will require larger exclusion zones to avoid impacts from disturbance. The ECoW will advise as to the size of exclusion zones required and will confirm the nest is empty before the exclusion zone can be removed.
- Pre-works checks will be completed to confirm the absence of protected species such as bats and badgers:
  - Since bats are known to move around various roosts throughout the year, they could potentially be present within a PRF where they were not found previously. As such, any tree that requires felling will be inspected for the presence of PRFs. Any tree with an identified PRF-M or PRF-I will be inspected immediately prior to felling under the supervision of a licenced bat ecologist. These inspections would be completed via aerial PRF inspection survey (tree climbing or the use of mobile elevating working platforms (MEWPs)) or, if the tree is unsafe to survey, a dawn re-entry survey the morning before felling.
  - If a bat roost is identified during these pre-fell inspections, further surveys may be required to classify the type of roost and species present and a licence from Natural England will be required for the works to commence in the immediate vicinity.
- Pre-works survey for the presence of badger setts, no more than 48 hours in advance of the works.
  - If a sett is found within any area to be impacted by the Phase 1 Works, further surveys may be required to classify the sett and its level of activity, and a licence from Natural England may need to be sought prior to the works commencing within the area of impact.
- An ECoW will supervise the soft-felling of trees with PRF features.
- Vegetation removal and Site clearance will be undertaken under the supervision of an ECoW and will be sensitive and phased to displace any potential animals and make habitats less suitable for them. Best practice is to undertake this work in phases:
  - First cut any trees, scrub and other tall vegetation to a height of c.150mm to 250mm with all arisings removed.
  - Following a minimum 24 hours later the remaining vegetation should be cut to ground. This second phase should be undertaken in a directional manner, moving towards suitable areas of retained habitat, with arisings removed from the Site.
  - The directional manner of clearance has been designed to displace animals into retained habitats that will subsequently be connected to the new habitats created as part of the Proposed Development.
  - Soil/substrate stripping should proceed a minimum of 24 hours after the second phase of vegetation clearance, again working towards retained habitat areas.

  - Once the soil/substrate strip has been undertaken the areas should be maintained as bare earth to minimise the likelihood of recolonisation during the construction period.
  - Handling of any animals present within these habitats is thus anticipated to be minimal; however, the capture of less mobile and nocturnal species may be necessary.
- Measures will be taken to prevent dust and other emissions from construction affecting land beyond the Site boundary.
- Appropriate pollution prevention measures, for example, exclusion zones around watercourses, silt fencing, cut-off ditches and silt mats, will be proactively installed to prevent sediment run-off and silt dispersal into watercourses/ponds from construction areas, exposed ground, material stockpiles and newly reinstated ground.
- Plant and machinery will be stored on top of drip trays containing plant nappies or plant nappies when not in use. Chemicals and fuels will be stored in secure containers located away from retained habitats. Spill kits will be available.
- Excavations will be covered or securely fenced (with no potential access points beneath fencing) when not in use (e.g. overnight) to prevent entrapment of animals. Alternatively, the excavation should include measures, such as a battered edge or ramps, that allow animals to escape.
- Noise and vibration will be controlled and kept to the minimum levels necessary.
- Sensitive lighting during construction will be implemented and will be designed in cognisance of the guidance from the Bat Conservation Trust and Institution of Lighting Professionals 'Bats and Artificial Lighting at Night' (Guidance note 08/23). Lighting used for construction must be switched-off when not in use and positioned so as not to spill on to adjacent land or retained vegetation within the Site boundary. Lighting should be directional, away from IEFs and kept to a minimum so that the surrounding landscape remains unlit. Sensitive lighting for construction will be captured in detailed CEMPs.
- Working hours during construction are planned to be 08:00 to 18:00 (Monday to Friday) and 08:00 to 13:00 (Saturday), which for the majority of the year, will mean additional construction lighting will not be required. These hours will also not impede on the activity of various protected species (bats, badgers, hedgehogs).

Habitats

5.1.7 Biodiversity Net Gain (BNG) will be achieved as a statutory requirement (included here as tertiary mitigation) and no irreplaceable habitats will be lost as part of the Phase 1 Works. Therefore, any loss of habitats on-Site will be mitigated for as standard. The full details of the BNG assessment, and how the overall development is to mitigate for the loss of habitats, can be found within the overall Biodiversity Net Gain Assessment submitted with the outline planning application (Planning Reference: 24/04112/OUTES) (Technical Document 4.5).

5.1.8 As per guidance, the biodiversity gain objective of at least 10% net gain applies to the overall development (not each phase). The contribution of each phase to achieving net gain may vary, providing a net gain of at least 10% is achieved for the overall development at the time of its completion (MHCLG, 2024). A BNG assessment has been made which focusses on these Phase 1 Works and its contribution towards the overall BNG assessment (RMA Document Ref: 3.7).

5.2 Potential Receptors and Impacts

5.2.1 With the implementation of these primary and tertiary mitigation measures, impacts to various ecological receptors can be scoped out of requiring further, bespoke mitigation. A summary of those receptors being scoped out and scoped in for further mitigation is presented in **Table 5-1** below.

5.2.2 A RMA for Phase A Enabling Works including site preparation, earthworks and other works required prior to the construction and operation of the data centre campus (Planning Reference: 25/01725/REM) was submitted in May 2025. For the purposes of this impact assessment, it is assumed that the RMA for Phase A Enabling Works has been implemented as Phase 1 Works will commence following the Enabling Works Phase A.

Table 5-1 – Important Ecological Features potential impacts and recommendations for further mitigation

Important Ecological Feature (IEF)	Potential Impacts	Requires Further Mitigation
Construction Impacts		
Northumberland Marine SPA (International)	Disturbance of bird assemblages through increased noise during construction activities is not considered to have a significant effect on qualifying bird species and has been screened out at Stage 1 in Habitat Regulation Assessment (HRA) (**RMA Document: 3.6**) Impacts from lightning and dust will be minimal during construction and managed with the inclusion of embedded measures in CEMP.	**No**
Northumbria Coast Ramsar (International)	Disturbance of bird assemblages through increased noise during construction activities is not considered to have a significant effect on qualifying bird species and has been screened out at Stage 1 HRA (**RMA Document: 3.6**) Impacts from lightning and dust will be minimal during construction and managed with the inclusion of embedded measures in CEMP.	**No**
Northumbria Coast SPA (International)	Disturbance of bird assemblages through increased noise during construction activities is not considered to have a significant effect on qualifying bird species and has been screened out at Stage 1 HRA (**RMA Document: 3.6**) Impacts from lightning and dust will be minimal during construction and managed with the inclusion of embedded measures in CEMP.	**No**
Northumberland Shore SSSI (National)	Permanent loss of suitable habitat within the Site for over-wintering of bird species supported by the nearby SSSI. Disturbance of bird assemblages through increased noise during construction activities is not considered to have a significant effect on qualifying bird species and has been screened out at Stage 1 HRA (**RMA Document: 3.6**) Impacts from lightning and dust will be minimal during construction and managed with the inclusion of embedded measures in CEMP.	**Yes**
Berwick to St Mary's MCZ (National)	Disturbance of eider duck assemblages through increased noise during construction activities. These potential impacts will be mitigated through embedded measures mentioned above and to be detailed within the CEMPs.	No

Important Ecological Feature (IEF)	Potential Impacts	Requires Further Mitigation
	The permanent Cow Gut pond and its outfall to River Blyth (hydrologically connected to MCZ) south of the Site, has the potential to result in the increased deposition of sediment during construction. This potential is reduced due to on-site conditions such as: • the low flow rate of the watercourse; and • the flat nature of the watercourse with a lack of gradient across the Site. The potential for any pollution events or sediment deposition as a result of the diversion connection will further be addressed and mitigated through standard measures and the CEMPs, and includes: • inclusion of silt fencing. • the flow will be limited to greenfield runoff for the Phase 1 Works catchment during the Phase 1 Works phase. • The attenuation pond consists of a sediment forebay separated from the rest of the pond by a berm. The surface water inlet to the pod is into the forebay, and this allows for sediment to be captured in the forebay to aid with maintenance. With the inclusion of embedded measures, it is anticipated that there would be no potential impacts on this MCZ.	
Coquet to St Mary's MCZ (National)	The permanent Cow Gut pond and its outfall to River Blyth (hydrologically connected to MCZ) south of the Site, has the potential to result in the increased deposition of sediment. This potential will be mitigated by those measures summarised above and to be detailed within the CEMPs. Pollution prevention measures put in place will prevent any potential pollution events which could lead to negative effects upon the associated invertebrate communities of this MCZ.	No
Castle Island LNR (County)	Pollution prevention measures put in place will prevent any potential pollution events which could lead to negative effects upon the woodland habitats associated with this LNR. No likely potential impacts anticipated with the inclusion of embedded mitigation.	No
Blyth Estuary LWS (Local)	Disturbance of species which could be supported by this LWS including birds, migratory fish, otters and seals, through increased noise, vibration and lighting, will be mitigated through embedded measures as detailed above. The permanent Cow Gut pond and its outfall to Blyth Estuary south of the Site, has the potential to result in the increased deposition of sediment. This potential impact will be mitigated by those measures summarised above and to be detailed within the CEMPs.	No
Wansbeck Estuary LWS (Local)	Disturbance of species which could be supported by this LWS including birds through increased noise, and vibration will be mitigated through embedded measures as detailed above.	No

Important Ecological Feature (IEF)	Potential Impacts	Requires Further Mitigation
Other woodland; broadleaved (w1g) (Local)	Permanent loss of 0.57ha broadleaved woodland. Embedded mitigation measures to avoid accidental encroachment of retained habitat and dust prevention measures during construction.	No
Sparsely vegetated urban land (u1f): Open mosaic habitats of previously developed land (80) (Local)	Permanent loss of 0.06ha of OMHPDL. Embedded mitigation measures to avoid accidental encroachment of retained habitat and dust prevention measures during construction.	No
Other standing water (r1g): ponds (42) (Local)	Embedded mitigation measures to avoid accidental encroachment of retained habitat and newly created Cow Gut Pond (created during Phase A Enabling Works) and pollution prevention measures during construction.	No
Invasive Non-Native Species (N/A)	The embedded mitigation measures implemented to prevent the spread of INNS, including exclusion zones, ECoW supervision, and eradication methods, are considered to reduce the likelihood of any potential impacts on INNS.	No
Terrestrial Invertebrates (grayling and wall) (County)	Permanent loss of suitable habitat for terrestrial invertebrates, including OMHPDL and grassland. Construction activities have the potential to result in the injury/mortality of terrestrial invertebrates, particularly on their eggs and larval stages	**Yes**
Common Toad (Local)	There is the potential for impacts to toads during the construction phase. These potential impacts include the loss of commuting/foraging habitat, and the risk of mortality/injury of individuals. It is considered that the embedded mitigation measures will be sufficient to reduce the likelihood of potential impacts on these species.	No
Reptiles (Local)	The Site is not considered to support a significant population of reptiles. There is a low residual risk of individual reptiles being present on site, with the inclusion of embedded measures the risk of direct injury/mortality or disturbance is considered to be negligible.	No
Breeding Birds (County)	Construction activities have the potential to result in the injury/mortality, destruction of active nests and/or disturbance of listed bird assemblages through increased noise and lighting during construction activities. The embedded mitigation measures implemented including exclusion zones and ECoW supervision are considered to reduce the likelihood of any potential impacts on nesting birds. Loss of suitable breeding habitat including OMHPDL, grassland and woodland.	**Yes**

Important Ecological Feature (IEF)	Potential Impacts	Requires Further Mitigation
Non-breeding Birds (County)	Disturbance of notable bird assemblages through increased noise and lighting during construction activities. Loss of suitable foraging and roosting habitat for non-breeding birds.	**Yes**
Roosting Bats (Local)	Trees T7, T8 and T9 will be lost to facilitate Phase 1 Works. No roosts have been identified within or immediately adjacent to the Site. Although bats are known to move around many roosts throughout the year and so could be present within a potential roosting feature where they have not been found previously, embedded measures ensure that pre-works checks of all PRF-M and PRF-I trees are undertaken prior to felling. If a roost is identified during any of the pre-fell inspections, a Natural England mitigation licence would be sought prior to any impacts.	No
Commuting and Foraging Bats (Local)	Loss of suitable habitat for commuting and foraging bats, including woodland. Habitat creation off-site as part of the BNG requirements will ensure no net loss of available habitat for the local bat population. Impacts from lightning, noise, vibration and dust will be minimal during construction and managed with the inclusion of embedded measures.	No
Badger (Local)	No setts were recorded during surveys and the Survey Area is fully fenced with palisade fencing restricting badger access in most places. There is a low residual risk of sett creation within the Survey Area and Site prior to the start of works, with the inclusion of embedded measures (pre-works check for active setts) the risk to badger is considered to be negligible. Loss of suitable commuting/foraging habitat for badgers, including grassland and woodland. Habitat creation off-site as part of the BNG requirements will ensure no net loss of available habitat for the local badger population. All vegetation clearance will be supervised by a competent ECoW, excavations will be covered or fenced to prevent the ingress of animals, or measures to allow trapped animals to escape will be implemented.	No
Red squirrel (Local)	The habitats to be lost to the Phase 1 Works are sub-optimal for red squirrels (large open areas, no coniferous woodland). All vegetation clearance will be supervised by a competent ECoW, excavations will be covered or fenced to prevent the ingress of animals, or measures to allow trapped animals to escape will be implemented. Any retained areas of vegetation will be demarcated and avoided during construction and lighting will be directed away from these areas. No likely significant potential effects on red squirrels are anticipated when embedded mitigation is considered.	No
Hedgehog (Local)	Construction activities have the potential to result in the injury/mortality of hedgehog. The embedded mitigation measures implemented	No

Important Ecological Feature (IEF)	Potential Impacts	Requires Further Mitigation
	including ECoW supervision are considered to reduce the likelihood of any potential impacts on hedgehog during construction. Loss of suitable habitat for hedgehog, including grassland and woodland. Habitat creation off-site as part of the BNG requirements will ensure no net loss of available habitat for the local hedgehog population.	
Operational Impacts		
Northumberland Marine SPA (International)	Light disturbance to be mitigated through production of a lighting design strategy. In the event of a power outage, diesel backup generators will be required. For the purposes of the Air Quality assessment, the model has assumed a power outage of 48 hours and therefore a reliance on diesel generators for the same. If this were to occur, nitrogen (N) deposition at the fringes of this SPA may exceed the 1% critical load. The site is designated for marine habitat. Effects on these habitats were found to be low, as they contain little vegetation and are tidal, and so nutrients are washed away. In addition, APIS states nutrient loadings from air pollution on these ecosystems are significantly below baseline loadings from river and tidal inputs. During a consultation meeting in November 2024, Natural England agreed the effects of nitrogen loading on marine and rocky shore habitats are generally considered insignificant. No likely potential impacts anticipated during the operational phase.	No
Northumbria Coast Ramsar (International)	The Site, being 0.7km north-west of the Ramsar, is considered far enough away from the Ramsar to not result in any light pollution or visual disturbance from increased Site presence and therefore no disturbance as a result is anticipated. As above for N deposition due to emissions as a result of emergency use of diesel generators in the event of a power outage. No likely potential impacts anticipated during the operational phase.	No
Northumbria Coast SPA (International)	The Site, being 0.7km north-west of the Ramsar, is considered far enough away from the Ramsar to not result in any light pollution or visual disturbance from increased Site presence and therefore no disturbance as a result is anticipated. As above for N deposition due to emissions as a result of emergency use of diesel generators in the event of a power outage. No likely potential impacts anticipated during the operational phase.	No
Northumberland Shore SSSI (National)	Light disturbance to be mitigated through production of a lighting design strategy. As above for N deposition due to emissions as a result of emergency use of diesel generators in the event of a power outage. No likely potential impacts anticipated during the operational phase.	No

Important Ecological Feature (IEF)	Potential Impacts	Requires Further Mitigation
Berwick to St Mary's MCZ (National)	The Site is separated from the MCZ by a built up area and roadway. Combined with being 0.3km west of the MCZ, the Phase 1 Works is not likely to result in any light pollution or visual disturbance from increased site presence therefore no disturbance as a result is anticipated. As above for N deposition due to emissions as a result of emergency use of diesel generators in the event of a power outage. No likely potential impacts anticipated during the operational phase.	No
Coquet to St Mary's MCZ (National)	The Site is separated from the MCZ by a built up area and roadway. Combined with being 0.3km west of the MCZ, the Phase 1 Works is not likely to result in any light pollution or visual disturbance from increased site presence therefore no disturbance as a result is anticipated. As above for N deposition due to emissions as a result of emergency use of diesel generators in the event of a power outage. No likely potential impacts anticipated during the operational phase.	No
Castle Island LNR (County)	No likely potential impacts anticipated during the operational phase. Potential for N deposition due to emissions as a result of emergency use of diesel generators in the event of a power outage. However, the Air Quality model has shown that the short and long term Process Contribution (maximum pollutant contribution from the generators), of local sites, would not exceed 100% of the environmental standard, in line with Environment Agency guidance. Therefore, this site is scoped out of further assessment.	No
Blyth Estuary LWS (Local)	The Site, is separated from the LWS by commercial development, Combined with being 0.3km south-west of the designated site, the Phase 1 Works is not likely to result in any light pollution or visual disturbance from increased site presence therefore no disturbance as a result is anticipated. Potential for N deposition due to emissions as a result of emergency use of diesel generators in the event of a power outage. However, the Air Quality model has shown that the short and long term Process Contribution (maximum pollutant contribution from the generators), of local sites, would not exceed 100% of the environmental standard, in line with Environment Agency guidance. Therefore, this site is scoped out of further assessment.	No
Wansbeck Estuary LWS (Local)	The Site, being 0.65km south of the LWS, is considered far enough away from the LWS to not result in any light pollution or visual disturbance from increased site presence therefore no disturbance as a result is anticipated. Potential for N deposition due to emissions as a result of emergency use of diesel generators in the event of a power outage. However, the Air Quality model has shown that the short and long term Process Contribution (maximum pollutant contribution from the generators), of local sites, would not exceed 100% of the environmental standard, in	No

Important Ecological Feature (IEF)	Potential Impacts	Requires Further Mitigation
	line with Environment Agency guidance. Therefore, this site is scoped out of further assessment.	
Other woodland; broadleaved (w1g) (Local)	It is not anticipated that retained and newly created woodland habitat would be used regularly by the operational staff. The landscape strategy includes 'Freedom Park' areas designed to offer operational staff public spaces for relaxation and connection with environment through key routes and entrances. The habitat management and monitoring plan (HMMP) submitted as part of the BNG assessment will ensure retained and created habitats are maintained. No adverse impacts are expected at the operational phase.	No
Sparsely vegetated urban land (u1f): Open mosaic habitats of previously developed land (80) (Local)	It is not anticipated that retained and newly created open mosaic habitat would be used regularly by the operational staff. The landscape strategy includes 'Freedom Park' areas designed to offer operational staff public spaces for relaxation and connection with environment through key routes and entrances. The HMMP submitted as part of the BNG assessment will ensure retained and created habitats are maintained. No adverse impacts are expected at the operational phase.	No
Other standing water (r1g): ponds (42) (Local)	No likely potential impacts on retained and newly created ponds associated with pollution events and or increased public use. The drainage strategy includes surface water to be discharged via an attenuation pond through swales and permeable parking. the flow will be limited to greenfield runoff for the Phase 1 Works catchment during the Phase 1 Works phase. The potential for any pollution events or sediment deposition as a result of the diversion connection will further be addressed and mitigated through standard measures and the CEMPs, and includes: • inclusion of silt fencing. • The attenuation pond consists of a sediment forebay separated from the rest of the pond by a berm. The surface water inlet to the pod is into the forebay, and this allows for sediment to be captured in the forebay to aid with maintenance. The landscape strategy includes 'Freedom Park' areas designed to offer operational staff public spaces for relaxation and connection with environment through key routes and entrances. The HMMP submitted as part of the BNG assessment will ensure retained and created habitats are maintained.	No
Invasive Non-Native Species (N/A)	The embedded mitigation measures implemented to prevent the spread of INNS as part of the construction phase of the Phase 1 Works, including exclusion zones, ECoW supervision, and eradication methods, are considered to reduce the presence of any INNS on Site. As such, no operational impacts are expected with INNS.	No
Terrestrial Invertebrates (County)	No likely potential impacts on terrestrial invertebrates are anticipated during the operational phase.	No

Important Ecological Feature (IEF)	Potential Impacts	Requires Further Mitigation
Common Toad (Local)	There is a slight increased risk of mortality/injury of individuals due to an increase in traffic within the Site during the operational phase. The speed limit for vehicles on site is proposed to be limited to 10mph and will be lit therefore the risk of injury/mortality is considered to be negligible.	No
Reptiles (Local)	There is a slight increased risk of mortality/injury of individuals due to an increase in traffic within the Site during the operational phase. The speed limit for vehicles on site is proposed to be limited to 10mph and will be lit therefore the risk of injury/mortality is considered to be negligible. However, the Site is only considered to support a non-significant, small population of reptiles so any potential impacts which could be felt, would not be significant.	No
Breeding Birds (County)	Disturbance of nearby bird assemblages through occupation of the Site increasing personnel, traffic and lighting. However, the operational traffic is expected to be low and likely to consist of small to medium vans. The increase in traffic, carrying employees, to and from the Site is not thought to be significant. A lighting strategy as part of embedded measures will ensure light spill is kept to a minimum and directed away from suitable breeding bird habitat. The potential for disturbance to those breeding bird species listed as qualifying features of the Northumberland Marine SPA are addressed above and within Habitats Regulations Assessment (**RMA Document Ref. 3.6**)	No
Non-breeding Birds (County)	Disturbance of nearby bird assemblages through occupation of the Site increasing personnel, traffic and lighting. However, the operational traffic is expected to be low and likely to consist of small to medium vans. The increase in traffic, carrying employees, to and from the Site is not thought to be significant. A lighting strategy as part of embedded measures will ensure light spill is kept to a minimum and directed away from suitable bird habitat. The potential for disturbance to those non-breeding bird species listed as qualifying features of the Northumberland Marine SPA are addressed above and within Habitats Regulations Assessment (**RMA Document Ref. 3.6**)**).**	No
Roosting Bats (Local)	A lighting strategy as part of embedded measures will ensure light spill is kept to a minimum and directed away from suitable bat habitat, including bat boxes.	No
Commuting and Foraging Bats (Local)	A lighting strategy as part of embedded measures will ensure light spill is kept to a minimum and directed away from suitable bat habitat.	No

Important Ecological Feature (IEF)	Potential Impacts	Requires Further Mitigation
Badger (Local)	There is a slight increased risk of mortality/injury of individuals due to an increase in traffic within the Site during the operational phase. Disturbance through artificial external lighting. The speed limit for vehicles on site is proposed to be limited to 10mph and will be lit therefore the risk of injury/mortality is considered to be negligible. A lighting strategy as part of embedded measures will ensure light spill is kept to a minimum and directed away from suitable badger commuting and foraging habitat.	No
Red squirrel (Local)	As red squirrels are unlikely to be present and are an arboreal species, no potential impacts are anticipated during the operational phase.	No
Hedgehog (Local)	There is a slight increased risk of mortality/injury of individuals due to an increase in traffic within the Site during the operational phase. Disturbance through artificial external lighting. The speed limit for vehicles on site is proposed to be limited to 10mph and will be lit therefore the risk of injury/mortality is considered to be negligible. A lighting strategy as part of embedded measures will ensure light spill is kept to a minimum and directed away from suitable hedgehog habitat.	No

5.3 Potential Receptors and Impacts Requiring Further Mitigation

5.3.1 The receptors that could potentially be affected as a result of the Phase 1 Works and the associated likely potential impacts, taking into account embedded mitigation are set out below with details of further mitigation requirements.

Terrestrial Invertebrates

5.3.2 The embedded ECoW supervision of vegetation clearance will address potential impacts of mortality/injury to terrestrial invertebrates within the Site by checking areas ahead of clearance for presence of protected and notable species. The ECoW will also identify and highlight plant species which are used as larval food plant for invertebrates of concern, including common birds foot trefoil (*Lotus corniculatus*), red fescue (*Festuca rubra*), tufted hair grass (*Deschampsia cespitosa*), cocks-foot (*Dactylis glomerata*), wavy hairgrass (*Deschampsia flexuosa*) and Yorkshire-fog (*Holcus lanatus*), for retention.

5.3.3 If vegetation clearance is undertaken during a time period where larval stages of these invertebrates are present, these plants will be protected and exclusion zones implemented by the ECoW. If outside of the larval timeframe, these plants will also be stored in areas separate to the main bulk of spoil and cleared material so that they can be successfully put back into created areas on site and within the off-site location. An attempt will be made to include these plant species within the mixes for on and off-Site habitat creation.

Birds

5.3.4 The loss of habitats suitable to support breeding and non-breeding birds, such as wetlands, scrub and woodland, will be mitigated through the creation of similar habitats off-site. The off-site location

at Potland Burn will include the creation and enhancement of grassland, scrub and wetland habitats, increasing the amount of roosting, nesting and foraging habitat available for birds within the local area. As the created habitats continue to develop and mature into ecologically valuable areas, the anticipated effects on birds are considered to be positive.

5.3.5 The habitat creation/enhancement proposed at Potland Burn, however, is less suitable for wading birds as it would not create the open landscapes required for breeding and non-breeding waders. Immediately north of the Site is a 'Wader Mitigation Site' owned by NCC which was created to mitigate impacts to wading birds from a development at the Blyth Estuary in 2014. The Wader Mitigation Site encompasses pasture and wetland habitats from previously arable land. There are opportunities at this Wader Mitigation Site to expand the habitat creation works and increase the available habitat for wading and ground nesting birds. As the created habitats on Potland Burn and the Wader Mitigation Site continue to develop and mature into ecologically valuable areas, the anticipated effects on birds are considered to be positive.

6 Assessment of Residual Effects

6.1.1 The IEFs scoped into assessment have been assigned a value (importance) based on the assessment methodology described in **Section 3**. These are listed within **Table 6-1** along with the assessment of the residual effects following the application of the above mitigation measures to address potential impacts.

6.1.2 The Proposed Development is phased and will be built out in phases across a period of approximately ten years. A number of activities will overlap and be undertaken concurrently, however the ‘operational‘ phase of these Phase 1Works will be assessed based on DC1 & DC2 only being operational. As such the assessment of the ‘operational’ phase in **Table 6-1** is based on no future development being progressed following these Phase 1 Works. No significant effects are anticipated for any IEFs in this instance.

Table 6-1 – Value/Sensitivity of IEFs and Potential Effects of the Phase 1 Works

Important Ecological Features (IEFs)	Importance	Potential Impacts	Significance of Effects (without mitigation)	Summary of Proposed Mitigation/Enhancement/Compensation	Significance of Residual Impacts
Construction Phase					
Northumberland Marine SPA	International	Disturbance of bird assemblages through increased lighting and changes to hydrology at designated sites during construction activities.	Negative Significant Effect	Embedded mitigation and pollution prevention measures will be taken to prevent light, dust and other emissions from construction affecting retained habitats within the designated site.	No Significant Effect
Northumbria Coast Ramsar	International	Disturbance of bird assemblages through increased lighting and changes to hydrology at designated sites during construction activities.	Negative Significant Effect	Embedded mitigation and pollution prevention measures will be taken to prevent light, dust and other emissions from construction affecting retained habitats within the designated site.	No Significant Effect
Northumbria Coast SPA	International	Disturbance of bird assemblages through increased lighting and changes to hydrology at designated sites during construction activities.	Negative Significant Effect	Embedded mitigation and pollution prevention measures will be taken to prevent light, dust and other emissions from construction affecting retained habitats within the designated site.	No Significant Effect
Northumberland Shore SSSI	National	Permanent loss of suitable habitat within the Site for over-wintering of bird species supported by the nearby SSSI.	Negative Significant Effect	Habitat creation at 'Wader mitigation Site' north of the Proposed Development.	No Significant Effect
Berwick to St Mary's MCZ	National	Disturbance of eider duck assemblages through increased noise during construction activities. The permanent Cow Gut pond and its outfall to River Blyth (hydrologically connected to MCZ)	Negative Significant Effect	Embedded mitigation includes implementation of a CEMP for the various stages of works. Noise and vibration will be controlled and kept to the minimum levels necessary. The potential for any pollution events or sediment deposition as a result of the diversion connection will be	No Significant Effect

Important Ecological Features (IEFs)	Importance	Potential Impacts	Significance of Effects (without mitigation)	Summary of Proposed Mitigation/Enhancement/Compensation	Significance of Residual Impacts
		south of the Site, has the potential to result in the increased deposition of sediment.		addressed and mitigated through standard measures and the CEMPs, and includes: • inclusion of silt fencing. • the flow will be limited to greenfield runoff for the Phase 1 Works catchment during the Phase 1 Works phase. The attenuation pond consists of a sediment forebay separated from the rest of the pond by a berm. The surface water inlet to the pod is into the forebay, and this allows for sediment to be captured in the forebay to aid with maintenance.	
Coquet to St Mary's MCZ	National	The permanent Cow Gut pond and its outfall to River Blyth (hydrologically connected to MCZ) south of the Site, has the potential to result in the increased deposition of sediment.	Negative Significant Effect	The potential for any pollution events or sediment deposition as a result of the diversion connection will be addressed and mitigated through standard measures and the CEMPs, and includes: • inclusion of silt fencing. • the flow will be limited to greenfield runoff for the Phase 1 Works catchment during the Phase 1 Works phase. • the attenuation pond consists of a sediment forebay separated from the rest of the pond by a berm. The surface water inlet to the pod is into the forebay, and this allows for sediment to be captured in the forebay to aid with maintenance.	No Significant Effect
Castle Island LNR	County	Potential pollution from construction dust on qualifying woodland habitat.	Negative Significant Effect	Embedded mitigation and pollution prevention measures will be taken to prevent dust and other emissions from	No Significant Effect

Important Ecological Features (IEFs)	Importance	Potential Impacts	Significance of Effects (without mitigation)	Summary of Proposed Mitigation/Enhancement/Compensation	Significance of Residual Impacts
				construction affecting retained habitats within the designated site.	
Blyth Estuary LWS	Local	Disturbance of species which could be supported by this LWS including birds, migratory fish, otters and seals, through increased noise, vibration and lighting.	Negative Significant Effect	Embedded mitigation and pollution prevention measures will be taken to prevent dust and other emissions from construction affecting retained habitats within the Site. Embedded mitigation includes implementation of a sensitive lighting during operation will be implemented to avoid disturbance on qualifying species. Noise and vibration will be controlled and kept to the minimum levels necessary.	No Significant Effect
Wansbeck Estuary LWS	Local	Disturbance of species which could be supported by this LWS including wading birds through increased noise and vibration	Negative Significant Effect	Embedded mitigation includes implementation of a CEMP for the various stages of works. Noise and vibration will be controlled and kept to the minimum levels necessary.	No Significant Effect
Other woodland; broadleaved	Local	Permanent loss of 0.57ha woodland. Potential for accidental encroachment and potential for dust from construction activities to effect retained habitat.	Negative Significant Effect	Embedded mitigation includes implementation of a CEMP for the various stages of works. Any retained habitats will be adequately protected with the establishment of CEZ and the British Standard 5837:2012 guidelines. Embedded mitigation measures will be taken to prevent dust and other emissions from construction affecting retained habitats within the Site. Given the overall Proposed Development is phased, the biodiversity gain objective of at least 10% net gain applies to the overall development (not each phase). At the time of completion, the overall development would	Negative Significant Effect changing to Positive Significant Effect at the end of the overall Proposed Development

Important Ecological Features (IEFs)	Importance	Potential Impacts	Significance of Effects (without mitigation)	Summary of Proposed Mitigation/Enhancement/Compensation	Significance of Residual Impacts
				result in an increase of **≈+6.18ha** broadleaved woodland on-site.	
Open mosaic habitats of previously developed land	Local	Permanent loss of 0.06ha of OMHPDL. Potential for accidental encroachment and potential for dust from construction activities to effect retained habitat.	Negative Significant Effect	Embedded mitigation includes implementation of a CEMP for the various stages of works. Any retained habitats will be adequately protected with the establishment of CEZ and the British Standard 5837:2012 guidelines. Embedded mitigation measures will be taken to prevent dust and other emissions from construction affecting retained habitats within the Site. Given the overall Proposed Development is phased, the biodiversity gain objective of at least 10% net gain applies to the overall development (not each phase). At the time of completion, the overall development would result in an increase of **≈+1.7ha** OMHPDL on-site.	Negative Significant Effect changing to Positive Significant Effect at the end of the overall Proposed Development
Ponds	Local	Potential for accidental encroachment and potential for dust and other pollution from construction activities to effect retained habitat.	Negative Significant Effect	Embedded mitigation includes implementation of a CEMP for the various stages of works. Any retained habitats will be adequately protected with the establishment of CEZ and the British Standard 5837:2012 guidelines. Embedded mitigation and pollution prevention measures will be taken to prevent dust and other emissions from construction affecting retained habitats within the Site. Given the overall Proposed Development is phased, the biodiversity gain objective of at least 10% net gain applies to the overall development (not each phase). At the time of completion, the overall development would result in a loss of **≈-1.65ha** of broad 'lakes' habitat on-	Negative Significant Effect changing to Positive Significant Effect at the end of the overall development

Important Ecological Features (IEFs)	Importance	Potential Impacts	Significance of Effects (without mitigation)	Summary of Proposed Mitigation/Enhancement/Compensation	Significance of Residual Impacts
				site. An off-site habitat bank will be utilised to compensate for any on-site losses where ponds will be created and enhanced off-site.	
Invasive Non-Native Species	N/A	Potential for construction activities to spread INNS across the Site or off-site.	Negative Significant Effect	Embedded mitigation includes implementation of a CEMP for the various stages of works. Appropriate exclusion zones will be demarcated and enforced around any areas of INNS to avoid spread or propagation. If/where necessary, eradication methods and appropriate biosecurity measures will be documented in a method statement and implemented during construction to prevent the spread of INNS.	Positive Significant Effect
Terrestrial Invertebrates (grayling and wall)	County	Permanent loss of suitable habitat for terrestrial invertebrates, including OMHPDL and grassland. Construction activities have the potential to result in the injury/mortality of terrestrial invertebrates, particularly on their eggs and larval stages.	Negative Significant Effect	Embedded mitigation includes implementation of a CEMP for the various stages of works. Any retained habitats will be adequately protected with the establishment of CEZ and the British Standard 5837:2012 guidelines. Vegetation clearance to be undertaken under the supervision of an ECoW and in a sensitive and phased manner to displace fauna and reduce risk of mortality of adults. Additional mitigation measures for ECoW to highlight larval food plants for retention and/or protection to avoid mortality of larval stages. BNG requirements will compensate for on-site habitat losses at a suitable habitat bank for this phase of works. Habitats created/ enhanced off-site will ensure no net loss of suitable habitat for terrestrial invertebrates. Larval	No Significant Effect

Important Ecological Features (IEFs)	Importance	Potential Impacts	Significance of Effects (without mitigation)	Summary of Proposed Mitigation/Enhancement/Compensation	Significance of Residual Impacts
				food plants to be included in species mixes on and off-site to increase suitable habitat availability.	
Common Toad	Local	Low residual risk of injury/mortality of individuals	Negative Significant Effect	Embedded mitigation measures includes implementation of a CEMP for the various stages of works. Vegetation and Site clearance will commence under the watching brief of an ECoW. Vegetation removal will be sensitive and phased to displace any individuals and make habitats less suitable for them.	No Significant Effect
Reptiles	Local	Low residual risk of injury/mortality of individuals	Negative Significant Effect	Embedded mitigation measures includes implementation of a CEMP for the various stages of works. Vegetation and Site clearance will commence under the watching brief of an ECoW. Vegetation removal will be sensitive and phased to displace any individuals and make habitats less suitable for them.	No Significant Effect
Breeding Birds	County	Construction activities have the potential to result in the injury/mortality, destruction of active nests. Disturbance of listed bird assemblages through increased noise and lighting during construction activities. Loss of suitable breeding habitat including OMHPDL, grassland and woodland.	Negative Significant Effect	Embedded mitigation includes implementation of a CEMP for the various stages of works. Any retained habitats will be adequately protected with the establishment of CEZ and the British Standard 5837:2012 guidelines. Vegetation clearance to be undertaken outside of main nesting season (where possible). Vegetation and Site clearance will commence under the watching brief of an ECoW. Noise and vibration will be controlled and kept to the minimum levels necessary. Sensitive lighting during construction will be implemented to avoid potential disturbance on breeding birds.	No Significant Effect

Important Ecological Features (IEFs)	Importance	Potential Impacts	Significance of Effects (without mitigation)	Summary of Proposed Mitigation/Enhancement/Compensation	Significance of Residual Impacts
				Additional measures associated with Internationally and Nationally designated sites described above. BNG requirements will compensate for on-site habitat losses at a suitable habitat bank for this phase of works. Habitats created at off-site habitat bank (Potland Burn) and within Wader Mitigation Site will ensure no net loss of suitable habitat for breeding birds.	
Non-breeding Birds	County	Disturbance of notable bird assemblages through increased noise and lighting during construction activities. Loss of suitable foraging and roosting habitat for non-breeding birds.	Negative Significant Effect	Embedded mitigation includes implementation of a CEMP for the various stages of works. Any retained habitats will be adequately protected with the establishment of CEZ and the British Standard 5837:2012 guidelines. Vegetation and Site clearance will commence under the watching brief of an ECoW. Noise and vibration will be controlled and kept to the minimum levels necessary. Sensitive lighting during construction will be implemented to avoid potential disturbance on non- breeding birds. Additional measures associated with Internationally and Nationally designated sites described above. BNG requirements will compensate for on-site habitat losses at a suitable habitat bank for this phase of works. Habitats created at off-site Wader Mitigation Site will ensure no net loss of suitable habitat for non- breeding birds.	No Significant Effect

Important Ecological Features (IEFs)	Importance	Potential Impacts	Significance of Effects (without mitigation)	Summary of Proposed Mitigation/Enhancement/Compensation	Significance of Residual Impacts
Roosting Bats	Local	Low residual risk of injury/mortality of individual bats (only if found roosting) Loss of roost/ roost availability.	Negative Significant Effect	Embedded mitigation includes implementation of a CEMP for the various stages of works. Any retained habitats will be adequately protected with the establishment of CEZ and the British Standard 5837:2012 guidelines. A pre-works check to identify the presence/absence of roosting bats in trees. If a bat roost is identified during these pre-fell inspections, further surveys may be required to classify the type of roost and species present and a licence from Natural England will be required. An ECoW will supervise the soft-felling of trees with PRF features. Sensitive lighting during construction will be implemented to avoid potential disturbance on roosting bats. Bat boxes to be included in the overall development to ensure no net loss of available roosting habitat.	Negative Significant Effect changing to No Significant Effect in the long term.
Commuting and Foraging Bats	Local	Loss of suitable habitat for commuting and foraging bats, including woodland. Impacts from lightning, noise, vibration and dust will be minimal during construction.	Negative Significant Effect	Embedded mitigation includes implementation of a CEMP for the various stages of works. Any retained habitats will be adequately protected with the establishment of CEZ and the British Standard 5837:2012 guidelines. Working hours limited to daytime hours only. Sensitive lighting during construction will be implemented and will be designed in cognisance of the guidance from the Bat Conservation Trust and Institution of Lighting Professionals 'Bats and Artificial Lighting at Night' (Guidance note 08/23).	No Significant Effect

Important Ecological Features (IEFs)	Importance	Potential Impacts	Significance of Effects (without mitigation)	Summary of Proposed Mitigation/Enhancement/Compensation	Significance of Residual Impacts
				BNG requirements will compensate for on-site habitat losses at a suitable habitat bank for this phase of works. Habitats created at off-site habitat bank will ensure no net loss of suitable habitat for commuting and foraging bats.	
Badger	Local	Low residual risk of sett creation within the Survey Area and Site prior to the start of works. Risk of injury/mortality to commuting/foraging badger during construction.	Negative Significant Effect	Embedded mitigation includes implementation of a CEMP for the various stages of works. Pre-works check for active setts and measures to ensure animals cannot be entrapped in excavations. All chemicals and fuels will be stored in secure locations away from retained habitats and off the bare ground.	No Significant Effect
Red squirrel	Local	Low residual risk of injury/mortality to red squirrel during construction. Impacts from lightning, noise, vibration and dust will be minimal during construction.	Negative Significant Effect	All vegetation clearance will be supervised by a competent ECoW, excavations will be covered or fenced to prevent the ingress of animals, or measures to allow trapped animals to escape will be implemented. Any retained habitats will be adequately protected with the establishment of CEZ and the British Standard 5837:2012 guidelines. Sensitive lighting during construction will be implemented to avoid potential disturbance on red squirrel.	No Significant Effect
Hedgehog	Local	Low residual risk of injury/mortality to hedgehog during construction. Impacts from lightning, noise, vibration and dust will be minimal during construction.	Negative Significant Effect	All vegetation clearance will be supervised by a competent ECoW, excavations will be covered or fenced to prevent the ingress of animals, or measures to allow trapped animals to escape will be implemented. Any retained habitats will be adequately protected with the establishment of CEZ and the British Standard 5837:2012 guidelines. Sensitive lighting during	No Significant Effect

Important Ecological Features (IEFs)	Importance	Potential Impacts	Significance of Effects (without mitigation)	Summary of Proposed Mitigation/Enhancement/Compensation	Significance of Residual Impacts
				construction will be implemented to avoid potential disturbance on hedgehog.	
Operational Phase					
Northumberland Marine SPA	International	Disturbance of bird assemblages through increased lighting during operation.	Negative Significant Effect	Sensitive lighting during operation will be implemented to avoid potential disturbance on qualifying bird species.	No Significant Effect
Northumbria Coast Ramsar	International	No potential impacts are anticipated on this designated site during the operational phase.	No Significant Effect	N/A	N/A
Northumbria Coast SPA	International	No potential impacts are anticipated on this designated site during the operational phase.	No Significant Effect	N/A	N/A
Northumberland Shore SSSI	National	Disturbance of bird assemblages through increased lighting during operation.	Negative Significant Effect	Sensitive lighting during operation will be implemented to avoid potential disturbance on qualifying bird species.	No Significant Effect
Berwick to St Mary's MCZ	National	No potential impacts are anticipated on this designated site during the operational phase.	No Significant Effect	N/A	N/A
Coquet to St Mary's MCZ	National	No potential impacts are anticipated on this designated site during the operational phase.	No Significant Effect	N/A	N/A

Important Ecological Features (IEFs)	Importance	Potential Impacts	Significance of Effects (without mitigation)	Summary of Proposed Mitigation/Enhancement/Compensation	Significance of Residual Impacts
Castle Island LNR	County	No potential impacts are anticipated on this designated site during the operational phase.	No Significant Effect	N/A	N/A
Blyth Estuary LWS	Local	No potential impacts are anticipated on this designated site during the operational phase.	No Significant Effect	N/A	N/A
Wansbeck Estuary LWS	Local	No potential impacts are anticipated on this designated site during the operational phase.	No Significant Effect	N/A	N/A
Other woodland; broadleaved	Local	Degradation of retained and newly created habitat through over use by operational staff.	Negative Significant Effect	The landscape strategy includes 'Freedom Park' areas designed to offer operational staff public spaces for relaxation and connection with environment through key routes and entrances. The HMMP will ensure retained and newly created habitats are maintained.	No Significant Effect
Open mosaic habitats of previously developed land	Local	Degradation of retained and newly created habitat through over use by operational staff.	Negative Significant Effect	The landscape strategy includes 'Freedom Park' areas designed to offer operational staff public spaces for relaxation and connection with environment through key routes and entrances. The HMMP will ensure retained and newly created habitats are maintained.	No Significant Effect
Ponds	Local	Degradation of retained and newly created habitat through pollution events and over use by operational staff.	Negative Significant Effect	The drainage strategy ensures the flow will be limited to greenfield runoff for the Phase 1 Works catchment during the Phase 1 Works phase. The potential for any pollution events or sediment deposition will further be addressed and mitigated through standard measures and the	No Significant Effect

Important Ecological Features (IEFs)	Importance	Potential Impacts	Significance of Effects (without mitigation)	Summary of Proposed Mitigation/Enhancement/Compensation	Significance of Residual Impacts
				CEMPs and includes silt fencing and a sediment forebay in the attenuation pond. The landscape strategy includes 'Freedom Park' areas designed to offer operational staff public spaces for relaxation and connection with environment through key routes and entrances. The HMMP will ensure retained and newly created habitats are maintained.	
Invasive Non-Native Species	N/A	INNS will be treated/ controlled/disposed during the construction phase. No potential impacts are anticipated from INNS during the operational phase.	No Significant Effect	N/A	N/A
Terrestrial Invertebrates (grayling and wall)	County	No potential impacts are anticipated on terrestrial invertebrates during the operational phase.	No Significant Effect	N/A	N/A
Common Toad	Local	Increased risk of mortality due to increased traffic within the Site.	Negative Significant Effect	Embedded mitigation includes implementation of 10mph speed limit to reduce risk of road collisions.	No Significant Effect
Reptiles	Local	Increased risk of mortality due to increased traffic within the Site.	Negative Significant Effect	Embedded mitigation includes implementation of 10mph speed limit to reduce risk of road collisions.	No Significant Effect
Breeding Birds	County	Disturbance through artificial external lighting.	Negative Significant Effect	Embedded mitigation includes implementation of a sensitive lighting during operation will be implemented to avoid suitable retained and created habitat.	No Significant Effect

Important Ecological Features (IEFs)	Importance	Potential Impacts	Significance of Effects (without mitigation)	Summary of Proposed Mitigation/Enhancement/Compensation	Significance of Residual Impacts
Non-breeding Birds	County	Disturbance through artificial external lighting.	Negative Significant Effect	Embedded mitigation includes implementation of a sensitive lighting during operation will be implemented to avoid suitable retained and created habitat.	No Significant Effect
Roosting Bats	Local	Disturbance through artificial external lighting.	Negative Significant Effect	Embedded mitigation includes implementation of a sensitive lighting during operation will be implemented to avoid suitable retained and created habitat.	No Significant Effect
Commuting and Foraging Bats	Local	Disturbance through artificial external lighting.	Negative Significant Effect	Embedded mitigation includes implementation of a sensitive lighting during operation will be implemented to avoid suitable retained and created habitat.	No Significant Effect
Badger	Local	Increased risk of mortality due to increased traffic within the Site. Disturbance through artificial external lighting.	Negative Significant Effect	Embedded mitigation includes implementation of 10mph speed limit to reduce risk of road collisions. Sensitive lighting during operation will be implemented to avoid suitable retained and created habitat.	No Significant Effect
Red squirrel	Local	As red squirrels are unlikely to be present and are an arboreal species, no potential impacts are anticipated during the operational phase.	No Significant Effect	N/A	N/A
Hedgehog	Local	Increased risk of mortality due to increased traffic within the Site. Disturbance through artificial external lighting.	Negative Significant Effect	Embedded mitigation includes implementation of 10mph speed limit to reduce risk of road collisions. Sensitive lighting during operation will be implemented to avoid suitable retained and created habitat.	No Significant Effect

7 Conclusions

7.1.1 The following important ecological features were scoped in for assessment:

- Northumberland Marine SPA
- Northumbria Coast SPA
- Northumbria Coast Ramsar
- Northumbria Shore SSSI
- Berwick to St Mary's MCZ
- Coquet to St Mary's MCZ
- Castle Island LNR
- Blyth Estuary LWS
- Wansbeck Estuary LWS
- Other woodland; broadleaved
- Open mosaic habitats of previously developed land
- Ponds
- Invasive Non-Native Species
- Terrestrial Invertebrates
- Common Toad
- Reptiles
- Breeding Birds
- Non-breeding Birds
- Roosting Bats
- Commuting and Foraging Bats
- Badger
- Red squirrel
- Hedgehog

7.1.2 Following appropriate mitigation outlined in this report, it is considered that the Phase 1 Works will have no significant effects on biodiversity features.

7.1.3 As per guidance, the biodiversity gain objective of at least 10% net gain applies to the overall development (not each phase). The contribution of each phase to achieving net gain may vary, providing a net gain of at least 10% is achieved for the overall development at the time of its completion (MHCLG, 2024). Although this phase of the overall development does not result in a net gain, the overall development will achieve a minimum of 10% net gain at the time of its completion.

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Appendix A

Valuation Criteria

Importance	Feature type	Attributes
International	Sites	European sites; Ramsar sites; Biogenic Reserves; and World Heritage Sites. Areas which meet the published selection criteria for those sites listed above but which are not themselves designated as such.
	Habitats	N/A
	Species	A species population sufficiently large or critical that its loss would adversely affect the conservation status or distribution at an international or European scale.
National	Sites	Sites of Special Scientific Interest (SSSIs); National Nature Reserves (NNRs) and National Parks. Areas which meet the published selection criteria but have not themselves been designated as such.
	Habitats	Habitats of Principal Importance as listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Areas of irreplaceable habitats including ancient woodland and ancient or veteran trees.
	Species	A species population sufficiently large or critical that its loss would adversely affect the conservation status or distribution at a national scale.
Regional	Sites	Wildlife sites designated at a regional level.
	Habitats	Areas of habitats identified (including for restoration) in regional plans or strategies.
	Species	A species population or community sufficiently large or critical that its loss would adversely affect the conservation status or distribution at a regional scale. Species identified in regional plans or strategies.
County	Sites	Wildlife sites designated at a county (or equivalent) level including: County Wildlife Sites (CWSs); Local Wildlife Sites (LWS); Local Nature Conservation Sites (LNCS); Local Nature Reserves (LNRs); Sites of Importance for Nature Conservation (SINCs); and Sites of Nature Conservation Importance (SNCIs).
	Habitats	Areas of habitats identified in county or equivalent authority plans or strategies (where applicable).
	Species	A species population or community sufficiently large or critical that its loss would adversely affect the conservation status or distribution at a county or unitary authority scale. Species identified in a county or equivalent authority area plans or strategies.

Valuation Criteria

Importance	Feature type	Attributes
Local	Sites	Wildlife sites listed at a local or parish level.
	Habitats	Areas of habitat considered to appreciably enrich the habitat resource in the local context including features of importance for migration, dispersal, or genetic exchange.
	Species	Species populations or communities considered to appreciably enrich the habitat resource in the local context including features of importance for migration, dispersal or genetic exchange.
Site	Sites	N/A
	Habitats	Areas of habitat considered to appreciably enrich the site, but not sufficiently large in extent or favourable condition to warrant inclusion at the Local level.
	Species	Species populations or communities considered to appreciably enrich the site, but not sufficiently large or critical to warrant inclusion at the Local level.
Not important	Sites	N/A
	Habitats	Habitats making a negligible contribution to biodiversity, even at the Site level.
	Species	Small or common / widespread species populations or communities making a negligible contribution to biodiversity, even at the Site level.

Arcadis Consulting (UK) Limited

80 Fenchurch Street
London EC3M 4BY
United Kingdom

T: +44 (0)20 7812 2000

arcadis.com