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Appendix 13A: Ornithology Baseline Report

13.0 ORNITHOLOGY

13.1 Introduction

13.1.1 This chapter of the Environmental Statement (ES) identifies the likely impacts and effects on ornithological features that have been considered as part of the Environmental Impact Assessment (EIA) of the Proposed Development. The assessment has been undertaken in accordance with best practice guidance (Chartered Institute of Ecology and Environmental Management (CIEEM), 2022).

13.1.2 Relevant ornithological features have been identified (including nature conservation designations, habitats and protected or notable bird species) in proximity of the Proposed Development, with each being assigned a nature conservation value. The Proposed Development's potential direct and indirect impacts and effects on ornithological features and their conservation status, interrelationships, and their value/sensitivity as a contributor to local (and if appropriate higher level) biodiversity are identified. This assessment considers impact avoidance design measures and management activities (embedded mitigation) when determining the potential for significant effects. The requirement for further (essential) mitigation and / or enhancement measures is then considered in the assessment of residual effects.

13.2 Legislation, Planning Policy Context and Other Guidance

13.2.1 This section identifies and describes legislation, planning policy and guidance that is of relevance to the assessment of ornithological effects.

Legislative Background

13.2.2 The following legislation is relevant to the ornithological assessment for the Proposed Development:

- Countryside and Rights of Way Act 2000 (CRoW) (HM Government, 2000);
- Environment Act 2021 (HM Government, 2021);
- Natural Environment and Rural Communities Act 2006 (NERC) (HM Government, 2006).
- The Conservation of Habitats and Species Regulations 2017 (Habitats Regulations) (HM Government, 2017a);
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (HM Government, 2019); and
- Wildlife and Countryside Act 1981 (as amended) (WCA) (HM Government, 1981).

13.2.3 Prior to 31 December 2020, Annex 1 of the European Commission Birds Directive (European Commission, 2009) listed rare and vulnerable species of regularly occurring or migratory wild birds that were subject to of these species, which formed part of the Natura 2000 network of sites. Changes have been made to parts

of the Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (HM Government, 2017b) so that they effectively continue the legislation which implemented the EU Habitats and Species Directive (European Commission, 1992) and parts of the Wild Birds Directive (European Commission, 2009) through the provisions of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (HM Government, 2019). Most of these changes involve transferring functions from the European Commission to the appropriate authorities in England. All other processes or terms of the 2017 Regulations remain unchanged. Internationally designated wetlands 'Ramsar Sites' are protected under the CRoW Act 2000 (HM Government, 2000) and are not affected by the exit from the EU.

13.2.4 Part 1 of the WCA (HM Government, 1981) affords general protection to all species of wild bird, and specific protection to certain species of bird in Schedule 1 (birds protected by special penalties). It is an offence (subject to exceptions) to:

- kill, injure, or take any wild bird;
- take, damage, or destroy the nest of any wild bird while that nest is in use or being built;
- take or destroy an egg of any wild bird; and
- disturb any wild bird listed on Schedule 1 of the WCA while nesting or disturb the dependent young of such a bird.

13.2.5 The WCA (HM Government, 1981) requires the prosecuting authority to prove that an offence was intentional, however the CRoW Act 2000 (HM Government, 2000) strengthens the provisions of the WCA by introducing an additional offence of "reckless" disturbance, which means that ignorance of the presence of a protected species cannot be used as a reliable defence should a breach of the WCA be committed. The NERC Act 2006 (HM Government, 2006) strengthens the WCA further with respect to the protection of the nests of certain birds listed on Schedule Z1A, even when they are not in use.

Planning Policy Context

National Planning Policy

13.2.6 The Overarching National Planning Policy Statement (NPS) for Energy (EN-1) (Department for Energy Security and Net Zero (DESNZ), 2023a) sets out national policy for energy infrastructure and is part of a suite of NPSs issued by the Secretary of State (SoS) for Energy and Climate Change.

Overarching National Policy Statement for Energy (EN-1) (2023)

13.2.7 Section 5.4 of the Overarching NPS EN-1 (Department for Energy Security and Net Zero (DESNZ), 2023a) relates to biodiversity and geological conservation as follows:

13.2.8 Paragraph 5.4.17 states: *"Where the development is subject to EIA the applicant should ensure that the ES clearly sets out any effects on internationally, nationally, and locally designated sites of ecological or geological conservation importance, on protected species and on habitats and other species identified as being of principal*

importance for the conservation of biodiversity, including irreplaceable habitats. The applicant should provide environmental information proportionate to the infrastructure where EIA is not required to help the Secretary of State consider thoroughly the potential effects of a proposed project."

13.2.9 Paragraph 5.4.19 and 21 state: *"The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests. As set out in Section 4.7, the design process should embed opportunities for nature inclusive design. Energy infrastructure projects have the potential to deliver significant benefits and enhancements beyond Biodiversity Net Gain, which result in wider environmental gains. The scope of potential gains will be dependent on the type, scale, and location of each project."*

National Policy Statement for Natural Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (2023)

13.2.10 Paragraph 2.21.23 of the NPS EN-4 (DESNZ, 2023b) states *"Sections 5.4 and 5.10 of EN-1 sets out the general principles that should be applied in the assessment of biodiversity and landscape and visual impacts. Additional considerations apply during the construction of a pipeline (which, without mitigation, can affect both landscape and ecology). These comprise the effect upon specific landscape elements within and adjacent to the pipeline route, such as grasslands, field boundaries (hedgerows, hedgebanks, drystone walls, fences), trees, woodlands, and watercourses. There will also be temporary visual impacts caused by the need to access the working corridor and to remove flora and soil. The working width of the pipeline will vary depending on the surrounding terrain. Temporary impacts could include large excavations where deep pits are needed for boring beneath rivers, roads, and sensitive features."*

13.2.11 Paragraph 2.21.29 states: *"Long term impacts upon the landscape for pipelines are likely to be limited, as once operational the main infrastructure is usually buried. They are likely to include:*

- *Limitations on the ability to replant landscape features such as hedgerows or deep-rooted trees over or adjacent to the pipeline;*
- *the route of the pipeline clearly discernible in the landscape as a result of soil disturbance and altered drainage patterns producing changes to vegetation cover; and*
- *structures and indication points necessary to identify the pipeline route and provide it with service access".*

13.2.12 Paragraph 2.21.30 - 2.21.32 states: *"The ES must include an assessment of the biodiversity and landscape and visual effects of the proposed route and of the main alternative routes considered (see Section 5.10 of EN-1). The application should also include proposals for reinstatement of the pipeline route as close to its original state as possible and take into account any requirements for agreements with the landowner to access areas for aftercare and management work. Where it is unlikely to be possible to restore landscape to its original state, the applicant should set out*

measures to avoid, mitigate, or employ other landscape measures to compensate for, any adverse effect on the landscape."

National Policy Statement for Electricity Networks Infrastructure (EN-5) (2023)

13.2.13 Paragraph 2.5.1 states: *"When planning and evaluating The Proposed Development's contribution to environmental and biodiversity net gain, it will be important - for both the applicant and the Secretary of State - to supplement the generic guidance set out in EN-1 (Section 4.6) with recognition that the linear nature of electricity networks infrastructure can allow for excellent opportunities to:*

- *reconnect important habitats via green corridors, biodiversity stepping zones, and reestablishment of appropriate hedgerows; and/or*
- *connect people to the environment, for instance via footpaths and cycleways constructed in tandem with environmental enhancements."*

National Planning Policy Framework (2023)

13.2.14 The National Planning Policy Framework (NPPF) (Department for Levelling Up, Housing and Communities (DLUHC), 2023a) sets out the UK Government's planning policies for England and how these are expected to be applied by local authorities within their Local Development Frameworks (LDF). Chapter 15 of the NPPF *'Conserving and enhancing the natural environment'* sets out the requirements to consider biodiversity in planning decisions. The policies as outlined in Chapter 15 that are relevant to this assessment are outlined below.

"To protect and enhance biodiversity and geodiversity, plans should:

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

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Spl Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and,

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

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

a) potential Special Protection Areas and possible Special Areas of Conservation;

b) listed or proposed Ramsar sites; and,

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

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site."

Planning Practice Guidance (PPG)

13.2.15 The Government's planning practice guidance website (DLUHC, 2023b) provides detailed advice regarding the natural environment. This includes detailed guidance regarding biodiversity, ecosystems, and green infrastructure.

Local Planning Policy

13.2.16 There are four local plans / supplementary planning documents relevant to the Proposed Development:

- the Redcar and Cleveland Local Plan (Redcar and Cleveland Borough Council (RCBC), 2018);
- the Stockton-on-Tees Local Plan (Stockton-on-Tees Borough Council (STBC), 2019); and,
- the Hartlepool Local Plan (Hartlepool Borough Council (HBC), 2018).
- Redcar and Cleveland, South Tees Area Supplementary Planning Document (May 2018)

The Redcar and Cleveland Local Plan

13.2.17 The Redcar and Cleveland Local Plan (RCBC, 2018) was adopted in 2018 and sets out the vision and overall development strategy for the council's area and how it will be achieved for the period until 2032. Policies relevant to the Proposed Development are outlined below.

Policy N4 – Biodiversity and Geological Conservation

"We will protect and enhance the borough's biodiversity and geological resources. Support will be given to high quality schemes that enhance nature conservation and management, preserve the character of the natural environment and maximise opportunities for biodiversity and geological conservation, particularly in or adjacent to, Biodiversity Opportunity Areas in the wider Tees Corridor, Teesmouth, East Cleveland and Middlesbrough Beck Valleys areas. We will protect and preserve local, national and international priority species and habitats and promote their restoration, re-creation and recovery.

Biodiversity and geodiversity should be considered at an early stage in the development process, with appropriate protection and enhancement measures incorporated into the design of development proposals, recognising wider ecosystem services and providing net gains wherever possible. Detrimental impacts of development on biodiversity and geodiversity, whether individual or cumulative, should be avoided. Where this is not possible mitigation, or lastly compensation, must be provided as appropriate. Proposals will be considered in accordance with the status of biodiversity and geodiversity sites within the hierarchy.

Internationally important sites

Priority will be given to protecting our internationally important sites, including the Teesmouth and Cleveland Coast Special Protection Area/Ramsar and European Marine Site, and the North York Moors Special Protection Area and Special Area of Conservation. Development that is not directly related to the management of the site, but which is likely to have a significant effect on any internationally designated site, irrespective of its location and when considered both alone and in combination with other plans and projects, will be subject to an Appropriate Assessment.

Development requiring Appropriate Assessment will only be allowed where:

a. it can be determined through Appropriate Assessment at the design stage that, taking into account mitigation, the proposal would not result in adverse effects on the site's integrity, either alone or in combination with other plans or projects. Within 6 km of the Teesmouth and Cleveland Coast SPA and Ramsar Site, as illustrated on the Policies Map, proposals that would result in a net increase in residential units, or other development that would lead to increased recreational disturbance of the site's interest features, will be expected to contribute towards strategic mitigation measures identified in the Recreation Management Plan. This is to ensure that adverse effects on the site's integrity can be avoided. Any alternative suitable mitigation would need to be proven effective and agreed with the Council, in consultation with relevant statutory consultees; or,

b. as a last resort, Appropriate Assessment proves that there are no alternatives, and that the development is of overriding public interest and appropriate compensatory measures are provided.

Nationally important sites

Development that is likely to have an adverse impact on nationally important SSSI sites, including broader impacts on the national network and combined effects with other development, will not normally be allowed. Where an adverse effect on the site's notified interest features is likely, an exception will only be made where:

c. the benefits of the development, at this site, clearly outweigh both any adverse impact on the features of the site that makes it of special scientific interest, and any broader impacts on the network of SSSIs; or,

d. no reasonable alternatives are available; and e. mitigation, or where necessary compensation, is provided for the impact.

Locally important sites

Development that is likely to have an adverse impact on Local Sites (Local Wildlife Sites and Local Geological Sites) or Local Nature Reserves will only be approved where:

f. the benefits clearly outweigh any adverse impact on the site; or,

g. no reasonable alternatives are available; and h. mitigation, or where necessary compensation, is provided for the impact. Wildlife corridors and other habitat networks will be protected and enhanced, particularly hedgerows, watercourses and linking habitat features. Opportunities to deculvert watercourses will be encouraged.

We will continue to protect our ancient woodland and ancient and veteran trees, including our tree-lined becks. Development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and aged or veteran trees, will only be allowed in very exceptional circumstances where the need for, and benefits of, the development in that location clearly outweigh the loss and the development cannot be located elsewhere."

The Stockton-on-Tees Local Plan

13.2.18 The Stockton on Tees Local Plan (STBC, 2019) was adopted in 2019 and sets out policies and proposals to guide planning decisions and establishes a framework for sustainable economic growth and development in the borough up until 2032. Policies relevant to the Proposed Development are summarised below.

SD8 - Sustainable Design Principles

"1. The Council will seek new development to be designed to the highest possible standard, taking into consideration the context of the surrounding area and the need to respond positively to the:

a. Quality, character and sensitivity of the surrounding public realm, heritage assets, and nearby buildings, in particular at prominent junctions, main roads and town centre gateways;

b. Landscape character of the area, including the contribution made by existing trees and landscaping;

c. Need to protect and enhance ecological and green infrastructure networks and assets."

Policy EG4 – Seal Sands, North Tees and Billingham

"Development proposals for hazardous installations, uses related to the process industries, or emerging specialist sectors will be directed to available sites and expansion land in the following locations:

a. Billingham Chemical Complex including 45 ha of available land; or,

b. North Tees including 46 ha of available land. c. Seal Sands including 144 ha of available land.

2. Development proposals in the North Tees and Seal Sands area will recognise the cumulative importance for bird species associated with the Teesmouth and Cleveland Coast SPA and Ramsar site. Appropriate development proposals will be encouraged at locations within the limits to development where:

a. If necessary, land has been identified to provide appropriate strategic mitigation; or,

b. The applicant can demonstrate that the proposed development, in-combination with other proposals, will not adversely impact the Teesmouth & Cleveland Coast SPA and Ramsar site.

3. Should it become apparent that proposals for strategic mitigation cannot be identified, the Council will work with the Tees Estuary Partnership and relevant stakeholders to take appropriate action."

ENV5 - Preserve, Protect and Enhance Ecological Networks, Biodiversity and Geodiversity

"1. The Council will protect and enhance the biodiversity and geological resources within the Borough. Development proposals will be supported where they enhance nature conservation and management, preserve the character of the natural environment and maximise opportunities for biodiversity and geological conservation particularly in or adjacent to Biodiversity Opportunity Areas in the River Tees Corridor, Teesmouth and Central Farmland Landscape Areas.

2. The Council will preserve, restore and re-create priority habitats alongside the protection and recovery of priority species.

3. Ecological networks and wildlife corridors will be protected, enhanced and extended. A principal aim will be to link sites of biodiversity importance by avoiding or repairing the fragmentation and isolation of natural habitats.

4. Sites designated for nature or geological conservation will be protected and, where appropriate enhanced, taking into account the following hierarchy and considerations:

a. Internationally designated sites – Development that is not directly connected with or necessary to the management of the site, but which is likely to have a significant effect on any internationally designated site, irrespective of its

location and when considered both alone and in combination with other plans and projects, will be subject to an Appropriate Assessment. Development requiring Appropriate Assessment will only be allowed where:

i. It can be determined through Appropriate Assessment, taking into account mitigation, the proposal would not result in adverse effects on the site's integrity, either alone or in combination with other plans or projects; or,

ii. as a last resort, where, in light of negative Appropriate Assessment there are no alternatives and the development is of overriding public interest, appropriate compensatory measures must be secured.

b. Nationally designated sites - Development that is likely to have an adverse effect on a site, including broader impacts on the national network of Sites of Special Scientific Interest (SSSI) and combined effects with other development, will not normally be allowed. Where an adverse effect on the site's notified interest features is likely, a development will only be allowed where:

i. the benefits of the development, at this site, clearly outweigh both any adverse impact on the sites notified interest features, and any broader impacts on the national network of SSSI's; or,

ii. no reasonable alternatives are available; and iii. mitigation, or where necessary compensation, is provided for the impact. c. Locally designated sites: Development that would have an adverse effect on a site(s) will not be permitted unless the benefits of the development clearly outweigh the harm to the conservation interest of the site and no reasonable alternatives are available.

All options should be explored for retaining the most valuable parts of the sites interest as part of the development proposal with particular consideration given to conserving irreplaceable features or habitats, and those that cannot readily be recreated within a reasonably short timescale, for example ancient woodland and geological formations. Where development on a site is approved, mitigation or where necessary, compensatory measures, will be required in order to make development acceptable in planning terms.

5. Development proposals should seek to achieve net gains in biodiversity wherever possible. It will be important for biodiversity and geodiversity to be considered at an early stage in the design process so that harm can be avoided and wherever possible enhancement achieved (this will be of particular importance in the redevelopment of previously developed land where areas of biodiversity should be retained and recreated alongside any remediation of any identified contamination). Detrimental impacts of development on biodiversity and geodiversity, whether individual or cumulative should be avoided. Where this is not possible, mitigation and lastly compensation, must be provided as appropriate. The Council will consider the potential for a strategic approach to biodiversity offsetting in conjunction with the Tees Valley Local Nature Partnership and in line with the above hierarchy.

6. When proposing habitat creation, it will be important to consider existing habitats and species as well as opportunities identified in the relevant Biodiversity Opportunity Areas. This will assist in ensuring proposals accord with the 'landscape scale' approach and support ecological networks.

7. Existing trees, woodlands and hedgerows which are important to the character and appearance of the local area or are of nature conservation value will be protected wherever possible. Where loss is unavoidable, replacement of appropriate scale and species will be sought on site, where practicable."

Policy ENV6 - Green Infrastructure, Open Space, Green Wedges and Agricultural Land:

"1. Through partnership working, the Council will protect and support the enhancement, creation and management of all green infrastructure to improve its quality, value, multi-functionality and accessibility in accordance with the Stockton-on-Tees Green Infrastructure Strategy and Delivery Plan.

2. Where appropriate, development proposals will be required to make contributions towards green infrastructure having regard to standards and guidance provided within the Open Space, Recreation and Landscaping SPD or any successor. Green infrastructure should be integrated, where practicable, into new developments. This includes new hard and soft landscaping, and other types of green infrastructure. Proposals should illustrate how the proposed development will be satisfactorily integrated into the surrounding area in a manner appropriate to the surrounding townscape and landscape setting and enhances the wider green infrastructure network.

3. The Council will protect and enhance open space throughout the Borough to meet community needs and enable healthy lifestyles. The loss of open space as shown on the Policies Map, and any amenity open space, will not be supported unless:

a. it has been demonstrated to be surplus to requirements;

b. the loss would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location; or,

c. the proposal is for another sports or recreational provision, the needs for which, clearly outweigh the loss; or d. the proposal is ancillary to the use of the open space; and e. in all cases there would be no significant harm to the character and appearance of the area or nature conservation interests.

4. Development within green wedges will only be supported where:

a. it would not result in physical or visual coalescence of built-up areas;

b. it would not adversely impact on local character or the separate identity of communities;

c. it would not adversely impact on recreational opportunities; and,

d. it would not adversely impact on biodiversity.

5. Development proposals will be expected to demonstrate that they avoid the 'best and most versatile' agricultural land unless the benefits of the proposal outweigh the need to protect such land for agricultural purposes. Where significant development of agricultural land is demonstrated to be necessary, proposals will be expected to demonstrate that they have sought to use areas of lower quality land in preference to that of a higher quality."

Policy ENV7 – Ground, Air, Water, Noise and Light Pollution

"1. All development proposals that may cause groundwater, surface water, air (including odour), noise or light pollution either individually or cumulatively will be required to incorporate measures as appropriate to prevent or reduce their pollution so as not to cause unacceptable impacts on the living conditions of all existing and potential future occupants of land and buildings, the character and appearance of the surrounding area and the environment.

2. Development that may be sensitive to existing or potentially polluting sources will not be sited in proximity to such sources. Potentially polluting development will not be sited near to sensitive developments or areas unless satisfactory mitigation measures can be demonstrated.

3. Where development has the potential to lead to significant pollution either individually or cumulatively, proposals should be accompanied by a full and detailed assessment of the likely impacts. Development will not be permitted when it is considered that unacceptable effects will be imposed on human health, or the environment, taking into account the cumulative effects of other proposed or existing sources of pollution in the vicinity. Development will only be approved where suitable mitigation can be achieved that would bring pollution within acceptable levels.

4. Where future users or occupiers of a development would be affected by contamination or stability issues, or where contamination may present a risk to the water environment, proposals must demonstrate via site investigation/assessment that:

a. Any issues will be satisfactorily addressed by appropriate mitigation measures to ensure that the site is suitable for the proposed use, and does not result in unacceptable risks which would adversely impact upon human health and the environment; and,

b. Demonstrate that development will not cause the site or the surrounding environment to become contaminated and/or unstable.

5. Groundwater and surface water quality will be improved in line with the requirements of the European Water Framework Directive and its associated legislation and the Northumbria River Basin Management Plan. Development that would adversely affect the quality or quantity of surface or groundwater, flow of groundwater or ability to abstract water will not be permitted unless it can be demonstrated that no significant adverse impact would occur, or mitigation can be put in place to minimise this impact within acceptable levels.

To improve the quality of the water environment the Council will:

a. Support ecological improvements along riparian corridors including the retention and creation of river frontage habitats;

b. Avoid net loss of sensitive inter-tidal or sub-tidal habitats and support the creation of new habitats; and,

c. Protect natural water bodies from modification and support the improvement and naturalisation of heavily modified water bodies (including de-culverting and the removal of barriers to fish migration).”

The Hartlepool Local Plan

13.2.19 The Hartlepool Local Plan (HBC, 2018) was adopted in May 2018. Policies relevant to the Proposed Development are outlined below.

Policy NE1- Natural Environment

“The Borough Council will protect, manage and enhance Hartlepool’s natural environment and will ensure that:

1) Development proposals are in accordance with the locational strategy outlined in policy LS1.

2) Sites designated for nature conservation as shown on the Policies Map will be protected and, where appropriate, enhanced, taking into account the following hierarchy:

a) Internationally designated sites: these sites receive statutory protection. Development not connected to or necessary for the enhancement and/or management of the site will not be permitted unless it meets relevant legal requirements; A precautionary approach will be taken towards developments that may have indirect impacts on internationally designated sites and appropriate mitigation measures or contributions to avoid detrimental impacts will be sought and delivered via the Hartlepool Mitigation Strategy and Delivery Plan and other mechanisms.

b) Nationally designated sites: these sites also receive statutory protection. Development that would have an adverse effect on these sites will not be permitted unless it meets the relevant legal requirements; A precautionary approach will be taken towards developments that may have indirect impacts on nationally designated sites and appropriate mitigation measures or contributions to avoid detrimental impacts will be sought.

c) Locally designated sites: development which would adversely affect a locally designated site, which is not also allocated for another use in the Local Plan, will not be permitted unless the reasons for the development clearly outweigh the harm to the conservation interest of the site. Where development on a locally designated site is approved, including sites that are also allocated for other uses, compensatory measures may be required to make development acceptable in planning terms and to mitigate against potential loss of interest.

Biodiversity accounting/offsetting may be considered as part of compensatory measures where on-site compensation is not possible.

3) Designated Local Nature Reserves are protected, managed, and enhanced as sites with geological and/or wildlife features that are of special local interest. Where appropriate the Borough Council will support the designation of further sites as Local Nature Reserves.

4) Where appropriate an ecosystems services approach will be used to assess the impact of development proposals on the natural environment and the benefits it provides, including resource use, health and well-being, protection from the effects of climate change, economic growth, and culture.

5) Ecological networks are enhanced, and green infrastructure is protected and enhanced.

6) Development avoids harm to and, where appropriate, enhances the natural environment. This could include, for example, creating and/or enhancing habitats to meet the objectives of the Tees Valley Biodiversity Action Plan. In seeking to avoid harm, development should follow the sequence of avoidance, mitigation, compensation. Where sufficient on-site mitigation and/or compensation are demonstrably not possible, then off-site compensation will be considered. Where significant harm from a development cannot be avoided (through locating on an alternative site), adequately mitigated or, as a last resort compensated for, the Borough Council will refuse planning permission. The Borough Council will consider the potential for a strategic approach to biodiversity accounting in conjunction with the Tees Valley Local Nature Partnership and in line with the above hierarchy.

7) Existing woodland and trees of amenity value and nature conservation value are protected, and an increase in tree cover will be sought in appropriate locations in line with the Borough Council's Tree Strategy. Areas of ancient woodland, including ancient semi-natural woodland (ASNW), plantations on ancient woodland sites (PAWS), and ancient or veteran trees outside ancient woodland, will be protected unless there are exceptional circumstances. The Borough Council will also ensure that development does not result in the loss of or damage to ancient woodland (including ASNW and PAWS) by requiring the implementation of a buffer of at least 15 metres between development and the ancient woodland site (depending on the size of the site). For ancient or veteran trees, a buffer 15 times the stem diameter or 5 metres beyond the drip line of the leaf canopy should be maintained, whichever is the greater.

8) Where appropriate Tree Preservation Orders will be used to protect trees under threat from development proposals. Where the loss of significant trees/hedgerows cannot be avoided their replacement by trees/shrubs/hedgerows of an appropriate scale and species for the area will be sought where practical.

9) Development avoids the best and most versatile agricultural land – identified as grades 1, 2 and 3a in the National Agricultural Land Classification – unless it can be demonstrated that there will be no impact on the agricultural land and its quality and there are no material consideration that outweigh the loss of such land.

10) In prioritising the re-development of brownfield land, areas that are important for biodiversity will be retained or recreated within the site, and remediation of contaminated land will be pursued.

11) The major/principal aquifers underlying Hartlepool along with watercourses and other surface and coastal waters will be protected from over abstraction and contamination from pollutants and saline intrusion resulting from development. Developments will be required to demonstrate that they do not impact on the major/principal aquifer underlying Hartlepool, along with watercourses and other surface and coastal waters and they can achieve access to a sustainable water supply prior to approval.

12) Opportunities are taken to retain, restore and de-culvert watercourses to improve their role and value as wildlife corridors and habitats.

13) All development proposals, through the careful, sensitive management and design of development will ensure that the character, distinctiveness and quality of the Borough's landscape is protected and, where appropriate, enhanced. Any development within the Special Landscape Areas as defined on the Policies Map or which will have a visual impact on those areas will be required to demonstrate that they are in keeping with the area and will not have an adverse impact on the area's landscape character.

14) Development has regard to coastal change, bathing water quality, and coastal processes over time, and in particular the need to avoid exacerbating coastal squeeze and incorporate measures to mitigate this where appropriate.

Where appropriate Supplementary Planning Documents will be prepared to provide more detailed guidance on safeguarding and enhancing Hartlepool's natural environment and biodiversity."

Policy NE4 – Ecological Networks

"The Borough Council will seek to maintain and enhance ecological networks throughout the Borough. Priority sections of the network are:

1) Coastal fringe;

2) Tees Road/Brenda Road brownfield land;

3) Dalton Beck/Greatham Beck riparian corridor; and,

4) Rural west from Wynyard to Thorpe Bulmer and Crimdon Denes.

The Borough Council will also work with the Tees Valley Local Nature Partnership and adjoining Local Nature Partnerships to maintain and enhance ecological networks at a landscape scale across the Borough boundary. Where appropriate all developments will be required to maintain and enhance ecological networks in the vicinity of the proposal, complying with policy QP5. Where enhancements cannot be incorporated within the site then an off-site contribution may be sought, in accordance with policy NE2 and policy QP1."

Redcar and Cleveland, South Tees Area Supplementary Planning Document (May 2018)

13.2.20 The following policies and statements of the Redcar and Cleveland South Tees Planning Area Supplementary Planning Document (RCBC, 2018b) are relevant to the ornithology assessment:

- Development Principal STDC 1: Regeneration Principals
  - To reduce pollution, contribute to sustainable flood risk management and habitat protection and encourage biodiversity and long term sustainability; and
- Development Principal STDC 6: Energy Innovation
  - All energy generation development should be appropriately sited and designed in order to avoid unacceptable adverse environmental or amenity effects.
- Development Principle STDC7: Natural Environmental Protection and Enhancement
  - The Council will, in partnership with the STDC and investment partners and other key stakeholders, protect and, where appropriate, enhance designated and non-designated sites of biodiversity and geodiversity value and interest within the South Tees Area. The need to remediate known contamination, including to reduce environmental harm, and to redevelop the South Tees Area for productive uses is fully recognised and supported by the Council. In doing so it will be important for all development proposals to be in accordance with the requirements of STDC7 and to respond to their environmental setting, in particular to protect and, where possible enhance, biodiversity and geodiversity interests.
  - All proposals will be required to comply with Local Plan Policy N4 Biodiversity and Geological Conservation. Proposals with the potential to affect the Teesmouth and Cleveland Coast SPA should undergo a Habitat Regulations Assessment (HRA) with regard to the conservation objectives of the designation.
  - The Council will support the delivery of a strategy for the regeneration area which promotes the provision of green infrastructure, in accordance with Local Plan Policy N2, including a series of connected open, private and public spaces, using open space as connectors not barriers to development.
  - All proposals will be required to have regard to the forthcoming Environment and Biodiversity and Open Space Strategies and, where appropriate, the Redcar & Cleveland Teesmouth and Cleveland Coast SPA Recreation Management Plan, including in the mitigation of likely cumulative impacts on the natural environment. Net environmental gains should be provided where appropriate and viable, in accordance with Policies N2 and N4.

- Development Principle STDC15 – Coastal Community Zone
  - Opportunities for renewable energy generation and energy storage will be explored.
  - Any proposals for leisure or community use should also be in accordance with the Redcar and Cleveland Teesmouth Coast SPA Recreation management Plan.

Local Biodiversity Action Plans

13.2.21 The UK Biodiversity Action Plan (BAP) was withdrawn in 2012 (Joint Nature Conservation Committee (JNCC, 2019), the lists of Priority Species and Habitats being superseded by those within section 41 of the NERC Act (HM Government, 2006). Local Biodiversity Action Plans (LBAPs) are no longer used as a formal expression of delivery of biodiversity targets but identify sub-regional priorities for nature conservation and propose agreed actions to conserve, maintain, enhance, and / or increase local Priority Species and Habitats.

13.2.22 The Tees Valley Biodiversity Action Plan (Tees Valley Nature Partnership, 2012) is the relevant LBAP for the defined Study Area (refer to Section 13.3) and was updated in 2012. The LBAP outlines biodiversity conservation objectives within the region and identifies priorities for action for priority habitats, species, locally important wildlife, and sites. The Tees Valley Biodiversity Partnership (2012) identify 10 bird species that can be regarded as LBAP Priority Species on this basis. These are: barn owl (*Tyto alba*), ringed plover (*Charadrius hiaticula*), grey partridge (*Perdix perdix*), tree sparrow (*Passer montanus*), corn bunting (*Emberiza calandra*), shelduck (*Tadorna tadorna*), little tern (*Sternula albifrons*), bittern (*Botaurus stellaris*), swift (*Apus apus*) and yellow wagtail (*Motacilla flava*).

Other Guidance

13.2.23 Specific guidance used to inform this ornithological assessment is referenced throughout the chapter and includes:

- the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, version 1.2 (CIEEM, 2022);
- British Standard 42020:2013 (British Standards Institution, 2013);
- Natural England's Standing Advice for Protected Species (Natural England, 2023); and
- Bird Survey Guidance published in Marchant (1983), Bibby et al. (2000) and Gilbert et al, (1998).

13.2.24 Stanbury et al, (2021) have published lists of Birds of Conservation Concern (BoCC). Red List species are those whose breeding population or range is rapidly declining (50% or more in the last 25 years), recently or historically, and those of global conservation concern. Amber List species are those whose breeding population is in moderate decline (25 to 49% in the last 25 years), rare breeders, internationally important and localised species and those of unfavourable conservation status in Europe. Green List species are those not of immediate conservation concern. Non-

native species are classified as not assessed. These lists confer no legal status; however, they are useful when assessing the significance of predicted impacts and determining the level of mitigation that may be required when birds are affected by development or any other activity. Furthermore, inclusion on the Red List was a factor in determining the species for which BAPs were developed.

13.3 Assessment Methodology and Significance Criteria

Study Area

13.3.1 The assessment Study Area has been defined with reference to the likely Zone of Influence (ZoI) within which construction, operation and decommissioning of the Proposed Development may result in significant effects on relevant ornithological features.

13.3.2 The spatial scope was informed by professional judgment in line with good practice guidance and standards including British Standard 42020:2013: Code of Practice for Planning and Development Introduction (British Standards Institution, 2013), and Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal version 1.2 (CIEEM, 2022), as well as species specific guidance regarding home range sizes and foraging distances published by Natural England (2018), NatureScot (Scottish Natural Heritage, 2016) and the known distributions of several species across Teesside, as determined by the desk study and surveys set out below. These were informed by the baseline and assessments carried out for the Net Zero Teesside (NZT) application submitted to the Inspectorate in 2021 (bp, 2021a; bp, 2021b), and supported by the first-hand experience of AECOM ecologists supervising GI work within South Tees Development Corporation (STDC), and carrying out scoping visits to coastal habitats and the terrestrial habitats within and around the Wilton International complex in 2022.

13.3.3 For the purposes of assessment, survey areas were selected to cover any areas of Functionally Linked Land[1] potentially susceptible to advere effects from the Proposed Development, and that might provide a supporting role in the fuicntion and integrity of the Teesmouth and Cleveland Coast SPA and Ramsar. Generally speaking, this includes all areas of habitat that are suitable for breeding and non-breeding water birds across Teesside beyond the boundaries of the designations, as identifed by: the spatial extent of habitats surveyed year-round by WeBS; the distribution of non-statutory and statutory sites at National level or lower; the spatial distribution of bird records obtained from third party providers; advice received from Natural England during an initial engagement meeting in February 2022 during the early design phase of the Proposed Development; and professional

[1] Functionally Linked Land (FLL) is a term used to describe areas of land or sea occurring outside a designated site and that are considered to be critical to, or necessary for, the ecological or behavioural functions in a relevant season of a qualifying feature for which a SPA or Ramsar site has been designated. These habitats are frequently used by qualifying species and support the function and integrity of the designated sites for these features.

judgement. Survey areas covered all such habitats up to at least 500m from the proposed Development.

13.3.4 The spatial scope also takes account of the potential ZoI of the Proposed Development by extending the desk-based exercise to outside the boundary where required. The ZoI is the area over which ornithological features may be subject to likely significant effects as a result of the design proposals and associated activities. These effects (and therefore the distance and area of the ZoI) vary for each biodiversity resource and are dependent on several factors including the presence of connective pathways and sensitivity or importance of the biodiversity resource.

13.3.5 The potential ZoI of the Proposed Development may vary over time (e.g., the construction ZoI may differ from the operational ZoI) and / or depending on the individual sensitivities of different ornithological features.

13.3.6 The extents of the Study Area applied during the desk study and Survey Areas are detailed respectively within Table 13-2 and Table 13-3 and illustrated in Figure 13-1: Study Area, and . A study area of 15 km radius from the Proposed Development was selected to accommodate the potential need to assess spatially widespread impacts, principally of process emissions to air, on supporting features of international statutory designated sites; this Study Area also acknowledges the mobility of coastal birds in particular between likely roosting, feeding and nesting areas. Coastal sites designated at the local level are covered by the Study Area radius of 15 km for internationally designated statutory sites and therefore there is no need to set a larger Study Area; inland (terrestrial) sites designated at the local level across Teesside typically support populations of breeding birds that are relatively sedentary and therefore a Study Area for these features of 2km was considered satisfactory.

13.3.7 The Study Areas and Survey Areas are considered sufficient to address the potential worst-case ZoI of the Proposed Development on the relevant ornithological features concerned, in line with the principals of the Rochdale Envelope (see Section 2.4 of Chapter 2: Assessment Methodology (ES Volume I, EN070009/APP/6.2)). The Study Areas are set out below.

Impact Assessment Methodology

13.3.8 Potential impacts on important ecological features have been assessed in accordance with CIEEM guidance (CIEEM, 2022).

13.3.9 It is not necessary in the assessment to address all species with potential to occur in the ZoI of a project. Instead, the focus has been on those that are 'relevant'. CIEEM guidance makes it clear that there is no need to "*carry out detailed assessment of ecological features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable.*" This does not mean that efforts should not be made to safeguard wider biodiversity, and requirements for this have been considered. The development has been designed to avoid designated sites and habitats that support breeding and non-breeding birds wherever possible.

13.3.10 To support a focused assessment, there is a need to determine the scale at which the ornithological features identified through the desk studies and field surveys are of value. The value of each ornithological feature has been defined with reference to the geographical level at which it matters, and the results of this assessment are used to identify the relevant features requiring impact assessment. The frames of reference that have been used for this assessment, based on CIEEM guidance, are:

- international (generally this is within a European context, reflecting the general availability of good data to allow cross-comparison);
- national (Great Britain), but considering the potential for certain ornithological features to be more of higher value in an England context relative population estimates for Great Britain as a whole (Woodward et al, 2020);
- regional (e.g. North East England);
- county: (Cleveland) breeding species monitored by the Rare Breeding Birds Panel (RBBP) (Eaton et al, 2023) that are listed as "Less Scarce" "Scarce", "Rare" or "Very Rare" (Brown, 2022);
- borough (Hartlepool, Stockton-on-Tees or Redcar) (Brown, 2022);
- local referenced in the county avifauna as "Common"; generally more than 1,000 individuals recorded per year (Brown, 2022). These include species and assemblages that do not meet criteria for valuation at a Borough or higher level, but that have sufficient value to merit retention or mitigation); and
- negligible (ornithological features of such low priority that they do not require retention or mitigation at the relevant location to otherwise maintain a favourable nature conservation status).

13.3.11 All ornithological features of Local value and above, where there is the potential for the Proposed Development to impact them directly or indirectly, will be taken forward to impact assessment and will be the 'relevant ornithological features' for the purposes of the ecological impact assessment.

13.3.12 For designated sites, the appropriate value is implicit in the type of designation and / or the legislation under which it is designated, i.e. sites designated under international legislation or the domestic equivalent include Ramsar and SPA and are valued accordingly; sites designated under national legislation and of importance nationally include SSSIs and NNRs; sites designated as Local Nature Reserves (LNRs) or Local Wildlife Sites (LWSs) are generally of importance at the Borough scale unless there is a clear rationale for upgrading or downgrading their valuation on a site by site basis, such as their playing a critical supporting role to the function and integrity of a nationally or internationally designated site.

13.3.13 Values have been assigned to relevant species features occurring within the Study Area based on the geographical scale at which that population is important. In doing so, consideration has been given to the perceived importance, rarity or vulnerability of the species with reference to:

- inclusion as Priority Species on the RSPB Red or Amber Lists of Conservation Concern and/or on Schedule 41 of the NERC Act (HM Government, 2006);
- the known abundance of the species within the Teesmouth Bird Club reporting area (Brown, 2022);
- inclusion as a notified feature of a designated site, where there is a clearly defined rationale for assessing these species separately from the relevant designated site itself; and
- breeding species monitored by the Rare Breeding Birds Panel (RBBP) (Eaton et al, 2023).

13.3.14 For the purposes of this assessment, Borough level or greater is defined as any species that is identified in the county Avifauna as "Rare", "Scarce", "Uncommon" or "Fairly Common". Additionally, breeding species monitored by the Rare Breeding Birds Panel (RBBP) that are listed as "Less Scarce", "Scarce", "Rare" or "Very Rare" are, depending on the status set out in Brown (2022), assigned a value of "County" or higher.

13.3.15 Assemblages of species that are qualifying features of the Teesmouth and Cleveland Coast SPA and Ramsar site, that occur within land that is Functionally Linked to the SPA, are also valued separately; this is because qualifying features of designated sites, and by default land that is functionally linked to a designated site, are not necessarily of International "value" in their own right, but they qualify on the basis that the designated site supports internationally important numbers of that species; indeed, even common and widespread species can be listed as qualifying features on this basis (for example black-headed gull, which occurred within the Survey Area and is a qualifying assemblage feature of the Teesmouth and Cleveland Coast SPA and Ramsar site).

13.3.16 Species assemblages supporting species that are not qualifying features of designated sites are valued as individual ornithological features using professional judgement and the criteria summarised above to determine value based on the "typicalness" of the assemblage in the context of the location and habitats present.

13.3.17 In line with the CIEEM guidelines, the terminology used within the assessment will draw a clear distinction between the terms 'impact' and 'effect'. For the purposes of the assessment, these terms are defined as follows:

- Impact – actions resulting in changes to an ornithological feature; for example, site clearance activities leading to the loss of foraging habitat for a particular bird species; and
- Effect - outcome resulting from an impact, acting upon the conservation status or structure and function of an ornithological feature; for example, reducing the availability of suitable foraging habitat and therefore increasing feeding pressures may lead to an adverse effect on the conservation status of the population concerned.

13.3.18 With reference to the CIEEM Guidelines (2022), the following parameters have been considered when assessing effects on ecological features:

- Positive or negative; Whether the impact will have a positive (beneficial) or negative (adverse) change on the quality of the ecological feature;
- Extent / complexity: The geographical area over which the effect occurs, whether Direct, Indirect or Cumulative;
- Magnitude: The 'size' or 'amount' of an effect determined on a quantitative basis e.g., total or partial;
- Duration: The period over which the effect is expected to last prior to recovery or replacement of the resource or feature, for example, short term (up to three months), medium term (between three months and two years) or long-term (greater than two years);
- Reversibility: Whether recovery from the effect is possible or not, e.g., irreversible (permanent) effects or reversible (temporary) effects; and,
- Frequency and timing: The number of times an activity occurs will influence the resulting effect. The timing of an activity or change may alter the impact.

Significance Criteria

13.3.19 For each ornithological feature only those characteristics relevant to understanding the ecological effect and determining the effect significance are described. The determination of the significance of effects is made based on the predicted effect on the structure and function, or conservation status, of relevant ornithological features, as follows:

- Not significant – no, negligible or minor effect on structure and function, or conservation status; and,
- Significant - structure and function, or conservation status subject to a major or moderate effect.

13.3.20 For significant effects (both adverse and beneficial) this will be qualified with reference to the geographic scale at which the effect is significant (e.g., an adverse effect significant at a National level).

13.3.21 The CIEEM (2022) approach described above broadly accords with the EIA methodology described in Chapter 2: Assessment Methodology (ES Volume I, EN070009/APP/6.2). However, a matrix approach has not been used to classify effects, as this deviates from CIEEM guidance. To provide consistency of terminology in the final assessment with other chapters of the ES, the findings of the CIEEM assessment have been translated into the classification of effects scale as outlined in Table 13-1.

Table 13-1: Classification of Effects

EFFECT CLASSIFICATION	TERMINOLOGY USED IN OTHER ES CHAPTERS	EQUIVALENT CIEEM ASSESSMENT
Significant (Beneficial)	Major Beneficial	Beneficial effect on structure/function or conservation status at Regional, National or International level.
	Moderate Beneficial	Beneficial effect on structure/function or conservation status at Borough or County level.
Not Significant	Minor Beneficial	Beneficial effect on structure/function or conservation status at Local level.
	Negligible	No effect on structure/function or conservation status.
	Minor Adverse	Adverse effect on structure/function or conservation status at Local level.
Significant (Adverse)	Moderate Adverse	Adverse effect on structure/function or conservation status at Borough or County level.
	Major Adverse	Adverse effect on structure/function or conservation status at Regional, National or International level.

13.3.22 Any significant adverse effects should be mitigated or compensated for, whilst further ecological enhancements may be identified where appropriate to help meet planning policy objectives. Following the implementation of any mitigation and compensation measures, as appropriate, residual effects on ornithological features are described.

Cumulative Ornithology Effects

13.3.23 An assessment of cumulative ornithology effects has been undertaken and is detailed within Chapter 23: Cumulative and Combined Effects (ES Volume I, EN070009/APP/6.2).

Rochdale Envelope

13.3.24 To ensure a robust assessment of the likely significance of the environmental effects of the Proposed Development, the EIA has been undertaken adopting the principles of the 'Rochdale Envelope' approach where appropriate in line with the Inspectorate's guidance (The Inspectorate, 2018). This has involved assessing the maximum (or where relevant, minimum) worst case parameters for the elements where flexibility needs to be retained (for example pipeline routes or working widths).

13.3.25 The proposed construction methodologies are subject to ongoing design work, discussions with landowners and statutory consultees, and informed by locations that are regularly used by important ornithological features. The construction methodologies to be utilised during construction of the Proposed Development will be confirmed during the detailed design stage. For assessment purposes, a worst-case has been evaluated, based on the Rochdale Envelope and the methodologies outlined in Chapter 5: Construction and Programme Management (ES Volume I, EN070009/APP/6.2) about how the worst-case scenario is being addressed.

13.3.26 Due to construction phasing, there may be a period following opening of Phase 1 where Phase 1 will be operational and Phase 2 is under construction. Within the framework of this EcIA, the worst-case scenario for construction and operation concurrently has been defined and assessed, resulting in Phase 1 being considered a more robust (worst-case) construction stage evaluation. This conclusion is drawn from the greater magnitude of disturbing activities during construction of Phase 1 compared to an assessment of the simultaneous operational impacts of Phase 1 and the construction impacts of Phase 2. The operational stage worst case commences on completion of Phase 2.

Sources of Information/ Data

13.3.27 The following sources of information have been reviewed and have informed the assessment.

Desk Study

13.3.28 A desk study was undertaken to identify ecological designations specifically for their ornithological interest, as well as contemporary records of protected and notable species of potential relevance to the Proposed Development and locations of ornithological interest or sensitivity (such as habitats regularly used by roosting birds for which designated sites are notified).

13.3.29 The desk study was carried out using the data sources detailed in Table 13-2. Protected and notable habitats and species include those listed under Schedules 1, 5, and 8 of the WCA; Schedules 2 and 4 of The Habitats Regulations; qualifying species listed on SPA/Special Area of Conservation (SAC)/ Site of Special Scientific Interest (SSSI) citations; and species and habitats of principal importance for nature conservation in England listed under section 41 of the NERC Act (2006).

13.3.30 British Trust for Ornithology (BTO) Wetland Birds Survey (WeBS [Austin et al, 2023]) core count data are updated on a rolling basis in July each year – therefore, these data have been acquired for all spatially relevant count sectors after July 2023 to ensure that data are as contemporary as possible, up to December 2023.

13.3.31 In addition to the area-specific requests for data as set out in Table 13-2, Natural England has been consulted on the scope of the initial surveys and assessment, at which time they agreed to supply survey data for Seal Sands Bay.

13.3.32 Other notable habitats and species have also been considered and assessed on a case-by-case basis (e.g., those within the LBAP and / or those listed on BoCC Red /

Amber Lists, but not protected by legislation). This is consistent with the requirements of relevant planning policy.

13.3.33 Baseline data gathered for the NZT project has been utilised to inform the baseline. Relevant baseline data gathered by AECOM and reported for NZT is included in Table 13-2. The NZT data include locations at which breeding bird surveys were undertaken and breeding bird assemblages were identified, as well as several species-specific records that are not currently provided by the data gathered specifically for the Proposed Development. The NZT survey locations are shown in Figure 13-3: Net Zero Teesside Breeding Bird Survey Areas (ES Volume II, EN070009/APP/6.3).

Table 13-2: Desk Study Area and Data Sources

ORNITHOLOGICAL FEATURE	STUDY AREA	DATA SOURCES	DATE ACCESSED
International statutory nature conservation designations e.g. SPA, Ramsar site	Up to 15 km	Multi-Agency Geographic Information for the Countryside (MAGIC) website. (DEFRA, n.d.) Joint Nature Conservation Committee website (JNCC, 2023)	November 2022
National statutory nature conservation designations e.g. SSSI, NNR, LNR	Up to 15 km	MAGIC website (DEFRA, n.d.) Natural England, Designated Sites view (Natural England, 2023)	November 2022
Local non-statutory nature conservation designations e.g. LWS	2 km	The Environmental Records Information Centre for the North East (ERIC NE)	November 2022
Protected and Notable Bird Species and key locations used by birds	2 km	ERIC NE Industry Nature Conservation Association (INCA) Ecology surveys completed to inform the NZT project (bp, 2021b) Cleveland Bird Report 2021 (Brown, 2022)	August 2021 / November 2022 November 2023
Roost and breeding site locations	Data specific	INCA	March 2022

ORNITHOLOGICAL FEATURE	STUDY AREA	DATA SOURCES	DATE ACCESSED
Count data for wetland birds in selected habitats across Teesside	Data specific	British Trust for Ornithology (BTO) WeBS (Austin et al., 2023) Natural England wetland bird counts of Seal Sands Bay	May 2022, updated December 2023 September 2023
Species records including breeding and non-breeding birds, gathered between 2018 and 2022.	Data specific	NZT baseline reports and Environmental Statement Report (bp, 2021a and 2021b) Environment Agency bird survey data for Greenabella Marsh and Greatham Creek (location specific)	May 2023 January 2024

Field Surveys

13.3.34 The scope of ornithological survey work undertaken to inform the assessment is summarised in Table 13-33.

Table 13-3: Scope and Methods of Ornithological Surveys

SURVEY	SCOPE OF SURVEY	SURVEY PERIOD	SURVEY AREA EXTENT	JUSTIFICATION
WeBS (Austin et al, 2023) Counts	Counts of wetland bird species (cormorants and shags, waders, terns, skuas, auks, gulls, sawbills, grebes, divers, herons, wildfowl (including all ducks, geese, and swans), and kingfisher) at high and low tide each month across multiple pre-defined sectors at three discrete sites (The Foundry, Seal Sands and North Tees Marshes). Survey method derived from BTO standards (BTO, n.d) utilising the 'look-see' methodology where the whole of a pre-defined area was surveyed. Disturbance and general behaviour for each species also recorded. Assessment of peak and, where possible, mean counts[2] of species by site and count sector to determine presence of protected, priority[3] or otherwise notable species and to identify the location and likely	Initial surveys commenced at two broad survey areas (The Foundry and Seal Sands) in January 2022, continuing to March 2022. Surveys at The Foundry and Seal Sands recommenced in September 2022 and are ongoing as explained below. Surveys across an additional broad survey area (the North Tees Marshes) commenced September 2022 and are ongoing as explained below. Surveys are continuing from December 2023 to March 2024 in certain areas where access was	The Foundry: 24 count sectors extending from the River Tees and the coast to the north to Dabholm Gut and Coatham Marshes in the south and east. Seal Sands: 43 count sectors covering the Seal Sands industrial area, the intertidal habitat to the north and extending west to the A178. North Tees Marshes: 37 count sectors bordered to the east by the A178 and extending west to Cowpen Bewley Road and north to Greatham. Some individual count sectors were excluded from further surveys due to disturbance levels, topographical and habitat conditions unsuitable for wetland birds, access constraints or distance to the Proposed Development. All count sectors (including those excluded from surveys) and sites are	The survey period was determined to ensure all parts of the three survey areas were visited during each month of the year. The survey area extents were determined to ensure all suitable habitat affected by the Proposed Development that might support wetland bird species were surveyed. The count data suggested usage of the habitats within and adjacent to the Proposed Development Site by waterbirds and indicates the level of importance of certain spatial zones by different species, which in turn allows the relevant importance to be ascertained.

[2] Mean counts are usually only possible for surveys spanning multiple years because bird presence is seasonal for most species, therefore it may not be possible to provide this metric for the first hand survey data collected over approximately one calendar year. Mean counts are provided as part of the package of survey data supplied by BTO WeBS.
[3] These are also referred to as "protected and notable species/habitats".

SURVEY	SCOPE OF SURVEY	SURVEY PERIOD	SURVEY AREA EXTENT	JUSTIFICATION
	importance of habitat features for such species.	late to be agreed (Dabholm Gut Sector 18; Navigator Terminal Vopak Foreshore Sector 25; and Greenabella Marsh Sectors 22-23 – see figure 13-A-4a-c). The updated baseline data will be reviewed and submitted post-submission of the DCO Application, but, based on early results, are expected to validate the conclusions already drawn in this ES.	shown on Figure 13-A-4a-c (refer to Appendix 13A: Ornithology Baseline (ES Volume III, EN070009/APP/6.4)).	The recording of behaviour and locations of flocks suggests habituation of different species to disturbance in those areas and provided spatial context to the counts such that habitats / locations visited regularly by waterbirds could be identified.
Common Bird Census (CBC) surveys	Mapping of sightings of bird species and recording of their breeding status at five sites (Cowpen Bewley Woodland Park, Navigator, The Foundry North-west, The Foundry and The Foundry East) relevant to the Proposed Development. Assessment of a number of breeding pairs and breeding status of species by site to determine presence of protected, priority or	One visit to each site a minimum of three times and a maximum of five times between late-March and July 2023.	The sites are focused on those areas of the Proposed Development which offer the most suitable habitat for breeding bird species, including The Foundry and Cowpen Bewley Woodland Park, and or those where potential long term or permanent habitat losses might occur.	The survey period was aligned with when bird species reported from the survey area are known to breed. The survey sites were determined to ensure all suitable habitat affected by the Proposed Development that might support important breeding bird

SURVEY	SCOPE OF SURVEY	SURVEY PERIOD	SURVEY AREA EXTENT	JUSTIFICATION
	otherwise notable species and to identify the location of breeding territories and likely importance of habitat features for such species. Surveys follow the accepted methodology (Marchant, 1983; Bibby et al, 2000)[4].			species/assemblages were surveyed. Information collated on the location of breeding individuals for each species and site will allow territories to be mapped and therefore has informed design and offset buffers to avoid direct effects upon suitable habitat within territories and prevent severance of these territories. Furthermore, the information has formed the basis of mitigation recommendations to minimise loss of suitable habitats within each territory.

[4] The CBC was originally developed for the long-term monitoring of bird populations in the UK, from which an annual index of breeding bird abundance was derived. For this purpose 10 repeat survey visits are required to provide sufficient temporal and spatial resolution to the data for the indices to be accurate enough to detect even subtle population changes from year to year. However, in order to quantify a breeding bird assemblage for the purposes of assessment, 5 to 6 repeat visits are regarded as sufficient, in accordance with the recommendations of the Bird Survey and Assessment Steering Group (2022).

Consultation

Scoping Opinion

13.3.35 An EIA Scoping Opinion was requested from the Inspectorate on 6 April 2023. A response was received on 17 May 2023. For the Scoping Opinion and the Applicant's responses to them, refer to Appendix 1E (ES Volume III, EN070009/APP/6.4).

Statutory Consultation

13.3.36 The PEI Report was published for statutory consultation on 14 September 2023 and the consultation period ended on 26 October 2023. A second statutory consultation was held between 13 December 2023 and 23 January 2024, and additional targeted consultation was held between 9 February 2024 and 10 March 2024. The matters raised have been reviewed and an explanation of how the Applicant has had regard to them is set out in the Consultation Report (EN070009/APP/5.1).

13.3.37 Refer to Table 13-4 for a detailed summary of the Statutory Consultation feedback relevant to this chapter from Statutory Environmental Bodies, and the Applicant's responses.

Table 13-4: Responses to the Statutory Consultation Feedback

CONSULTEE	DATE AND METHOD OF CONSULTATION	SUMMARY OF CONSULTEE COMMENTS	SUMMARY OF RESPONSE/HOW COMMENTS HAVE BEEN ADDRESSED
Natural England	20/10/23	Natural England's comments relating to the Public Consultation and the Preliminary Environmental Information Report (PEIR) are given below: Nationally and Internationally Designated Sites The proposal is likely to impact directly and indirectly upon the Teesmouth and Cleveland Coast Special Protection Area (SPA), Ramsar Site and Site of Special Scientific Interest (SSSI) during construction and operation and has the potential to indirectly impact several other internationally designated sites during operation. Natural England notes that a 'Report to Inform Habitats Regulations Assessment Screening' has been submitted in line with the requirements of the Habitats Regulations, and that these assessments have been made taking account of the Rochdale Envelope approach (worst-case scenarios) in the absence of detailed design information. Natural England acknowledges the intention to carry out an assessment of cumulative and in combination effects as part of the forthcoming Environmental Statement and as option selection proceeds. We also note the Nutrient Neutrality Screening Assessment in recognition of the Tees catchment's current nutrient neutral status. With regard to the restoration of the SPA as distinct from nutrient neutrality the SPA's conservation objectives include the 'restore' objective. Natural England welcomes the statement regarding further	Nationally and Internationally Designated Sites The Applicant can confirm a Report to Inform Habitats Regulations Assessment (EN070009/APP/5.10) and a Cumulative and In-Combination Effects Assessment (Chapter 23: Cumulative and Combined Effects (ES Volume I, EN070009/APP/6.2)) have been undertaken and submitted as part of the DCO Application. The Applicant can confirm a Nutrient Neutrality Assessment has been undertaken and is submitted as part of the DCO Application (EN070009/APP/5.13) Protected species The Applicant has reviewed the Natural England standing advice for protected species. The results of species-specific surveys are reported in the Environmental Statement (EN070009/APP/6.4).

CONSULTEE	DATE AND METHOD OF CONSULTATION	SUMMARY OF CONSULTEE COMMENTS	SUMMARY OF RESPONSE/HOW COMMENTS HAVE BEEN ADDRESSED
		consideration of the nutrient neutrality theme during the appropriate assessment stage of the project's Habitats Regulations Assessment. Based on the information available to date Natural England agrees with the conclusions of the assessments presented in the PEIR as a whole. Protected Species Based on the information provided Natural England advises that the proposal has the potential to impact species protected by UK and EU legislation. We note that further species-specific surveys are being undertaken, and will be used to inform the Environmental Statement, as well as any required protected species licence applications. Natural England has published Standing Advice on protected species. Whilst this advice has been primarily designed to assist Local Planning Authorities better understand the information required when assessing the impacts of developments on protected species, it also contains a wealth of information to help applicants ensure their proposals comply with best practice guidelines and contribute to sustainable development. Notwithstanding our pre-application discussions on suitable ecological survey we would refer you to our standing advice for further guidance on information that may be required in terms of survey and mitigation requirements. The Standing Advice should not, however, be treated as giving any indication or providing any assurance that the proposed development will be unlikely to affect European Protected Species within the	Habitat Enhancement The Applicant's biodiversity assessment is ongoing and includes assessment of priority habitat layers from the MAGIC database and the ecology surveys. The Applicant is happy to discuss opportunities with Natural England as the biodiversity assessment progresses.

CONSULTEE	DATE AND METHOD OF CONSULTATION	SUMMARY OF CONSULTEE COMMENTS	SUMMARY OF RESPONSE/HOW COMMENTS HAVE BEEN ADDRESSED
		scheme's zone of influence, nor should it be interpreted as meaning that Natural England has reached any views as to whether a licence (or licences) will be required. Habitat Enhancement The development site includes and adjoins land supporting a range of priority habitats. We welcome the statement regarding consideration of these in the Environmental Statement, including open mosaic habitat on previously developed land. With regard to Biodiversity Net Gain (BNG) Natural England notes the statement within the PEIR regarding BNG being likely to achieve mandatory status for NSIPs in 2025. We welcome the commitment to a suitable BNG assessment at the relevant time in order to inform the stated objective of an overall net gain across the development site. We would be happy to work with the applicants to develop this.	

Additional Consultation

13.3.38 Additional consultation was undertaken with Natural England, the Environment Agency and the RSPB. A summary of stakeholder engagement specific to ecology and biodiversity has been provided in Table 12-4 of Chapter 12: Ecology and Nature Conservation (ES Volume I, EN070009/APP/6.2). An abridged version of this table summarising ornithology specific comments is provided in Table 13-5.

Table 13-5: Summary of Additional Consultation Specific to Ornithology

CONSULTEE	DATE AND METHOD OF CONSULTATION	SUMMARY OF CONSULTEE COMMENTS	SUMMARY OF RESPONSE/HOW COMMENTS HAVE BEEN ADDRESSED
RSPB	16 November 2023 – Online meeting	The project team provided an overview of the H2Teesside Project and presented the up-to-date information on the Proposed Development Site. The locations of HDD crossings were shared and optionality on RSPB land was discussed. Impacts of construction works and habitat severance on ground nesting waders should be included in the assessment.	Optionality on RSPB land has been retained following consultation with RSPB and the Applicant. Breeding behaviours were coded into the monthly waterbird counts across the entire survey area, in addition to site-specific breeding bird surveys. This impact has been considered in the ornithology assessments in this chapter.

Assumptions and Limitations

13.3.39 There are no significant limitations that are considered to compromise the validity of this chapter, although details of any qualifications or limitations that are specifically relevant to the ornithology surveys that inform this chapter are provided in Appendix 13A: Ornithology Baseline (ES Volume III, EN070009/APP/6.4).

13.3.40 It is assumed that only minor watercourses and drains will be crossed using open cut techniques to reduce the potential direct impacts upon aquatic habitats and potential effects upon associated wetland birds. As a worst case, it has been assumed that some standing waterbodies have the potential to be crossed using open-cut methods. It has been assumed that trenchless crossing methods will be used to cross the River Tees and Greatham Creek. There will be no direct loss of saltmarsh habitat or open waters (saline and / or freshwater lagoons and pools) within the Proposed Development Site. Areas of saltmarsh will be avoided through the use of trenchless crossing techniques.

13.3.41 With the exception of Cowpen Bewley Woodland Park LWS, there will be no direct habitat loss within statutory or non-statutory designated sites. Any habitat loss associated with the Connection Corridors (open cut, launch pits for trenchless crossings, temporary storage areas and access points) will be outside of designated sites.

13.3.42 It is assumed that no buildings or structures will be lost to facilitate the construction of the Proposed Development. Buildings within the Main Site are undergoing demolition under a separate consent.

13.3.43 It is assumed that there will be no crossing of or any kind of construction works within Coatham Dunes or the foreshore habitats of Coatham Sands, nor will there be any direct changes to, or construction operations within Bran Sands Lagoon or Dabholm Gut. However, for the Tees Crossing there will be a Micro Bored Tunnel (MBT) or Horizontal Directional Drilling (HDD) launch pit or receptor site and pipe stringing location adjacent to Dabholm Gut.

13.3.44 It is assumed that there will be no works within the offshore habitats of Tees Bay, nor will the Proposed Development include the construction of any new infrastructure within these habitats. The Proposed Development will not include construction of new infrastructure to discharge effluent directly to any coastal or freshwaters and will involve the use of outfalls built by others.

13.3.45 The exact route of the electricity, natural gas and water connections within the Proposed Development Site will be determined during the detailed design stage. For the purposes of the Ecological Impact Assessment (the assessment), a reasonable worst-case scenario has been assumed to inform this impact assessment and mitigation requirements. Unless otherwise identified in the design and construction information for the Proposed Development, it is assumed that the extent of land take for site working areas, temporary construction compounds and pipeline installation will include all land within the red line boundary.

13.3.46 All temporary construction compounds and other working areas will be removed at the end of the construction period and, unless required for the operational elements of the Proposed Development, restored to their pre-works condition.

13.3.47 It is assumed that decommissioning activities will involve the removal of above ground infrastructure only and will primarily be located within the built footprint of the Proposed Development Site rather than within areas of vegetation.

13.3.48 All habitats and species have been valued in accordance with the precautionary principle i.e., the maximum likely nature conservation value has been applied based on the information available to inform decision-making.

13.3.49 This assessment has been undertaken using available data and Proposed Development design details at the time of writing (January 2024). However, at this stage data gathering (ornithology surveys) is still ongoing until the end of March 2024 across Greenabella Marsh, Dabholm Gut and Vopak Foreshore (the intertidal habitats on the northern bank of the River Tees opposite Dabholm Gut) to address a data gap at this location caused by limited access to private land that was not resolved until September 2023. This temporary information gap is mitigated by a

review of spatially relevant desk data and the inclusion of survey data up to and including December 2023. The post-December 2023 survey findings will be presented post-submission of the DCO, but, on the basis of early results, are expected to validate the conclusions already drawn in this ES.. Furthermore, some details of the Proposed Development will be developed at the detailed design stage and therefore the impact assessments presented in this chapter are based on the worst case scenario when considering the effects of impact pathways such as noise, visual disturbance and habitat loss. This assumes total loss of habitats within the construction area, multiple construction works activities occurring simultaneously for all proposed options.

13.4 Baseline Conditions

Existing Baseline

13.4.1 The ornithological features relevant to the Proposed Development are summarised in Table 13-6 (designated sites) and Table 13-7 (species).

Designated Sites

13.4.2 Table 13-6 summarises the reasons for notification of the designated sites within the Study Area (see Table 13-2 for the search areas applied to different designations) and their spatial relationship to the Proposed Development Site. The designated sites are shown on Figure 13-4: Statutory Designated Sites with Ornithological Features and Figure 13-5 Non-Statutory Designated Sites with Ornithological Features (ES Volume II, EN070009/APP/6.3).

13.4.3 There are three SPAs, two Ramsar sites, three SSSIs and three NNRs within 15 km of the Proposed Development Site. There are four LNRs, 11 LWSs and one Royal Society for the Protection of Birds (RSPB) Reserve within 2 km of the Proposed Development Site which support qualifying ornithological features or are otherwise identified as being of importance to birds.

Table 13-6: Designated Sites (Notified for Ornithological Features) Within the Study Area

DESIGNATED SITE	INTEREST FEATURES(S)/REASON(S) FOR NOTIFICATION	ECOLOGICAL VALUE AND STATUS	PROXIMITY TO PROPOSED MAIN SITE[5]	PROXIMITY TO PROPOSED DEVELOPMENT OUTSIDE OF THE MAIN SITE	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
					MAIN SITE	CONNECTION CORRIDORS	
Statutory							
Teesmouth and Cleveland Coast SPA	Internationally important numbers of marine and shore birds, including: • avocet (Recurvirostra avosetta) (breeding); • knot (Calidris canutus) (non-breeding); • ruff (Calidris pugnax) (non-breeding); • redshank (Tringa totanus) (non-breeding); • Sandwich tern (Thalasseus sandvicensis) (non-breeding); • common tern (Sterna hirundo) (breeding); • little tern (Sternula albifrons) (breeding); and • waterbird assemblage (over winter) of 26,014 individual	International	6 m north	Overlapping	Construction Operation Decommissioning	Construction	In

[5] The main site is identified separately from the wider footprint of the Proposed Development because it is the only part of the Proposed Development with the potential to affect ornithology features during the operational phase of the Proposed Development.

DESIGNATED SITE	INTEREST FEATURES(S)/REASON(S) FOR NOTIFICATION	ECOLOGICAL VALUE AND STATUS	PROXIMITY TO PROPOSED MAIN SITE[5]	PROXIMITY TO PROPOSED DEVELOPMENT OUTSIDE OF THE MAIN SITE	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
					MAIN SITE	CONNECTION CORRIDORS	
	waterfowl including shoveler (Spatula clypeata), gadwall (Mareca strepera), wigeon (Mareca penelope), lapwing (Vanellus vanellus), sanderling (Calidris alba), black-headed gull (Chroicocephalus ridibundus) and herring gull (Larus argentatus). In addition to breeding sites the SPA includes areas designated for marine foraging habitats for little tern and common tern that extend several kilometres out to sea and along the tidal River Tees; and terrestrial and intertidal foraging areas for avocet and ruff.						
North York Moors SPA	Designated for internationally important numbers of breeding birds including: • golden plover (Pluvialis apricaria); and • merlin (Falco columbarius).	International	12.1 km south-east	8km south-east	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out

DESIGNATED SITE	INTEREST FEATURES(S)/REASON(S) FOR NOTIFICATION	ECOLOGICAL VALUE AND STATUS	PROXIMITY TO PROPOSED MAIN SITE[5]	PROXIMITY TO PROPOSED DEVELOPMENT OUTSIDE OF THE MAIN SITE	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
					MAIN SITE	CONNECTION CORRIDORS	
Northumbria Coast SPA	Designated for internationally important numbers of marine and shorebirds including: • turnstone (Arenaria interpres) (non-breeding); • purple sandpiper (Calidris maritima) (wintering); • little tern (breeding); and • Arctic tern (Sterna paradisaea (breeding).	International	13.7 km north	11.3km north	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out
Teesmouth and Cleveland Coast Ramsar site	The site qualifies as a Ramsar for the following reasons (Natural England, 2020): • a) Under Ramsar Criterion 5, as it is regularly used by over 20,000 waterbirds in any season. – 26,786 waterfowl (5-year peak mean 2011/12 to 2015/16) during the wintering season. • b) Under Criterion 6 as it is regularly used by 1% or more of	International	6 m north at closest point	Overlapping	Operation	Construction	In

DESIGNATED SITE	INTEREST FEATURES(S)/REASON(S) FOR NOTIFICATION	ECOLOGICAL VALUE AND STATUS	PROXIMITY TO PROPOSED MAIN SITE[5]	PROXIMITY TO PROPOSED DEVELOPMENT OUTSIDE OF THE MAIN SITE	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
					MAIN SITE	CONNECTION CORRIDORS	
	the biogeographic populations of the following bird species: – Red Knot; 5,509 individuals representing an average of 1.6% of the NE Canada / Greenland / Iceland / UK population (5-year peak mean 1991/92 to 1995/96) – Common Redshank; 1,648 individuals representing an average of 1.1% of the East Atlantic population (1987 to 91) – Sandwich tern; 1,900 individuals representing an average of 4.3% of the GB population (1988 to 1992).						
Northumbria Coast Ramsar site	The site qualifies as a Ramsar for the following Ramsar criteria (JNCC, 2000): Criterion 6 – Species/populations occurring at levels of international importance: Qualifying Species/populations (as identified at designation):	International	13.7 km north	11.3 km north	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out

DESIGNATED SITE	INTEREST FEATURES(S)/REASON(S) FOR NOTIFICATION	ECOLOGICAL VALUE AND STATUS	PROXIMITY TO PROPOSED MAIN SITE[5]	PROXIMITY TO PROPOSED DEVELOPMENT OUTSIDE OF THE MAIN SITE	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
					MAIN SITE	CONNECTION CORRIDORS	
	• species with peak counts in winter: – purple sandpiper 787 individuals representing an average of 1.6% of the population (5-year peak mean for 1992/93 to 1996/97); and – turnstone 1,739 individuals representing an average of 2.6% of the population (5-year peak mean for 1992/93 to 1996/97). • species with peak counts during the breeding season: – little tern 40 pairs representing an average of 1.7% of the GB population (5 year mean for 1993 to 1997).						
Teesmouth and Cleveland Coast SSSI	Nationally important features supported by a mosaic of coastal and freshwater habitats: • over20,000 Non-breeding waterbirds;	National	Immediately north	Overlapping	Construction Operation Decommissioning	Construction	In

DESIGNATED SITE	INTEREST FEATURES(S)/REASON(S) FOR NOTIFICATION	ECOLOGICAL VALUE AND STATUS	PROXIMITY TO PROPOSED MAIN SITE[5]	PROXIMITY TO PROPOSED DEVELOPMENT OUTSIDE OF THE MAIN SITE	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
					MAIN SITE	CONNECTION CORRIDORS	
	• aggregations of breeding birds – avocet, common tern, little tern. • aggregations of non-breeding birds – shelduck (*Tadorna tadorna*), shoveler, gawall, ringed plover (Charadrius hiaticula), knot, ruff, sanderling, purple sandpiper, redshank, and Sandwich tern, and • assemblages of breeding birds - Mixed: sand-dunes and saltmarsh, lowland open waters and their margins.						
Durham Coast SSSI	Designated for: • aggregations of breeding birds – cormorant, fulmar (Fulmarus glacialis), kittiwake (Rissa tridactyla), little tern; and • aggregations of non-breeding birds – purple sandpiper and sanderling.	National	11.9 km north	9.9 km north	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out
North York Moors SSSI	Designated for: • aggregations of breeding birds – golden plover and merlin	National	12.1 km south-east	8 km south-east	Not relevant This designated site is located sufficiently distant and hence	Not relevant This designated site is located sufficiently distant and hence not susceptible	Out

DESIGNATED SITE	INTEREST FEATURES(S)/REASON(S) FOR NOTIFICATION	ECOLOGICAL VALUE AND STATUS	PROXIMITY TO PROPOSED MAIN SITE[5]	PROXIMITY TO PROPOSED DEVELOPMENT OUTSIDE OF THE MAIN SITE	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
					MAIN SITE	CONNECTION CORRIDORS	
					not susceptible to potential impact from the Proposed Development.	to potential impact from the Proposed Development.	
Teesmouth NNR	Designated for the following ornithological interest features: • >20,000 waterbird assemblage; • BAP breeding birds; waders, grey partridge, skylark (Alauda arvensis), linnet (Linaria cannabina), reed bunting (Emberiza schoeniclus); • knot, redshank and shelduck (non-breeding); • little tern (breeding); • ringed plover (in spring); and • Sandwich tern (post-breeding).	National	1.8 km west	31.2 m east	Operation	Construction	In
Durham Coast NNR	Supports birds, including an important breeding population of little terns[6].	National	12.6 km north-west	10.4 km north-west	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact	Not relevant This designated site is located sufficiently distant and hence not susceptible	Out

[6] No further details are available for this site.

DESIGNATED SITE	INTEREST FEATURES(S)/REASON(S) FOR NOTIFICATION	ECOLOGICAL VALUE AND STATUS	PROXIMITY TO PROPOSED MAIN SITE[5]	PROXIMITY TO PROPOSED DEVELOPMENT OUTSIDE OF THE MAIN SITE	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
					MAIN SITE	CONNECTION CORRIDORS	
					from the Proposed Development.	to potential impact from the Proposed Development.	
Castle Eden Dene NNR	The NNR is designated for habitats and species groups including birds[7].	National	Over north-west	14.2 km north-west	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out
Seaton Dunes and Common LNR	Aggregations of non-breeding birds - knot, ringed plover, sanderling and turnstone.	Borough	Over 2 km north-west	1.7 km north-west	Operation	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	In
Cowpen Bewley Woodland Country Park LNR	Variety of habitats and 80 species of bird.	Borough	Over 2 km west	Overlapping	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact	Construction	In

[7] There is no formal list of species for which this site is notified.

DESIGNATED SITE	INTEREST FEATURES(S)/REASON(S) FOR NOTIFICATION	ECOLOGICAL VALUE AND STATUS	PROXIMITY TO PROPOSED MAIN SITE[5]	PROXIMITY TO PROPOSED DEVELOPMENT OUTSIDE OF THE MAIN SITE	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
					MAIN SITE	CONNECTION CORRIDORS	
					from the Proposed Development.		
Charlton's Pond LNR	Charlton's Pond consists of wetlands, amenity grassland and woodland with suitable habitat for wildfowl.	Borough	Over 2 km south-west	488 m west	Operation	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	In
Billingham Beck Valley Country Park LNR	Colourful meadows, ponds, marsh and woodland. This wetland provides a home for plants and animals, including bird species[8].	Borough	Over 2 km south-west	1.7 km west	Operation	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	In
Non-statutory							
Phillips Tank Farm Grassland LWS	The area supports c3.7% of total SPA bird numbers plus breeding lapwing.	Borough	4.5 km west	73 m northwest	Operation	Construction	In
Zinc Works Bird Field LWS	Good numbers of wintering and migratory waterbirds & very important for migratory passerines. >0.5% of the national population of	Borough	Over 2 km	1.5 km north-west	Operation	Not relevant This designated site is located sufficiently distant	In

[8] No specific details are provided for this site regarding species of bird present.

DESIGNATED SITE	INTEREST FEATURES(S)/REASON(S) FOR NOTIFICATION	ECOLOGICAL VALUE AND STATUS	PROXIMITY TO PROPOSED MAIN SITE[5]	PROXIMITY TO PROPOSED DEVELOPMENT OUTSIDE OF THE MAIN SITE	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
					MAIN SITE	CONNECTION CORRIDORS	
	passage ring ouzels (*Turdus torquatus*) recorded. Regularly holds more than 0.1% of the national population of any wintering or passage species and the site regularly holds more than 5% of the cited bird interest of the Teesmouth and Cleveland Coast SPA (this to include 5% of a cited individual bird population or of the combined water bird population, currently stated as 21,406).					and hence not susceptible to potential impact from the Proposed Development.	
Saltern Saltmarsh LWS	The area supports c3.7% of total SPA bird numbers and important site for breeding lapwing.	Borough	4.8 km west	95 m west	Operation	Construction	In
Saltholme RSPB Reserve	The site is one of the largest breeding colonies of common terns in the UK and breeding lapwing (red list) are present, as well as being used by foraging peregrine (Falco peregrinus) and breeding species such as marsh harrier (*Circus aeruginosus*), Cetti's warbler (*Cettia cetti*) and little ringed plover (*Charadrius dubius*).	Borough	283 m north-west	Overlapping	Construction Operation Decommissioning	Construction	In

DESIGNATED SITE	INTEREST FEATURES(S)/REASON(S) FOR NOTIFICATION	ECOLOGICAL VALUE AND STATUS	PROXIMITY TO PROPOSED MAIN SITE[5]	PROXIMITY TO PROPOSED DEVELOPMENT OUTSIDE OF THE MAIN SITE	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
					MAIN SITE	CONNECTION CORRIDORS	
	Much of the reserve lies within the Teesmouth and Cleveland Coast SPA and SSSI.						
Greenabella Marsh LWS	Rough grassland with wetland areas. Significant bird populations.	Borough	3.7 km west	Overlapping	Operation	Construction	In
Greatham Creek North Bank Saltmarsh LWS	Designated mainly for saltmarsh vegetation. Some ornithological interest but not sufficient to merit LWS status on its own.	Borough	4.1 km west	Overlapping	Operation	Construction	In
Cowpen Bewley Woodland Park LWS	Variety of habitats and 80 species of bird.	Borough	6.9 km west	Overlapping	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Construction	In
Coatham Marsh LWS	Designated for a range of wetland habitats, and of interest for a range of breeding and non-breeding birds.	Borough	1.3 km east	Overlapping	Operation	Construction	In
Seaton Common LWS	The site is a wet grassland which attracts large numbers of passage	Borough	Over 2 km north-west	1.8 km north-west	Operation	Not relevant	In

DESIGNATED SITE	INTEREST FEATURES(S)/REASON(S) FOR NOTIFICATION	ECOLOGICAL VALUE AND STATUS	PROXIMITY TO PROPOSED MAIN SITE[5]	PROXIMITY TO PROPOSED DEVELOPMENT OUTSIDE OF THE MAIN SITE	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
					MAIN SITE	CONNECTION CORRIDORS	
	migrants over winter and is a breeding ground for birds in the summer months.					This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	
Power Station Grassland and Wetland LWS	Ungrazed grassland with pools and large areas of scrub. The breeding bird community includes stonechat (*Saxicola rubicola*), sedge warbler (*Acrocephalus schoenobaenus*) and grasshopper warbler (*Locustella naevia*).	Borough	Over 2 km north-west	1.3 km north-east	Operation	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	In
Portrack Marsh LWS	The site regularly holds more than 0.1% of the national population of any wintering or passage species of the cited bird interest of the Teesmouth and Cleveland Coast SPA and the site regularly holds more than 5% of the cited gadwall, shoveler and redshank population.	Borough	Over 2 km south-west	1.9 km south-west	Operation	Not relevant This designated site is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	In
Billingham Beck Valley LWS	Wetland providing a home for plants and animals, including bird species[9].	Borough	Over 2 km south-west	1.4 km west	Operation	Not relevant This designated site is located sufficiently distant	In

[9] The site description does not specify species of birds present or their numbers.

DESIGNATED SITE	INTEREST FEATURES(S)/REASON(S) FOR NOTIFICATION	ECOLOGICAL VALUE AND STATUS	PROXIMITY TO PROPOSED MAIN SITE[5]	PROXIMITY TO PROPOSED DEVELOPMENT OUTSIDE OF THE MAIN SITE	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
					MAIN SITE	CONNECTION CORRIDORS	
						and so not susceptible to potential impact from the Proposed Development.	

Species Records

13.4.4 This section summarises the relevant species recorded up to and including December 2023 (but excluding survey findings to March 2024) identified to date. Detailed descriptions of the species records from the sources listed are provided in Appendix 13A: Ornithology Baseline Report (ES Volume III, EN070009/APP/6.4).

13.4.5 A description of the key areas or locations for birds is provided below followed by Table 13-7, which summarises the relevant bird species features identified to date and their spatial relationship to the Proposed Development Site.

Summary of Key Locations for Birds

13.4.6 Irrespective of the presence of any designated sites, the entirety of the Teesside coast can be considered to support significant populations of non-breeding birds during the autumn and spring migratory periods and over winter. The baseline data presented in Appendix 13A: Ornithology Baseline Report (ES Volume III, EN070009/APP/6.4) identifies some locations or broad areas that are of potentially greater sensitivity due to their proximity to the Proposed Development Site and reliance on habitats close to it by feeding and / or roosting birds either during potentially adverse tide and / or weather conditions, or on a regular basis irrespective of the conditions. Appendix 13A: Ornithology Baseline Report (ES Volume III, EN070009/APP/6.4) also defines the three broad survey areas (Main Site, Seal Sands and North Tees Marshes).

13.4.7 Within the Foundry Survey Area these include:

- Dabholm Gut;
- Bran Sands Lagoon;
- Bran Sands Bay; and
- the northern edge of Coatham Dunes and the wider coastline of Coatham Sands.

13.4.8 Within the Seal Sands survey area these include:

- the entirety of Seal Sands Bay and its periphery, including the sea wall and the promontory/spit of land at its eastern extent;
- Greenabella Marsh;
- Greatham Creek channel; and
- the Brinefields, channels and saline lagoons south of Greatham Creek channel and east of the A178.

13.4.9 Within and adjacent to the North Tees Marshes survey area these include:

- all the saltmarsh and inundated/wet grassland between the A178 to the east and the railway line to the north-west and either side of the A1185 to the south; and
- the ponds and lagoons at Cowpen Landfill.

13.4.10 The terrestrial habitats within the industrialised land around Wilton International, Teesport estate and North Tees, through which various Connection Corridors are proposed, are of relatively low risk in terms of the potential for wetland birds associated with the various designated sites across Teesside, and for other species at any time of year by virtue of the relatively high disturbance levels, the presence of active industry, and the limited availability of suitable habitats in these areas.

Summary of Relevant Species and Assemblages

13.4.11 Table 13-7 summarises the species identified to date, including records obtained specifically through baseline gathering activities completed to inform the baseline for the Proposed Development and, where appropriate, baseline gathered for the NZT project. Baseline data gathering is ongoing until the end of March 2024 within Greenabella Marsh to address a data shortfall at that location that resulted from limited access to this part of the survey area prior to September 2023.

13.4.12 All relevant species and species assemblages are included. Species that are qualifying features of a designated site are considered separately from the designations only where there is merit in doing this. An example of this would be breeding avocet, which in addition to being a qualifying feature of Teesmouth and Cleveland Coast SPA, is also a rare breeding species in the UK[10] and is offered enhanced protection under Schedule 1 of the WCA regardless of the reasons for inclusion as a qualifying feature of the designated site.

13.4.13 Based on data gathered to date, a provisional ecological value of the ornithological features identified is provided in Table 13-7 in accordance with CIEEM guidance (2022).

[10] Avocet are included on the list of native species monitored and reported on by the Rare Breeding Birds Panel (RBBP)

Table 13-7: Summary of Relevant Ornithological Species Features Requiring Further Assessment of Impacts and Effects

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
Teesmouth and Cleveland Coast SPA / Ramsar site qualifying species						
Avocet (breeding)	Breeds at several locations between [redacted] Recorded throughout the year with peak counts recorded between March and June. The closest breeding colony is within approximately [redacted]	Regional	A 'Less Scarce' breeder in Great Britain (Eaton et al, 2023).	Not relevant This species is regularly recorded breeding at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Construction	In
Little tern (breeding)	Regularly breeds a [redacted] Has nested at [redacted] Forages over coastal near-shore waters predominantly north of Teesmouth and occasionally present at Coatham Sands. The closest regular breeding colony is within [redacted]	Regional	A 'Less Scarce' breeder in Great Britain (Eaton et al, 2023).	Not relevant This species is regularly recorded breeding at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This species is regularly recorded breeding at locations that are sufficiently distant and hence not susceptible to potential impact	Out

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
					from the Proposed Development.	
Common tern (breeding)	Regularly breeds at Greenabella Marsh, Cowpen Marsh, Brinefields Saline Lagoon RSPB Saltholme. Regularly forages along tidal River Tees and coastline. Post-breeding flocks roost at Bran Sands Bay and Seal Sands Bay peninsula. Peak counts recorded between July and August. The closest regularly used breeding colony is within approximately 2.8 km of the Main Site and 30 m of the Connection Corridors.	Borough	A 'Fairly Common' breeder in Cleveland (Brown, 2022).	Not relevant This species is regularly recorded breeding at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Construction	In
Ruff (non-breeding)	Regularly recorded at Cowpen Marsh, Brinefields and RSPB Saltholme. Peak counts recorded between mid-August and mid-October. The closest regularly used foraging site is within approximately 4.5 km of the Main Site and 150 m of the Connection Corridors.	County	An 'Uncommon' migrant and 'Scarce' winter visitor in Cleveland (Brown, 2022).	Not relevant This species is regularly recorded at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Construction	In

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
Knot (non-breeding)	Regularly forages on Bran Sands Bay and Seal Sands Bay. Roosts on Seal Sands Bay peninsula and the islands within Bran Sands Bay and at Seaton Snook. The closest regularly used foraging and roosting site is within approximately 550 m of the Main Site and 250 m of the Connection Corridors.	Local	A 'Common' migrant and winter visitor in Cleveland (Brown, 2022).	Operation	Construction	In
Redshank (non-breeding)	Present throughout the year with peak counts recorded during early-spring and late-autumn. Breeds at Brinefields, Cowpen Marsh and RSPB Saltholme. Regularly forages at Dabholm Gut, Navigator Terminals foreshore, Bran Sands Bay and Seal Sands Bay. Roosts on Seal Sands Bay peninsula. The closest regularly used foraging site is within approximately 350 km of the Main Site and 50 m of the Connection Corridors.	Local	A 'Common' migrant and winter visitor in Cleveland (Brown, 2022).	Operation	Construction	In

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
Sandwich tern (non-breeding)	Forages along tidal River Tees and coastline. Post-breeding flocks roost at Bran Sands Bay and Seal Sands Bay peninsula. Peak counts of post-breeding flocks are recorded between July and August. The closest regularly used roosting site is within approximately 1.1 km of the Main Site and 130 m of the Connection Corridors.	Local	A 'Common' migrant in Cleveland (Brown, 2022).	Operation	Construction	In
Northumbria Coast SPA qualifying breeding and non-breeding species not already named above						
Arctic tern (breeding)	On migration forages along tidal River Tees and coastline. Post-breeding flocks roost at Bran Sands Bay and Seal Sands Bay peninsula. Low numbers of post-breeding birds are regularly recorded between July and August. The closest regularly used roosting site is within approximately 1.1 km of the Main Site and 130 m of the Connection Corridors.	Borough	A 'Fairly Common' migrant (Brown, 2022).	Not relevant This species is regularly recorded breeding at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This species is regularly recorded breeding at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
Turnstone (non-breeding)	Regularly forages on Bran Sands Bay and Seal Sands Bay. Roosts on Seal Sands Bay peninsula and the islands within Bran Sands Bay. The closest regularly used foraging and roosting site is within approximately 550 m of the Main Site and 250 m of the Connection Corridors.	Borough	A 'Fairly Common' migrant and winter visitor (Brown, 2022).	Not relevant This species is regularly recorded at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This species is regularly recorded at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out
Teesmouth and Cleveland Coast SPA / Ramsar site qualifying non-breeding assemblage species not already named above as qualifying features individually						
Shoveler	Recorded throughout the year with peak counts recorded between September and April. Regularly forages at Greenabella Marsh, Cowpen Marsh, Brinefields Saline Lagoon and RSPB Saltholme. The closest regularly used foraging site is within approximately 4.5 km of the Main Site and 80 m of the Connection Corridors.	Borough	A 'Fairly Common' resident and 'Uncommon' breeder (Brown, 2022).	Not relevant This species is regularly recorded at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Construction	In

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
Gadwall (non-breeding)	Recorded throughout the year with peak counts recorded between August and November. Regularly forages and roosts at Dabholm Gut, Greenabella Marsh and RSPB Saltholme. The closest regularly used foraging and roosting site is within approximately 820 m of the Main Site and within the Connection Corridors.	Local	A 'Common' resident in Cleveland (Brown, 2022).	Not relevant This species is regularly recorded at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Construction	In
Wigeon	Recorded throughout the year with peak counts recorded between October and March. Regularly forages and roosts at Greenabella Marsh, Cowpen Marsh and Brinefields. The closest regularly used foraging and roosting site is within approximately 4.5 km of the Main Site and 80 m of the Connection Corridors.	Local	A 'Common' migrant and winter visitor in Cleveland (Brown, 2022).	Not relevant This species is regularly recorded at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Construction	In
Lapwing	Recorded throughout the year with peak counts recorded between September and February.	Local	A 'Common' resident and winter visitor	Construction Operation Decommissioning	Construction	In

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
	Regularly forages and roosts at Bran Sands Lagoon, Bran Sands Bay, Dabholm Gut, Greenabella Marsh, Cowpen Marsh and Brinefields. Breeding around the Main Site Navigator Terminals, Brinefields, Cowpen Marsh and RSPB Saltholme. The closest regularly used foraging and roosting site is within approximately 820 m of the Main Site and within the Connection Corridors.		in Cleveland (Brown, 2022).			
Sanderling	Recorded during spring and autumn migration and over winter. Peak counts recorded in August. Regularly forages along sandy foreshore by Coatham Dunes. The closest regularly used foraging and roosting site is within approximately 600 m of the Main Site and 480 m of the Connection Corridors.	Local	A 'Common' migrant and winter visitor in Cleveland (Brown, 2022).	Not relevant This species is regularly recorded at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This species is regularly recorded at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	In

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
Black-headed Gull	Present throughout the year. Regularly forages and/or roosts at Bran Sands Bay, Bran Sands Lagoon, Dabholm Gut, Greenabella Marsh, Brinefields and Cowpen Marsh. Breeding at Brinefields, Cowpen Marsh and RSPB Saltholme. The closest regularly used foraging and roosting site is within approximately 820 km of the Main Site and within the Connection Corridors.	Local	A 'Common' resident and winter visitor in Cleveland (Brown, 2022).	Construction Operation Decommissioning	Construction	In
Herring Gull	Present throughout the year. Regularly forages along the Teesside coast and river. Regularly roosts on the islands in Bran Sands Bay and Seal Sands Bay peninsula. Peak counts recorded in February. Has bred at the Main Site and regularly breeds at Hartlepool Headland. The closest regularly used foraging and roosting site is within the Main Site and 100 m of the Connection Corridors.	Local	A 'Common' resident and winter visitor in Cleveland (Brown, 2022).	Construction Operation Decommissioning	Construction	In

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
Teesmouth and Cleveland Coast SSSI species (additional to those listed under SPA / Ramsar site qualifying features)						
Purple sandpiper (non-breeding)	Mainly recorded in spring and late-autumn. Forages and roosts on the rocks along Bran Sands Bay and South Gare. The closest regularly used roosting site is within approximately 780 m of the Main Site and 710 m of the Connection Corridors.	Borough	A 'Fairly Common' migrant and winter visitor (Brown, 2022).	Not relevant This species is regularly recorded at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This species is regularly recorded at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	In
Shelduck	Recorded throughout the year with peak counts recorded during early-spring and late-autumn. Regularly forages at Dabholm Gut, Navigator Terminals foreshore, Bran Sands Bay and Seal Sands Bay. The closest regularly used foraging site is within approximately 820 m of the Main Site and within the Connection Corridors.	Local	A 'Common' resident (Brown, 2022).	Not relevant This species is regularly recorded at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Construction	In

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
Ringed plover (non-breeding)	Recorded more abundantly during spring and autumn migration. Peak counts recorded in August. Regularly forages at Coatham Dunes foreshore, Bran Sands Bay and Seal Sands Bay. Has bred at the Main Site and regularly breeds at Seaton Carew. The closest regularly used foraging site is within approximately 600 m of the Main Site and 480 m of the Connection Corridors.	Local	A 'Common' resident and winter visitor in Cleveland (Brown, 2022).	Not relevant This species is regularly recorded at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Construction	In
Durham Coast SSSI species (additional to those species listed above)						
Kittiwake (breeding)	Nests on the River Tees jetties and at Hartlepool Headland, which do not form part of the Durham Coast SSSI breeding population.	Local	An 'Abundant' breeder and migrant in Cleveland (Brown, 2022).	Not relevant This species is regularly recorded at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This species is regularly recorded breeding at cited locations that are sufficiently distant and hence not susceptible to potential impact	Out

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
					from the Proposed Development.	
Regularly occurring species and assemblages (local or higher value only, excluding species that are reasons for designation of the above designated sites)						
Bittern (breeding)	Historical breeding and/or confirmed presence during the breeding season at [redacted] The closest historic breeding/potential breeding site is within approximately [redacted]	Regional	A 'Rare' breeder in Great Britain (Eaton et al, 2023).	Not relevant This species has nested at a location that is sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This species has nested at a location that is sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out
Marsh harrier (breeding)	Breeding a [redacted] nd has bred at [redacted] The closest breeding site is within approximately [redacted]	Regional	A 'Scarce' breeder in Great Britain (Eaton et al, 2023).	Not relevant This species is regularly recorded at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This species is regularly recorded at locations that are sufficiently distant and hence not susceptible to potential impact	Out

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
					from the Proposed Development.	
Bearded tit (breeding)	Historical breeding and/or confirmed presence during the breeding season at [redacted] The closest historic breeding/potential breeding site is within approximately [redacted]	Regional	A 'Scarce' breeder in Great Britain (Eaton et al, 2023).	Not relevant This species has nested at a location that is sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This species has nested at a location that is sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out
Little ringed plover (breeding)	Regularly breeds and/or forages at the [redacted] The closest regularly used breeding site is approximately [redacted]	County	An 'Uncommon' breeder and summer visitor (Brown, 2022).	Construction Operation Decommissioning	Construction	In
Barn owl (breeding)	Regularly breeds and forages at the [redacted] and	County	A resident 'Uncommon' breeder	Not relevant This species is regularly recorded at locations that are sufficiently	Construction	In

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
	The closest regularly used breeding site is within approximately [redacted]		(Brown, 2022).	distant and hence not susceptible to potential impact from the Proposed Development.		
Peregrine (breeding)	Regular breeding in the North Tees area. The closest breeding site is within approximately [redacted]	County	A resident 'Scarce' breeder (Brown, 2022).	Not relevant This species is regularly recorded nesting at a location that is sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This species is regularly recorded nesting at a location that is sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out
Cettis' warbler (breeding)	Historical breeding and/or confirmed presence during the breeding season at [redacted] The closest historic breeding/potential breeding site is within approximately [redacted]	County	A resident 'Uncommon' breeder (Brown, 2022).	Not relevant This species has nested at a location that is sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Not relevant This species has nested at a location that is sufficiently distant and hence not susceptible to potential impact	Out

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
					from the Proposed Development.	
Yellow wagtail (breeding)	Regularly breeds on the wet grasslands south of Cowpen Bewley. The closest regularly used breeding site is within approximately 7 km of the Main Site and within the Connection Corridors.	County	An 'Uncommon' breeder and summer visitor (Brown, 2022).	Not relevant This species is regularly recorded at a location that is sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Construction	In
Breeding bird assemblage (Cowpen Bewley Woodland Park)	Breeding and foraging in broadleaved woodland, scrub and grassland. The breeding assemblage is within approximately 7.8 km of the Main Site and within the Connection Corridors.	Borough	24 breeding species, including: one Red List, two Amber List one S41 species.	Not relevant This breeding assemblage is located sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Construction	In
Breeding bird assemblage	Breeding and foraging in scrub, dune grassland, dune slacks and ponds.	Borough	19 breeding species including: two Red List, 10	Construction Operation Decommissioning	Construction	In

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
(Coatham Dunes)			Amber List and five S41 species. Includes 17 pairs of skylark.			
Breeding bird assemblage (the Main Site)	Breeding and foraging in scrub and grassland. The breeding assemblage is within the Main Site and Connection Corridors.	Local	14 breeding species, including: two Red List, eight Amber List and four S41 species.	Construction Operation Decommissioning	Construction	In
Breeding Bird Assemblage (connection corridor between Tod Point Substation and A1053/A1058 south of	Breeding and foraging in broadleaved trees and scrub. The breeding bird assemblage is within approximately 1.2 km of the Main Site and within the Connection Corridors.	Local	14 breeding species, including: one Red List, seven Amber List, and two listed on S41.	Operation	Construction	In

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
Teesside Works Lackenby)						
Breeding bird assemblage (Wilton International)	Breeding and foraging in broadleaved trees, scrub and grassland. The breeding bird assemblage is within approximately 2.6 km of the Main Site and within the Connection Corridors.	Local	7 breeding species, including: one Red List, two Amber List and one listed on S41.	Operation	Construction	In
Breeding bird assemblage (Navigator Terminal)	Breeding and foraging in scrub and grassland. The breeding bird assemblage is within approximately 1.4 km of the Main Site and within the Connection Corridors.	Local	5 breeding species, including: three Red List, one Amber List and four S41 species.	Operation	Construction	In
Breeding bird assemblage (Saltholme temporary	Breeding and foraging in broadleaved and woodland grassland. The breeding bird assemblage is within approximately 6.5 km of the Main Site and within the Connection Corridors.	Local	17 breeding species, including: two Red List, six Amber List	Operation	Construction	In

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
construction compound)			five S41 species.			
Breeding bird assemblage (Saltholme substation)	Breeding and foraging in broadleaved woodland, scrub and grassland. The breeding bird assemblage is within approximately 6.4 km of the Main Site and within the Connection Corridors.	Local	8 breeding species, including: one Red List species.	Operation	Construction	In
Breeding bird assemblage (Temporary construction compounds at Haverton Hill)	Breeding and foraging in trees and scrub. The breeding bird assemblage is within approximately 8.4 km of the Main Site and within the Connection Corridors.	Local	15 breeding species, including: six Amber List and two S41 species.	Operation	Construction	In
Breeding bird assemblage (Haverton Hill temporary construction compound)	Breeding and foraging in trees, scrub and hedgerows. The breeding bird assemblage is within approximately 7.9 km of the Main Site and within the Connection Corridors.	Local	9 breeding species, including: two Amber List species.	Operation	Construction	In

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
Non-breeding water bird assemblage (Across the entire Teesside area)	Including the coastal near shore waters around North Gare, Sneaton Snook, Seal Sands Bay peninsula, Teesmouth, Bran Sands Bay, South Gare and Coatham Dunes foreshore which regularly attracts a range of migratory and winter visiting waterbirds. This includes scarce species and large flocks of some species that are also not mentioned above: • ducks (eider, common scoter, long-tailed duck, goldeneye and red-breasted merganser); • waders (at least a further 20 species that are regularly recorded, such as: curlew sandpiper, Temminck's stint, little stint, Jack snipe, green sandpiper, wood sandpiper, spotted redshank and greenshank); • gulls (such as Mediterranean and Caspian); • terns (roseate, Arctic and black); • skuas (such as pomarine and Arctic);	Regional	High density and diversity of water bird species.	Construction Operation Decommissioning	Construction	In

FEATURE	DESCRIPTION OF FEATURE KEY LOCATIONS AND THEIR DISTANCE FROM THE PROPOSED DEVELOPMENT	VALUE	RATIONALE FOR VALUATION	RELEVANCE TO ASSESSMENT OF THE PROPOSED DEVELOPMENT		SCOPING IN OR OUT FOR ASSESSMENT
				MAIN SITE	CONNECTION CORRIDORS	
	• auks (such as guillemot and razorbill); • divers (such as red-throated and black-throated); • gannet; and, • shag. The Teesmouth non-breeding bird assemblage occurs predominantly within coastal and inland wetland habitats including open waters and marshy terrestrial habitats across the majority of the Study Area. While some of the species (such as divers, grebes and auks are restricted to open waters, others (such as gulls, some waders, geese and swans) are more widespread. It is therefore not possible to provide a well-defined spatial point of reference for this feature.					

Future Baseline

Construction

13.4.14 Demolition and site remediation works are to take place within the footprint of the Main Site and the wider landscape within South Tees Development Corporation (STDC). It is assumed that these demolition and site remediation works will be completed before construction commences. Bare ground is present where buildings and structures have been removed and across much of South Tees Development Corporation (STDC) between the Main Site and Steelhouse to the south. Significant earthworks have resulted in the complete removal of all semi-natural vegetation in this area. In the absence of development, these areas would become colonised with vegetation. During this period such areas will be characterised by a combination of bare ground and short vegetation that will be expected to attract ground-nesting birds, including some waders, potentially including species that are qualifying features of designated sites. Such areas might also attract non-breeding SPA and SSSI birds to roost or feed.

13.4.15 Semi-natural habitats within the wider Proposed Development Site, including the Connection Corridors beyond the limits of the South Tees Development Corporation (STDC)site, are unlikely to change over the short term where they are not subject to management. All existing habitats are likely to remain, although some minor changes in habitat extent, composition and structure are expected to occur because of ecological succession e.g., the gradual establishment of tree and shrub seedlings within open habitats, and minor changes in the extent and distribution of ruderal vegetation as natural processes move towards grassland. Therefore, the habitats and species present are considered very unlikely to undergo significant change prior to construction of the Proposed Development.

13.4.16 It is anticipated that managed habitats within the Proposed Development Site will continue to be subject to management and there will be no significant changes in habitat extent, type or species composition. Semi-natural and natural habitats are also unlikely to change significantly. Changes in the distribution of some species will likely occur as habitats develop in line with changes in habitats because of ecological succession or other natural processes, but over the short term any such changes will be relatively minor.

13.4.17 Habitat enhancements, including the excavation of shallow scrapes and pools, have been carried out by RSPB and Teesside Environmental Trust across the non-tidal marshes west of the A178 where these lie within the overlapping designations of Teesmouth and Cleveland Coast SPA / SSSI and RSPB Saltholme Reserve. These activities have coincided with the period of baseline data gathering and Proposed Development design. These habitat enhancements are expected to yield long term habitat improvements that realise measurable increases in wetland bird numbers within the North Tees Marshes and, while it is not possible to predict the timescale over which they might occur, it is possible that this could occur within or prior to the construction phase of the Proposed Development. For the purposes of assessment, it is assumed that these habitat enhancements will be completed prior to construction of the Proposed Development.

Operation

13.4.18 The future ecological baseline at the start of operation of the Proposed Development will not differ substantively from that described above for construction, but change is possible over the anticipated operational life of the Proposed Development to decommissioning.

13.4.19 Based on the available information and existing land uses, there are no grounds to expect that there will have been any marked change in local land management practices and the habitats by the time of the commencement of operations. The short-term baseline described above for construction is equally applicable to the start of Proposed Development operation.

13.4.20 There is a variety of nature conservation designations in the vicinity of the Proposed Development Site. In most cases it is difficult to state with certainty how the nature conservation value of these designations might change over the medium to long term operational period, and this will ultimately depend on long-term management regimes.

13.4.21 Habitat improvement plans have been put in place by RSPB within their Saltholme Reserve across the farmland and marshy grasslands south of Cowpen Bewley and the A1185. The plans include the "turning over" of soils currently under arable and improved grassland to improve their facility as a feeding resource for birds, as well as a facility to trap silt and hydrocarbons from Cowpen Lane Industrial Estate entering Belassis Beck. This would be expected to yield sufficient improvements to the quality of habitats at this location to result in measurable increases in both breeding and non-breeding bird numbers in this area. However, the timescale over which this is likely to occur is currently unknown. Discussion with RSPB during a consultation meeting in November 2023 (see Table 13-6) suggested that such enhancements might be put in place at a similar time to the construction phase of the Proposed Development. Therefore, it has been assumed that any changes to the baseline arising from these management actions would not yield tangible results until some point during the operational phase of the Proposed Development.

13.4.22 It is likely that current and former industrial land within South Tees Development Corporation (STDC) and the surrounding area will be released for new development e.g., in accordance with existing local plans and policies for the regeneration of the South Tees Area. The extent of ecologically valuable open mosaic habitat and grassland habitats may decrease because of such development and therefore the relative nature conservation value of remaining areas of semi-natural habitat may as a result increase over time.

13.4.23 Counter to this, implementation of planning policy and legal requirements (including anticipated legal requirements to deliver substantive biodiversity enhancement) may mean that future adjacent developments incorporate features of value for biodiversity. This would be expected to result in small to moderate improvements in the future baseline over the operational life of the Proposed

Development e.g., certain species may colonise or increase in number because of such enhancements.

13.4.24 Changes in the distribution of some species will be likely to occur as habitats develop in line with changes expected because of ecological succession or other natural processes, but over the short term any such changes will be relatively minor.

Decommissioning

13.4.25 It is noted that sea level rise may have an influence on the sensitivity of habitat and species features present at Proposed Development decommissioning. For example, some coastal features may be adversely affected by increased inundation or erosion, which may increase the significance of any impacts and effects arising from decommissioning on ornithological ecological features. Implications for terrestrial ecology are considered minor given the scale of predicted sea level rise as outlined in Appendix 9A: Flood Risk Assessment (ES Volume III, EN070009/APP/6.4) and within the context of other likely changes in the future baseline.

13.4.26 The decommissioning baseline will be strongly influenced by future land-use and nature conservation regimes affecting adjacent land. The balance between adverse effects and beneficial habitat improvements is unknown. This limits the assumptions that can be made for the purposes of this assessment. However, it should also be noted that the likely ZoI of decommissioning will be much smaller than operation and likely construction also. It is assumed that decommissioning activities will involve the removal of above ground infrastructure and will primarily be located within the built footprint of the Proposed Development Site rather than within areas of vegetation. For this reason, there will be less adverse impact on ornithological features during decommissioning than during construction or operation, relevant ornithological features will therefore be much reduced relative to those relevant at construction and operation.

13.4.27 As outlined in Chapter 4: Proposed Development (ES Volume I, EN070009/APP/6.2) decommissioning activities will be conducted in accordance with the appropriate guidance and legislation at the time of the Proposed Developments closure. Ecological surveys will be commissioned as appropriate to inform the scope of the decommissioning works.

13.5 Proposed Development Design and Impact Avoidance

13.5.1 The EIA process aims to avoid, prevent, reduce or offset potential environmental effects through design and/or management measures. These are measures that are inherent in the design and construction of the Proposed Development (also known as ‘embedded measures’).

13.5.2 The following impact avoidance measures have either been embedded into the design or are standard construction or operational practices. These measures are all to be accommodated within the Proposed Development Site and have, therefore, been considered during the assessment. Similarly, it has been assumed that the Proposed Development will comply with all relevant protected species legislation.

Construction

13.5.3 The Framework Construction Environmental Management Plan (CEMP) (EN070009/APP/5.12) sets out the key embedded measures to be employed during the construction of the Proposed Development, to control and minimise the impacts on the environment. The Framework CEMP sets out how impacts upon ornithological features will be managed during construction. A Final CEMP(s) will be prepared by the EPC Contractor(s) in accordance with the Framework CEMP prior to construction. The submission, approval, and implementation of the Final CEMP(s) is secured by a Requirement of the Draft DCO (EN070009/APP/4.1).

13.5.4 The Applicant has sought to avoid nature conservation designations as far as reasonably practicable. As outlined in Chapter 6: Need, Alternatives and Design Evolution (ES Volume I, EN070009/APP/6.2) route options have been refined since the scoping stage to avoid or minimise adverse environmental effects, including those on features of ecological importance including the areas within and around Greatham Creek. These areas include statutory and non-statutory designated sites and Habitats of Principal Importance (HPIs). Habitats such as mudflats and saltmarsh have been avoided to minimise ecological effects.

13.5.5 Where possible, routing of the Connection Corridors has been designed to utilise existing infrastructure and established pipeline corridors north and south of the River Tees, including the extensive network of pipeline racks, to minimise excavations and construction activities required and therefore minimise disturbance to species and habitats present.

13.5.6 Where the Hydrogen Pipeline crosses major watercourses such as the River Tees and Greatham Creek, trenchless construction methods as outlined in Chapter 5: Construction Programme and Management (ES Volume I, EN070009/APP/6.2) and set out in the Framework CEMP will be used to avoid disturbance within the channel and harm to bankside habitats.

13.5.7 Where the other Connection Corridors require crossings or new infrastructure the same approach will be applied. The use of trenchless technologies where possible will minimise effects on habitats and species. Permanent habitat losses associated with pipelines will be minimised through post-construction reinstatement of pipeline routes as close to its original state as possible, as secured through the Outline Landscape and Biodiversity Management Plan (LBMP) (EN070009/APP/5.9). While this does not remove the construction impact, it does provide (except for irreplaceable habitats) certainty of reinstatement of habitats back to an appropriate end condition, as a well as a beneficial reduction in the duration and magnitude of the construction effect on habitats and species. The Final CEMP(s)/LBMP(s) will set out mitigation proposals required for relevant locations/habitats which are included in the ES.

13.5.8 The temporary RBT construction compounds will include storage facilities, site offices, site accommodation and parking. All buildings and materials within this compound will be no greater that single storey (with an estimated height of approximately 3.5 m) to minimise the visual impacts of the compound on Bran

Sands Bay to the north and the habitats to the west of the compound. Both the intertidal habitats of the bay and the semi-natural habitats west of the compound support SPA and SSSI qualifying species including foraging and roosting waders, gulls and terns.

13.5.9 The section of this temporary compound south of Bran Sands Bay will be used for storage of materials and plant only and the same restrictions on height of materials and equipment stored will be applied at this location. Storage of construction modules, that are 20m tall, will be restricted to a location within or adjacent to the Main Site, within Teesworks. Sufficient separation will be achieved from the boundary of any designated site that the modules will not result in shading or visual intrusion to any qualilfying species.

Habitats

13.5.10 In specifying final requirements for the re-instatement of land, consideration would be given to the requirements of baseline habitat conditions, and priorities for nature conservation on a location-by-location basis (including opportunities to secure enhancement). For example, grassland and scrub habitats may not need to be sown or planted if this can be left to natural processes and if doing so would provide a beneficial opportunity for nesting or foraging qualifying species of designated sites.

Birds (at all times of year)

13.5.11 As essential mitigation, the Framework CEMP requires that a pre-commencement walkover survey be undertaken by a ECoW prior to works commencing. The date of this survey will depend upon the start date for construction and the schedule of works. The purpose of the walkover will be to review the site conditions prior to works commencing, to identify any changes on site or ecological constraints.

13.5.12 An Environmental or Ecological Clerk of Works (EcoW) will be present during Proposed Development construction as appropriate to supervise and instruct implementation of impact avoidance commitments as detailed in the Framework CEMP (EN070009/APP/5.12).

13.5.13 Sensitive lighting is proposed during the construction phase to avoid disturbance of nocturnal wildlife including nesting, foraging and roosting birds as described in Appendix C: Indicative Lighting Strategy (Construction) of the Framework CEMP (EN070009/APP/5.12) and which will be updated to a Final Lighting Strategy (Construction) as part of the Final CEMP(s). The following lighting principles are set out:

- lighting required during the construction of the Proposed Development will be designed to reduce unnecessary light spill outside of the Site boundary-see below for summary;
- adopting a lighting control strategy that turns lights off or dims as necessary for site safety and security;
- using photocells as a primary means of control to prevent light from being used when sufficient daylight is available;

- where possible, adopting LED luminaires to control obtrusive light due to their high directionality and accordingly the achievable ratio of useful light to spill light;
- careful consideration of placement of lighting column and luminaire positioning;
- adopting luminaires with minimal upward lighting ratio and full cut-off, where possible;
- not tilting luminaires to have uplift above the horizontal, if this is not possible add shielding, hoods baffles, louvres as necessary to ensure potential upward light is controlled;
- optimising column heights to allow for sufficient light coverage and minimal tilt of luminaires;
- minimising building mounted luminaire heights;
- adopting lamps with similar correlated colour temperatures;
- using lamps with a limited UV spectrum in locations which might affect ecological receptors;
- using shields and baffles to luminaires;
- lighting the site boundaries with low power periphery lighting with an asymmetric forward optic having good back-light cut-off characteristics; and
- directing luminaires away from ecologically sensitive receptors (woodland, hedgerows, waterbodies and ponds, watercourses and coastal habitats).

Breeding Birds

13.5.14 The Framework CEMP provides that where possible, vegetation clearance works will be completed outside of the nesting bird season (which is from March to September). If this is not possible, each area of habitat to be cleared will be checked for nesting birds prior to clearance (a maximum of 48 hours before works commencing) by the EcoW. If an active nest is found, then the nest and its immediate surroundings will need to be left undisturbed until nesting is complete and the birds have fledged. A suitable species dependent buffer will need to be implemented (as advised by the EcoW).

13.5.15 Ground nesting species may be dissuaded from nesting in construction/site access routes by removing the surface vegetation from the desired area before the breeding season commences. Where this is not possible bird deterrent measures will be deployed to deter birds from nesting, followed by the completion of a pre works survey to check for the presence of nests.

13.5.16 If Schedule 1 species are found breeding within the working area, or close enough to the working area that works would result in disturbance of the breeding birds, works will stop immediately and Natural England will be advised.

13.5.17 Loss of trees within Cowpen Bewley Woodland Park will be avoided via trenchless construction methods where possible.

Enhancement Measures

13.5.18 The embedded mitigation and Outline LBMP (EN070009/APP/5.9) outlines the enhancement measures which are proposed to enhance biodiversity within the Proposed Development.

Operation

13.5.19 The Hydrogen Production Facility will require an Environmental Permit and will comply with this under the Environmental Permitting (England and Wales) Regulations (2016). In addition, the Proposed Development will be operated in line with appropriate standards, whilst the operator will implement and maintain an Environment Management System (EMS) which will be attested to International Standards Organisation (ISO) 14001 (International Organisation for Standardization, 2015). The EMS will outline requirements and procedures required to ensure that the Proposed Development Site is operating to the appropriate standard.

13.5.20 The final stack height for the Proposed Development has been optimised to minimise ground-level air quality (including nitrogen emissions) impacts on relevant ornithological features, such that deposition significance thresholds for habitats that support relevant ornithology features are not exceeded by the operational Hydrogen Production Facility. These parameters are secured through a Requirement in the Draft DCO (EN070009/APP/4.1).

13.5.21 An Indicative Lighting Strategy (Operation) (EN070009/APP/5.8) has been prepared to demonstrate how lighting impacts on sensitive ornithological features, including birds, have been considered and addressed in the development design and to ensure that light spill to sensitive ornithological receptors is limited to levels that will have no detectable adverse effect on those receptors. This will be developed into a full lighting strategy, pursuant to a Requirement in the draft DCO (EN070009/APP/4.1). It is not anticipated that lighting will be required across the connection corridors, over and above any existing lighting, during the operational phase of the Proposed Development.

13.5.22 Regarding effluent associated with discharges from the Hydrogen Production Facility and associated infrastructure it is noted that development discharges of nitrogen into the Teesmouth and Cleveland Coast SPA / Ramsar are required by Natural England to be nutrient neutral, due to the current unfavourable conservation status of the site because of excess nutrients causing eutrophication. The conservation and Water Framework Directive (WFD) objectives for the estuary and Teesmouth and Cleveland Coast Ramsar / SPA sites also require nitrogen loading of the estuary to be reduced. In particular, it is the intertidal and terrestrial areas of the River Tees that are of most concern (notably Seal Sands), and the modelling undertaken for the Proposed Development indicates that discharges from the proposed NZT outfall would not be carried into the estuary by the tides, and therefore would not contribute nutrients to the designated sites. This is discussed further in the Nutrient Neutrality Screening report (EN070009/APP/5.13).

13.5.23 Drainage design during construction will follow the principles of the Indicative Surface Water Drainage Plan (EN070009/APP/2.12) to ensure that impacts on surface waters are eliminated or minimised. Further details of the Indicative Surface Water Drainage Plan are set out in Section 9.5 of Chapter 9: Surface Water, Flood Risk and Water Resources (ES Volume I, EN070009/APP/6.2). A detailed strategy will be developed at the detailed design stage for the Proposed Development.

Decommissioning

13.5.24 At the end of its design life decommissioning of the Proposed Development will see the removal of all above ground equipment down to ground level and the ground remediated to enable future re-use. It is assumed that all underground infrastructure will remain in-situ; however, all connection and access points will be sealed or grouted to ensure disconnection. It is assumed that decommissioning impacts are expected to be limited and will be the similar to the construction impacts, as discussed above.

13.5.25 A Decommissioning Environmental Management Plan (DEMP) will be produced pursuant to a DCO Requirement. The DEMP will consider in detail all potential environmental risks and contain guidance on how risks can be removed, mitigated or managed. This will include details of how ecology should be managed at the Proposed Development Site during decommissioning and demolition works.

13.5.26 The decommissioning phase would apply similar design and mitigation measures as the construction phase. Standard pollution prevention and construction best practices would be adopted to mitigate potential impacts upon ornithological features where required and reasonably practicable.

13.5.27 Any necessary surveys or other baseline gathering activities to confirm the presence / likely absence of protected or notable species would be completed approximately one year prior to decommissioning to inform the DEMP.

13.6 Likely Impacts and Effects

13.6.1 Tables 13-8 to 13-10 present an assessment of the likely impacts and effects of the Proposed Development during construction, operation and decommissioning respectively on relevant ecological features. The assessment takes into account the embedded mitigation measures set out in Section 13.5, or otherwise required for the purposes of legislative compliance (as required by CIEEM and detailed in Section 12.5 (2022)).

13.6.2 Potential impacts on each ornithological feature during construction have been identified separately for the Main Site and connection corridors in recognition that not all impact pathways are likely to occur equally as a result of all elements of the Proposed Development. However during operation there are expected to be no impacts arising from the connection corridors and the decommissioning phase is assumed to be the same or less than the construction phase impacts. Therefore the assessment of operational and decommissioning impacts and effects considers only those ornithological features that occur in the environs of the Main Site; and only

those impact pathways likely to occur as a result of operation and decommissioning of the Main Site.

Table 13-8: Summary of Potential Impacts and Effects During Construction

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACTS AND EFFECTS	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
Designated nature conservation sites				
Statutory designated sites (SPA and Ramsar site) adjacent to the Proposed Development: Teesmouth and Cleveland Coast SPA; and Teesmouth and Cleveland Coast Ramsar site	International	*Main Site* Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Long term	Significant (Major Adverse)
		Connection Corridors Habitat losses within functionally linked land resulting in losses of breeding, roosting and/or feeding habitats. Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Significant (Moderate Adverse)
Statutory designated sites (SSSI and NNR) adjacent to the Proposed Development:	National	*Main Site (SSSI only)* Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of qualifying birds from regularly used habitats.	Long term	Significant (Major Adverse)

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACTS AND EFFECTS	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
Teesmouth and Cleveland Coast SSSI; and, Teesmouth NNR		*Connection Corridors (SSSI and NNR)* Habitat losses within functionally linked land of the SSSI resulting in losses of breeding, roosting and/or feeding habitats. Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Significant (Moderate Adverse)
Statutory designated site (LNR) that overlaps with the Proposed Development: Cowpen Bewley Woodland Country Park LNR	Borough	*Main Site* No impacts	Not applicable	Not Significant (Negligible)
		Connection Corridors Habitat losses within the designated site resulting in losses of breeding, roosting and/or feeding habitats. Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Significant (Moderate Adverse) (Option A of the Transmission and Distribution Infrastructure Connection at Cowpen Bewley only)

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACTS AND EFFECTS	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
Non-statutory designated site (LWS) overlaps with the Proposed Development: Cowpen Bewley Woodland Park LWS	Borough	*Main Site* No impacts	Not applicable	Not Significant (Negligible)
		Connection Corridors Habitat losses within designated sites resulting in losses of breeding, roosting and/or feeding habitats. Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Significant (Moderate Adverse) (Option A of the Transmission and Distribution Infrastructure Connection at Cowpen Bewley only)
Non-statutory designated sites (LWS and RSPB Reserve). Those that overlap the Proposed Development: Saltholme RSPB reserve;	Borough	*Main Site* Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Long term	Significant (Moderate Adverse)

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACTS AND EFFECTS	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
Greenabella Marsh LWS; Greatham Creek North Bank Saltmarsh LWS; ; and Coatham Marsh LWS Those that are located closest to the Proposed Development: Phillips Tank Farm Grassland LWS; and, Saltern Saltmarsh LWS		*Connection Corridors* Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Significant (Moderate Adverse)
Teesmouth and Cleveland Coast SPA / Ramsar site qualifying species				
Avocet (breeding)	Regional	*Main Site* No impacts	Not applicable	Not Significant (Negligible)
		Connection Corridors Habitat losses resulting in losses of breeding, roosting and/or feeding habitats. Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Significant (Major Adverse)

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACTS AND EFFECTS	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
Common tern (breeding)	Borough	*Main Site* No impacts	Not applicable	Not Significant (Neutral)
		Connection Corridors Habitat losses resulting in losses of breeding, roosting and/or feeding habitats. Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Significant (Moderate Adverse)
Ruff (non-breeding)	County	*Main Site* No impacts	Not applicable	Not Significant (Neutral)
		Connection Corridors Habitat losses resulting in losses of roosting and/or feeding habitats. Noise and visual disturbance of non-breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Significant (Moderate Adverse)

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACTS AND EFFECTS	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
Knot, redshank and Sandwich tern (non-breeding)	Local	*Main Site* Noise and visual disturbance of non-breeding birds resulting in displacement of birds from regularly used habitats.	Long term	Not Significant (Minor Adverse)
		Connection Corridors Habitat losses resulting in losses of roosting and/or feeding habitats. Noise and visual disturbance of non-breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Not Significant (Minor Adverse)
Teesmouth and Cleveland Coast SPA / Ramsar site qualifying non-breeding assemblage species not already named above as qualifying features individually				
Shoveler (non-breeding)	Borough	*Main Site* No impacts	Not applicable	Not Significant (Negligible)
		Connection Corridors Noise and visual disturbance of non-breeding birds resulting in displacement of birds from regularly used habitats.		Significant (Moderate Adverse)

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACTS AND EFFECTS	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
Gadwall, wigeon, lapwing, black-headed gull and herring gull (non-breeding)	Local	*Main Site* Noise and visual l disturbance of non-breeding birds resulting in displacement of birds from regularly used habitats.	Long term	Not Significant (Minor Adverse)
		Connection Corridors Habitat losses resulting in losses of roosting and/or feeding habitats. Noise and visual disturbance of non-breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Not Significant (Minor Adverse)
Teesmouth and Cleveland Coast SSSI species (additional to those listed under SPA / Ramsar site qualifying features)				
Shelduck and ringed plover (non-breeding)	Local	*Main Site* Noise and visual disturbance of non-breeding bird resulting in displacement of birds from regularly used habitats.	Long term	Not Significant (Minor Adverse)
		Connection Corridors Temporary habitat losses resulting in losses of roosting and/or feeding habitats Noise and visual disturbance of non-breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Not Significant (Minor Adverse)

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACTS AND EFFECTS	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
Regularly occurring species and assemblages (local or higher value only, excluding species that are reasons for designation of the above designated sites)				
Little ringed plover, barn owl and yellow wagtail (breeding)	County	*Main Site (little ringed plover and barn owl)* Temporary habitat losses resulting in losses of breeding, roosting and/or feeding habitats. Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.	Long term	Significant (Moderate Adverse)
		Connection Corridors (Yellow wagtail, barn owl, little ringed plover)) Temporary habitat losses resulting in losses of nesting and/or feeding habitats. Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Significant (Moderate Adverse)
Breeding bird assemblage: Cowpen Bewley Woodland Park	Borough	*Main Site* No impacts	Not applicable	Not Significant (Negligible)
		Connection Corridors Habitat losses resulting in losses of nesting and/or feeding habitats. Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Significant (Moderate Adverse) (Option A of the Transmission and Distribution Infrastructure

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACTS AND EFFECTS	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
				Connection at Cowpen Bewley only)
Breeding bird assemblage: Coatham Dunes	Borough	*Main Site* Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.	Long term	Significant (Moderate Adverse)
		Connection Corridors No impacts	Not applicable	Not Significant (Negligible)
Breeding bird assemblages: Main Site; Between Tod Point Substation and	Local	*Main Site* Habitat losses resulting in losses of nesting and/or feeding habitats. Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.	Long term	Not Significant (Minor Adverse)

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACTS AND EFFECTS	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
A1053/A1058 south of Teesside Works Lackenby; Wilton International; Navigator Terminals; Saltholme temporary construction compounds; Saltholme substation; Temporary construction compoundsaround Haverton Hill; and, Haverton Hill temporary construction compound		*Connection Corridors* Habitat losses resulting in losses of nesting and/or feeding habitats. Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Not Significant (Minor Adverse)
Non-breeding water bird assemblage: Across the entire Teesside area	Regional	*Main Site* Habitat losses within coastal and terrestrial wetland habitats resulting in losses of roosting and/or feeding habitats. Noise and visual disturbance of non-breeding birds. Physical or chemical pollution from emissions of dust and/or particulates and chemical spills to ground and/or water resulting in degradation of habitats used by foraging birds.	Long term	Significant (Moderate Adverse)

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACTS AND EFFECTS	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
		Connection Corridors Habitat losses within coastal and terrestrial wetland habitats resulting in losses of roosting and/or feeding habitats. Noise and visual disturbance of non-breeding birds.	Medium term	Significant (Moderate Adverse)

Table 13-9: Summary of Potential Impacts and Effects During Operation

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACT	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
Designated nature conservation sites (Statutory and Non-Statutory)				
Statutory designated sites (SPA and Ramsar site) adjacent to the Proposed Development: Teesmouth and Cleveland Coast SPA; and, Teesmouth and Cleveland Coast Ramsar site	International	Noise and visual disturbance from the Hydrogen Production Facility causing displacement of qualifying species of birds from regularly used habitats.	Long term	Not Significant (Minor Adverse)
Statutory designated sites (SSSI and NNR) adjacent to the Proposed Development: Teesmouth and Cleveland Coast SSSI; and, Teesmouth NNR	National	Noise and visual disturbance from the Hydrogen Production Facility causing displacement of qualifying species of birds from regularly used habitats.	Long term	Not Significant (Minor Adverse)
Statutory designated sites (LNR) that are located further from the Proposed Development: Seaton Dunes and Common LNR; Charlton's Pond LNR Billingham Beck Valley Country Park LNR	Borough	None	Not applicable	Not Significant (Negligible)
Non-statutory designated site (RSPB reserve) that is overlapping the Proposed Development: Saltholme RSPB reserve	Borough	Noise and visual disturbance of roosting and foraging birds within the Reserve where it overlaps Bran Sands Bay, resulting from operation of the Hydrogen Production Facility.	Long term	Not Significant (Minor Adverse)

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACT	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
Non-statutory designated site (LWS) overlapping with the Proposed Development are: Coatham Marsh LWS	Borough	Noise and visual disturbance of roosting, foraging and breeding birds within the LWS, resulting from operation of the Hydrogen Production Facility.	Long term	Not Significant (Negligible)
Non-statutory designated sites (LWS) that are located closest to the Proposed Development are: Phillips Tank Farm Grassland LWS; Zinc Works Bird Field LWS; Saltern Saltmarsh LWS; Greenabella Marsh LWS; Greatham Creek North Bank Saltmarsh LWS; Seaton Common LWS; Power Station Grassland and Wetland LWS; Portrack Marsh LWS; and Billingham Beck Valley LWS	Borough	None	Not applicable	Not Significant (Negligible)
Teesmouth and Cleveland Coast SPA / Ramsar site qualifying species				
Knot, redshank, and Sandwich tern (non-breeding)	Local	Noise and visual disturbance from operational Hydrogen Production Facility causing displacement of foraging and roosting birds.	Long term	Not Significant (Minor Adverse)

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACT	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
Teesmouth and Cleveland Coast SPA / Ramsar site qualifying non-breeding assemblage species not already named above as qualifying features individually				
Lapwing, black-headed gull and herring gull (non-breeding)	Local	Noise and visual disturbance from operational Hydrogen Production Facility causing displacement of foraging and roosting birds.	Long term	Not Significant (Minor Adverse)
Regularly occurring species and assemblages (local or higher value only, excluding species that are reasons for designation of the above designated sites)				
Little ringed plover(breeding)	County	Noise and visual disturbance causing displacement of breeding and foraging birds and brood failures or cessation of breeding.[11]	Long term	Not Significant (Minor Adverse)
Breeding bird assemblage: Coatham Dunes	Borough	Noise and visual disturbance causing displacement of breeding and foraging birds and brood failures.	Long term	Not significant (Minor Adverse)
Breeding bird assemblage: Main Site	Local	Noise and visual disturbance from operational Hydrogen Production Facility causing displacement of breeding and foraging birds and brood failures.	Long term	Not Significant (Minor Adverse)

[11] Not expected to be significant on the basis that AECOM ecologists [redacted] bserved breeding at this location despit [redacted] ccurring within approximately 100m of nest sites

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACT	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
Breeding bird assemblage: Between Tod Point Substation and A1053/A1058 south of Teesside Works Lackenby; Wilton International; Navigator Terminals; Saltholme temporary construction compounds; Saltholme substation; Temporary construction compounds around Haverton Hill.	Local	Noise and visual disturbance from operational Hydrogen Production Facility causing displacement of breeding and foraging birds and brood failures.	Long term	Not Significant (Negligible)
Non-breeding water bird assemblage: Across the entire Teesside area	Regional	Noise and visual disturbance from operational Hydrogen Production Facility causing displacement of foraging birds.	Long term	Not Significant (Minor Adverse)

Table 13-10: Summary of Potential Impacts and Effects During Decommissioning

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACTS AND EFFECTS	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
Designated nature conservation sites				
Statutory designated sites (SPA and Ramsar site) adjacent to the Proposed Development: Teesmouth and Cleveland Coast SPA; and, Teesmouth and Cleveland Coast Ramsar site	International	Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Significant (Major Adverse)
Statutory designated site (SSSI) adjacent to the Proposed Development site: Teesmouth and Cleveland Coast SSSI.	National	Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Significant (Major Adverse)
Non-statutory designated sites (RSPB reserve) that is located closest to the Proposed Development Site: Saltholme RSPB reserve.	Borough	Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats within RSPB Saltholme at Bran Sands Bay.	Medium term	Significant (Moderate Adverse)

ORNITHOLOGICAL FEATURE	VALUE	POTENTIAL IMPACTS AND EFFECTS	DURATION	POTENTIAL SIGNIFICANCE OF EFFECT IN THE ABSENCE OF ESSENTIAL MITIGATION
Teesmouth and Cleveland Coast SPA / Ramsar site qualifying non-breeding assemblage species not already named above as qualifying features individually				
Lapwing, black-headed gull and herring gull (non-breeding)	Local	Noise and visual disturbance of non-breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Not Significant (Minor Adverse)
Regularly occurring species and assemblages (local or higher value only, excluding species that are reasons for designation of the above designated sites)				
Little ringed plover (breeding)	County	Noise and visual disturbance resulting in displacement of birds from regularly used habitats.	Medium term	Significant (Moderate Adverse)
Breeding bird assemblage: Coatham Dunes	Borough	Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Significant (Moderate Adverse)
Breeding bird assemblage: Main Site	Local	Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.	Medium term	Not Significant (Minor Adverse)
Non-breeding water bird assemblage: Across the entire Teesside area	Regional	Noise and visual disturbance of non-breeding birds.	Medium term	Significant (Major Adverse)

13.7 Essential Mitigation and Enhancement Measures

Construction Phase

Noise and Visual

13.7.1 To reduce noise and visual effects in sensitive locations one or more of the following measures will be applied:

- Fully screening barriers (so the construction noise sources are not visible from the receptor locations) this is potentially all of the construction;
- HDD drilling within an acoustic shed;
- All Hydraulic and electric tools fit with muffler or sound reduction equipment to reduce noise;
- All pumps, generators and compressors within acoustic enclosures;
- All earthworks plant to be fit with exhaust silencers; and
- super silenced plant to be selected.

13.7.2 Closed board acoustic fencing will reduce noise levels experienced by ornithological receptors by 10dB, as well as providing visual screening between working areas and adjacent ornithological features. This measure is required at the main site; the RBT and River Tees compounds and the northern edge of the track between these compounds; the Navigator Terminals HDD and site compound area; and at all compounds and HDD locations across Brinefields, north of Greatham Creek (within a potential offtaker) and Cowpen Bewley. Some or all of the additional measures stated above will be required for works alongside Dabholm Gut/Bran Sands Lagoon, the HDD location north of Greatham Creek and all works areas and construction compounds across Brinefields. In all locations the package of noise mitigation measures will meet the commitment to reduce noise associated with the proposed Development to levels below thresholds that will result in significant effects on birds and designated sites. Detailed noise modelling will be carried out at the detailed design stage to determine which of the above measures will achieve this aim and further consultation with stakeholders will be carried out as required to guide this process.

13.7.3 At Greatham Creek the timing of works within and adjacent to the SPA will be completed between September and the end of November inclusive to avoid the most sensitive periods for breeding and wintering birds). Open cut pipeline installation (including site clearance, all other preparatory works, installation of pipelines and reinstatement of habitats) across Brinefields and Cowpen Bewley will be carried out across a single breeding season, between mid March and mid September to avoid the most sensitive period for non-breeding SPA, Ramsar and SSSI qualifying bird species, with the noise and visual mitigation measures, presence of an on-site ECoW and nesting bird checks in place to avoid impacts on breeding birds in these areas. The same restrictions will be applied to installation of pipeline along existing pipe racking between Saltholme Substation and Cowpen Bewley

Road. Where these commitments are made to install connections within a single season, the works are regarded, for the purposes of assessment, as short-term.

13.7.4 The key locations identified for restrictions to duration of works and closed board acoustic and visual screening barriers are shown in Figure 14 to the Habitats Regulations Assessment (Report to Inform Habitats Regulations Assessment, EN070009/APP/5.10).

13.7.5 A plot of land has been set aside immediately to the north-west of Cowpen Bewley Woodland Park LNR and LWS and within the boundary of the proposed Development, for habitat creation to compensate for woodland habitat losses within Cowpen Bewley Woodland Park on a minimum like for like basis. The details of this plot and the specification of habitat creation within it are included in Section 5.2 of the Outline LBMP (EN070009/APP/5.9).

13.7.6 Habitat creation within this plot of land will be initiated during the construction phase of the Proposed Development, as early works. However this habitat will compensate for habitat losses that are predicted to occur on a long term basis for the duration of the operational phase of the Proposed Development

13.8 Residual Effects and Conclusions

13.8.1 This section summarises the residual effects of the Proposed Development on ornithology following the implementation of the essential mitigation outlined in Section 13.7.

13.8.2 Potential residual effects on each ornithological feature during construction (Table 13-11) have been identified separately for the Main Site and connection corridors, as they have for the pre-mitigation scenario (Table 13-8), in recognition that not all impact pathways are likely to occur equally as a result of all elements of the Proposed Development. However during operation there are expected to be no residual impacts arising from the connection corridors and the decommissioning phase is assumed to be the same or less than the construction phase impacts. Therefore the assessment of residual operational and decommissioning impacts and effects considers only those ornithological features that occur in the environs of the Main Site; and only those impact pathways likely to occur as a result of operation and decommissioning of the Main Site.

Table 13-11: Summary of Residual Effects During Construction

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
Designated nature conservation sites					
Statutory designated sites (SPA and Ramsar site) adjacent to the Proposed Development: Teesmouth and Cleveland Coast SPA; and, Teesmouth and Cleveland Coast Ramsar site	International	*Main site* Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Significant (Major Adverse)	Use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to levels below significant thresholds Visual disturbance will be mitigated at ground level through the use of acoustic and visual closed-board fencing	Not Significant (Minor adverse)
		Connection corridors Habitat losses within functionally linked land resulting in losses of breeding, roosting and/or feeding habitats. Noise, visual and lighting disturbance of breeding and non-breeding birds	Significant (Moderate adverse)	At the Greatham Creek crossing the timing of works within and adjacent to the SPA will be completed between September and November inclusive to avoid the most sensitive periods for breeding and wintering birds; The same timing will be put in place for pipeline installation on existing racking between Saltholme Substation and Cowpen Bewley Road to avoid impacts on SPA qualifying birds present within Pipeline Pools and RSPA Saltholme Reserve;	Not significant (Minor adverse)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
		resulting in displacement of birds from regularly used habitats.		The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations. Works to install pipelines using open cut methods through Brinefields; and between Saltholme Substation and Cowpen Bewley Woodland Park will occur during the breeding season and under the supervision of an ECoW to prevent disturbance or displacement of non-breeding SPA birds from feeding and roosting habitats while ensuring that breeding birds are not disturbed and their nests are protected.	
Statutory designated site (SSSI, NNR) adjacent to the Proposed Development: Teesmouth and Cleveland Coast SSSI; and Teesmouth NNR	National	*Main site* Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Significant (Major Adverse)	Use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to levels below significant thresholds Visual disturbance will be mitigated at ground level through the use of acoustic and visual closed-board fencing	Not Significant (Minor adverse)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
		Connection Corridors Habitat losses within functionally linked land resulting in losses of breeding, roosting and/or feeding habitats. Noise, visual and lighting disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Significant (Moderate Adverse)	At the Greatham Creek crossing the timing of works within and adjacent to the SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds; The same timing will be put in place for pipeline installation on existing racking between Saltholme Substation and Cowpen Bewley Road to avoid impacts on SPA qualifying birds present within Pipeline Pools and RSPB Saltholme Reserve; The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations. Works to install pipelines using open cut methods through Brinefields; and between Saltholme Substation and Cowpen Bewley Woodland Park will occur during the breeding season and under the supervision of an ECoW to prevent disturbance or displacement of non-breeding SPA birds from feeding and roosting habitats while	Not Significant (Minor Adverse)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
				ensuring that breeding birds are not disturbed and their nests are protected.	
Statutory designated site (LNR) overlapping with the Proposed Development: Cowpen Bewley Woodland Country Park LNR	County	*Main site* No impacts	Not Significant (Negligible)	Not applicable	Not Significant (Negligible)
		Connection corridors Habitat losses within the designated site resulting in losses of breeding, roosting and/or feeding habitats. Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Significant (Moderate Adverse) (Option A of the Transmission and Distribution Infrastructure Connection at Cowpen Bewley only)	Creation of new woodland habitat within a plot of land immediately adjacent to the Woodland Park. The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations.	Not Significant (Minor Adverse)
Non-statutory designated site (LWS)	Borough	*Main site* No impacts	Not Significant (Negligible)	Not applicable	Not Significant (Negligible)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
overlapping with the Proposed Development: Cowpen Bewley Woodland Park LWS		*Connection corridors* Habitat losses within designated sites resulting in losses of breeding, roosting and/or feeding habitats. Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Significant (Moderate Adverse) (Option A of the Transmission and Distribution Infrastructure Connection at Cowpen Bewley only)	Creation of new woodland habitat within a plot of land immediately adjacent to the Woodland Park. The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations.	Not significant (Minor Adverse)
Non-statutory designated sites (LWS and RSPB reserve). Those that overlap with the Proposed Development: Saltholme RSPB reserve; Greenabella Marsh LWS;	Borough	*Main site* Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Significant (Moderate Adverse)	The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations.	Not Significant (Minor Adverse)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
Greatham Creek North Bank Saltmarsh LWS; Cowpen Bewley Woodland Park LWS; and Coatham Marsh LWS Those that are located closest to the Proposed Development: Phillips Tank Farm Grassland LWS; and, Saltern Saltmarsh LWS		*Connection corridors* Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Significant (Moderate Adverse)	At the Greatham Creek crossing the timing of works within and adjacent to the SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds; The same timing will be put in place for pipeline installation on existing racking between Saltholme Substation and Cowpen Bewley Road to avoid impacts on SPA qualifying birds present within Pipeline Pools and RSPA Saltholme Reserve.	No Significant (Minor Adverse)
Teesmouth and Cleveland Coast SPA / Ramsar site qualifying species					
Avocet (breeding)	Regional	*Main site* No impacts	Not Significant (Negligible)	Not applicable	Not Significant (Negligible)
		Connection corridors Habitat losses resulting in losses of breeding, roosting and/or feeding habitats. Noise and visual disturbance of	Significant (Major Adverse)	At the [redacted] he timing of works within and adjacent to the SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds; The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below	Not Significant (Minor adverse)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
		breeding birds resulting in displacement of birds from regularly used habitats.		significance/disturbance thresholds at HDD locations.	
Common tern (breeding)	Borough	*Main site* No impacts	Not significant (Negligible)	Not applicable	Not significant (Negligible)
		Connection corridors Habitat losses resulting in losses of breeding, roosting and/or feeding habitats. Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.	Significant (Moderate Adverse)	At the [redacted] he timing of wor [redacted] the SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds; The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations.	Not Significant (Minor Adverse)
Ruff (non-breeding)	County	*Main site* No impacts	Not Significant (Negligible)	Not applicable	Not Significant (Negligible)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
		Connection corridors Significant (Moderate Adverse)	Significant (Moderate Adverse)	At the [redacted]e timing of works within and adjacent to the SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds; The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations. Works to install pipelines using open cut methods through Brinefields; and between Saltholme Substation and Cowpen Bewley Woodland Park will occur during the breeding season and under the supervision of an ECoW to prevent disturbance or displacement of non-breeding SPA birds from feeding and roosting habitats while ensuring that breeding birds are not disturbed and their nests are protected.	Not Significant (Minor Adverse)
Knot, redshank and Sandwich tern	Local	*Main site* Noise and visual disturbance of non-	Not Significant (Minor Adverse)	Visual and noise disturbance will be mitigated at ground level through the use of acoustic and visual closed-board fencing.	Not Significant (Negligible)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
(non-breeding)		breeding birds resulting in displacement of birds from regularly used habitats.			
		Connection corridors Habitat losses resulting in losses of roosting and/or feeding habitats. Noise and visual disturbance of non-breeding birds resulting in displacement of birds from regularly used habitats.	Not Significant (Minor Adverse)	At the [redacted] the timing of works within and adjacent to the SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds; The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations. Works to install pipelines using open cut methods through Brinefields; and between Saltholme Substation and Cowpen Bewley Woodland Park will occur during the breeding season and under the supervision of an ECoW to prevent disturbance or displacement of non-breeding SPA birds from feeding and roosting habitats while	Not Significant (Negligible)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
				ensuring that breeding birds are not disturbed and their nests are protected.	
Teesmouth and Cleveland Coast SPA / Ramsar site qualifying non-breeding assemblage species not already named above as qualifying features individually					
Shoveler (non-breeding)	Borough	*Main site* No impacts	Not Significant (Negligible)	Not applicable	Not Significant (Negligible)
		Connection corridors Noise and visual disturbance of non-breeding birds resulting in displacement of birds from regularly used habitats.	Significant (Moderate Adverse)	At th[redacted]he timing of wo[redacted]the SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds; The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations. Works to install pipelines using open cut methods through Brinefields; and between Saltholme Substation and Cowpen Bewley Woodland Park will occur during the breeding season and under the supervision of an ECoW to prevent disturbance or	Not Significant (Minor Adverse)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
				displacement of non-breeding SPA birds from feeding and roosting habitats while ensuring that breeding birds are not disturbed and their nests are protected.	
Gadwall, wigeon, lapwing, sanderling, black-headed gull and herring gull (non-breeding)	Local	*Main Site* Noise and visual disturbance of non-breeding birds resulting in displacement of birds from regularly used habitats.	Not Significant (Minor Adverse)	Use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to levels below significant thresholds Visual disturbance will be mitigated at ground level through the use of acoustic and visual closed-board fencing	Not Significant (Negligible)
		Connection Corridors Habitat losses resulting in losses of roosting and/or feeding habitats. Noise and visual disturbance of non-breeding birds resulting in displacement of birds	Not Significant (Minor Adverse)	At th [redacted] he timing of works within and adjacent to the SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds; The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations.	Not Significant (Minor Adverse)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
		from regularly used habitats.		Works to install pipelines using open cut methods through Brinefields; and between Saltholme Substation and Cowpen Bewley Woodland Park will occur during the breeding season and under the supervision of an ECoW to prevent disturbance or displacement of non-breeding SPA birds from feeding and roosting habitats while ensuring that breeding birds are not disturbed and their nests are protected.	
Teesmouth and Cleveland Coast SSSI species (additional to those listed under SPA / Ramsar site qualifying features)					
Shelduck and ringed plover (non-breeding)	Local	*Main Site* Noise and visual disturbance of non-breeding bird resulting in displacement of birds from regularly used habitats.	Not Significant (Minor Adverse)	Use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to levels below significant thresholds Visual disturbance will be mitigated at ground level through the use of acoustic and visual closed-board fencing	Not Significant (Negligible)
		Connection Corridors Temporary habitat losses resulting in losses of roosting	Not Significant (Minor Adverse)	At the [redacted] the timing of works within and adjacent to the SPA will be completed between September and 30 November inclusive to avoid the most	Not Significant (Negligible)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
		and/or feeding habitats Noise and visual disturbance of non-breeding birds resulting in displacement of birds from regularly used habitats.		sensitive periods for breeding and wintering birds; The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations. Works to install pipelines using open cut methods through Brinefields; and between Saltholme Substation and Cowpen Bewley Woodland Park will occur during the breeding season and under the supervision of an ECoW to prevent disturbance or displacement of non-breeding SPA birds from feeding and roosting habitats while ensuring that breeding birds are not disturbed and their nests are protected.	
Regularly occurring species and assemblages (local or higher value only, excluding species that are reasons for designation of the above designated sites)					
Little ringed plover, barn owl and yellow wagtail (breeding)	County	*Main Site (little ringed plover and barn owl)* Temporary habitat losses resulting in losses of breeding,	Significant (Moderate Adverse)	Use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to levels below significant thresholds Visual disturbance will be mitigated at ground level through the use of acoustic and visual closed-board fencing	Not Significant (Minor Adverse)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
		roosting and/or feeding habitats. Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.			
		Connection Corridors (Yellow wagtail, barn owl, little ringed plover) Temporary habitat losses resulting in losses of nesting and/or feeding habitats. Noise and visual disturbance of breeding birds resulting in displacement of birds	Significant (Moderate Adverse)	The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations. Works to install pipelines using open cut methods through Brinefields; and between Saltholme Substation and Cowpen Bewley Woodland Park will occur during the breeding season and under the supervision of an ECoW to prevent disturbance or displacement of non-breeding SPA birds from feeding and roosting habitats while ensuring that breeding birds are not disturbed and their nests are protected.	Not Significant (Minor Adverse)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
		from regularly used habitats.			
Breeding bird assemblage: Cowpen Bewley Woodland Park	Borough	*Main Site* No impacts	Not Significant (Negligible)	Not applicable	Not Significant (Minor Adverse)
		Connection Corridors Habitat losses resulting in losses of nesting and/or feeding habitats. Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.	Significant (Moderate Adverse) (Option A of the Transmission and Distribution Infrastructure Connection at Cowpen Bewley only)	Creation of new woodland habitat within a plot of land immediately adjacent to the Woodland Park. The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below significance/disturbance thresholds at HDD locations.	Not Significant (Minor Adverse)
Breeding bird assemblage: Coatham Dunes	Borough	*Main Site* Noise and visual disturbance of breeding birds resulting in displacement of birds	Significant (Moderate Adverse)	Use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to levels below significant thresholds Visual disturbance will be mitigated at ground level through the use of acoustic and visual closed-board fencing	Not Significant (Minor Adverse)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
		from regularly used habitats.			
		Connection Corridors No impacts	Not Significant (Negligible)		Not Significant (Negligible)
Breeding bird assemblage: Main Site; between Tod Point Substation and A1053/A1058 south of Teesside Works Lackenby; Wilton International; Navigator Terminals; Saltholme temporary construction compounds; Saltholme substation; Temporary construction compoundsaround Haverton Hill	Local	*Main Site* Habitat losses resulting in losses of nesting and/or feeding habitats. Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats.	Not Significant (Minor Adverse)	Use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to levels below significant thresholds in the environs of the main site. Visual disturbance will be mitigated at ground level through the use of acoustic and visual closed-board fencing	Not Significant (Negligible)
		Connection Corridors Habitat losses resulting in losses of nesting and/or feeding habitats. Noise and visual disturbance of	Not Significant (Minor Adverse)	No measures over and above those set out in the frameowkr CEMP	Not Significant (Minor Adverse)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
		breeding birds resulting in displacement of birds from regularly used habitats.			
Non-breeding water bird assemblage: Across the entire Teesside area	Regional	*Main Site* Habitat losses within coastal and terrestrial wetland habitats resulting in losses of roosting and/or feeding habitats. Noise and visual disturbance of non-breeding birds.	Significant (Moderate Adverse)	Use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to levels below significant thresholds Visual disturbance will be mitigated at ground level through the use of acoustic and visual closed-board fencing	Not Significant (Negligible Adverse)
		Connection Corridors Habitat losses within coastal and terrestrial wetland habitats resulting in losses of roosting and/or feeding habitats.	Significant (Moderate Adverse)	At the [redacted]he timing of wor[redacted]he SPA will be completed between September and 30 November inclusive to avoid the most sensitive periods for breeding and wintering birds; The use of acoustic measures (e.g. barriers, sheds etc.) to minimise noise to below	Not Significant (Minor Adverse)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
		Noise and visual disturbance of non-breeding birds.		significance/disturbance thresholds at HDD locations. Works to install pipelines using open cut methods through Brinefields; and between Saltholme Substation and Cowpen Bewley Woodland Park will occur during the breeding season and under the supervision of an ECoW to prevent disturbance or displacement of non-breeding SPA birds from feeding and roosting habitats while ensuring that breeding birds are not disturbed and their nests are protected.	

Table 13-12: Summary of Residual Effects During Operation

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
Designated nature conservation sites					
Statutory designated sites (SPA and Ramsar site) adjacent to the Proposed Development: Teesmouth and Cleveland Coast SPA; and, Teesmouth and Cleveland Coast Ramsar site	International	Noise and visual disturbance from the Hydrogen Production Facility causing displacement of qualifying species of birds from regularly used habitats.	Not significant (Minor Adverse)	None	Not Significant (Minor Adverse)
Statutory designated sites (SSSI and NNR) adjacent to the Proposed Development: Teesmouth and Cleveland Coast SSSI; and, Teesmouth NNR	National	Noise and visual disturbance from the Hydrogen Production Facility causing displacement of qualifying species of birds from regularly used habitats.	Not significant (Minor Adverse))	None	Not Significant (Minor Adverse)
Statutory designated sites (LNR) that are located further from the Proposed Development:	Borough	None	Not Significant (Negligible)	Not applicable	Not Significant (Negligible)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
Seaton Dunes and Common LNR; Charlton's Pond LNR; and, Billingham Beck Valley Country Park LNR					
Non-statutory designated sites (RSPB Reserve) that is located closest to the Proposed Development: Saltholme RSPB reserve	Borough	Noise and visual disturbance from the Hydrogen Production Facility causing displacement of qualifying species of birds from regularly used habitats.	Not Significant (Minore Adverse)	None	Not Significant (Minor Adverse)
Non-statutory designated site (LWS) located closest to the Proposed Development: Coatham Marsh LWS	Borough	Noise and visual disturbance from the Hydrogen Production Facility causing displacement of qualifying species of birds from regularly used habitats.	Not Significant (Negligible)	None	Not Significant (Negligible)
Non-statutory designated sites (LWS) that are located closest to the Proposed Development are: Phillips Tank Farm Grassland LWS;	Borough	None	Not Significant (Negligible)	Not applicable	Not Significant (Negligible)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
Zinc Works Bird Field LWS; Saltern Saltmarsh LWS; Greenabella Marsh LWS; Greatham Creek North Bank Saltmarsh LWS; Seaton Common LWS; Power Station Grassland and Wetland LWS; Portrack Marsh LWS; and Billingham Beck Valley LWS					
Teesmouth and Cleveland Coast SPA / Ramsar site qualifying species					
Knot, redshank and Sandwich tern (non-breeding)	Local	Noise and visual disturbance causing displacement of birds from foraging and/or roosting.	Not Significant (Minor Adverse)	None	Not Significant (Negligible)
Teesmouth and Cleveland Coast SPA / Ramsar site qualifying non-breeding assemblage species not already named above as qualifying features individually					
Lapwing, black-headed gull and herring gull (non-breeding)	Local	Noise and visual disturbance from operational Hydrogen Production Facility causing displacement of foraging and roosting birds.	Not Significant (Minor Adverse)	None	Not Significant (Minor Adverse)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
Regularly occurring species and assemblages (local or higher value only, excluding species that are reasons for designation of the above designated sites)					
Little ringed plover (breeding)	County	Noise and visual disturbance of operational Hydrogen production facility causing displacement of breeding and foraging birds and brood failures or cessation of breeding.[12]	Not Significant (Minor Adverse)	None	Not Significant (Minor Adverse)
Breeding bird assemblage: Coatham Dunes	Borough	Noise and visual disturbance from operational Hydrogen Production Facility causing displacement of breeding and foraging birds and brood failures.	Not Significant (Minor Adverse)	None	Not significant (Minor Adverse)
Breeding Bird Assemblage: Main Site	Local	Noise and visual disturbance from operational Hydrogen Production Facility causing displacement of breeding and foraging birds and brood failures.	Not Significant (Minor Adverse)	None	Not Significant (Negligible)
Breeding bird assemblages: Between Tod Point Substation and A1053/A1058 south of	Local	Noise and visual disturbance from operational Hydrogen Production Facility causing displacement of breeding and foraging birds and brood failures.	Not Significant (Negligible)	None	Not Significant (Negligible)

12 Not expected to be significant on the basis that AECOM ecologists [redacted] bserved breeding at this location despite [redacted] ccurring within approximately 100m of nest sites

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
Teesside Works Lackenby; Wilton International; Navigator Terminals; Saltholme temporary construction compound; Saltholme substation; Temporary construction compounds around Haverton Hill					
Non-breeding water bird assemblage: Across the entire Teesside area	Regional	Noise and visual disturbance from operational Hydrogen Production Facility causing displacement of foraging birds.	Not Significant (Minor Adverse)	None	Not Significant (Minor Adverse)

Table 13-13: Summary of Residual Effects During Decommissioning

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
Designated nature conservation sites					
Statutory designated sites (SPA and Ramsar site) adjacent to the Proposed Development: Teesmouth and Cleveland Coast SPA; and, Teesmouth and Cleveland Coast Ramsar site	International	Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Significant (Moderate Adverse)	The use of noise abatement/reduction measures (such as close-board acoustic fencing) to reduce noise and visual disturbance to below significance thresholds.	Not Significant (Minor Adverse)
Statutory designated site (SSSI) adjacent to the Proposed Development: Teesmouth and Cleveland Coast SSSI.	National	Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds from regularly used habitats.	Significant (Moderate Adverse)	The use of noise abatement/reduction measures (such as close-board acoustic fencing) to reduce noise and visual disturbance to below significance thresholds.	Not Significant (Minor Adverse)
Non-statutory designated site (RSPB Reserve) that	Borough	Noise and visual disturbance of breeding and non-breeding birds resulting in displacement of birds	Significant (Moderate Adverse)	The use of noise abatement/reduction measures (such as close-board	Not Significant (Minor Adverse)

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
is located closest to the Proposed Development Site: Saltholme RSPB reserve.		from regularly used habitats within RSPB Saltholme at Bran Sands Bay.		acoustic fencing) to reduce noise and visual disturbance to below significance thresholds.	
Teesmouth and Cleveland Coast SPA / Ramsar site qualifying non-breeding assemblage species not already named above as qualifying features individually					
Lapwing, black-headed gull and herring gull (non-breeding)	Local	Noise and visual disturbance of non-breeding birds resulting in displacement of birds from regularly used habitats.	Not Significant (Minor Adverse)	The use of noise abatement/reduction measures (such as close-board acoustic fencing) to reduce noise and visual disturbance to below significance thresholds.	Not Significant (Negligible)
Regularly occurring species and assemblages (local or higher value only, excluding species that are reasons for designation of the above designated sites)					
Little ringed plover (breeding)	County	Noise and visual disturbance resulting in displacement of breeding birds from regularly used territories and foraging habitats[13].	Not Significant (Minor Adverse)	The use of noise abatement/reduction measures (such as close-board acoustic fencing) to reduce noise and visual disturbance	Not Significant (Negligible)

[13] Not expected to be significant on the basis that AECOM ecologists [redacted] observed breeding at this location despite [redacted] occurring within approximately 100m of nest sites.

ORNITHOLOGICAL FEATURE	VALUE	DESCRIPTION OF POTENTIAL IMPACTS	POTENTIAL EFFECTS / SIGNIFICANCE	MITIGATION MEASURES	RESIDUAL EFFECTS / SIGNIFICANCE
				to below significance thresholds.	
Breeding bird assemblage: Coatham Dunes	Borough	Noise and visual disturbance resulting in displacement of birds from regularly used habitats..	Significant (Moderate Adverse)	The use of noise abatement/reduction measures (such as close-board acoustic fencing) to reduce noise and visual disturbance to below significance thresholds.	Not Significant (Minor Adverse)
Breeding bird assemblage: Main Site	Local	Noise and visual disturbance resulting in displacement of birds from regularly used habitats.	Not Significant (Minor Adverse)	The use of noise abatement/reduction measures (such as close-board acoustic fencing) to reduce noise and visual disturbance to below significance thresholds.	Not Significant (Negligible)
Non-breeding water bird assemblage: Across the entire Teesside area	Regional	Noise and visual disturbance resulting in displacement of birds from regularly used habitats.	Significant (Moderate Adverse)	The use of noise abatement/reduction measures (such as close-board acoustic fencing) to reduce noise and visual disturbance to below significance thresholds.	Not Significant (Minor Adverse)

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