Lighthouse GREEN FUELS

The Lighthouse Green Fuels Order

Application Reference: EN0110025

Applicant: LGF Projects Limited

Report to Inform Habitat Regulations Assessment (Redacted)

Document Reference: 5.11.1

Revision: 00

APFP Reg 5(2)(g)

The Conservation of Habitats and Species Regulations 2017

Document Information

Author	Arup
Document Title	Report to Inform Habitat Regulations Assessment (Confidential)
Document Ref	5.11.1

Revision record

00	Purpose	DCO Application Submission
	Date	September 2026

Information Classification

Information Classification	Date	Reason
Public		Proprietary information which will have no impact on the company if disclosed publicly

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Abbreviations

Abbreviation	In Full / Term
BAT-AEL	Best Available Technique-Associated Emission Level
CEMP	Construction Environmental Management Plan
CHP	Combined Heat and Power
DCO	Development Consent Order
Defra	Department for Environment, Food & Rural Affairs
DEMP	Decommissioning Environmental Management Plan
DMP	Dust Management Plan
ECoW	Ecological Clerk of Works
ES	Environmental Statement
fCEMP	Framework Construction Environmental Management Plan
FLL	Functionally Linked Land
HF	Hydrogen flouride
HRA	Habitats Regulations Assessment
INNS	Invasive Non-Native Species
LGF	Lighthouse Green Fuels
LSE	Likely Significant Effect
LSO	Long Sea Outfall
MAGIC	Multi-Agency Geographic Information for the Countryside
NH_3	ammonia
NO_x	nitrogen oxides
NO_2	nitrogen dioxide
NPPF	National Planning Policy Framework
NSIP	Nationally Significant Infrastructure Project
NWL	Northumbrian Water Ltd
SAC	Special Area of Conservation
SAF	Sustainable Aviation Fuel
SCR	Selective Catalytic Reduction
SNCR	Selective Non-catalytic Reduction
SO_2	sulphur dioxide
SoS	Secretary of State
SPA	Special Protection Area
WwTW	Wastewater Treatment Works
UK	United Kingdom
ZoI	Zone of Influence

1 Executive Summary

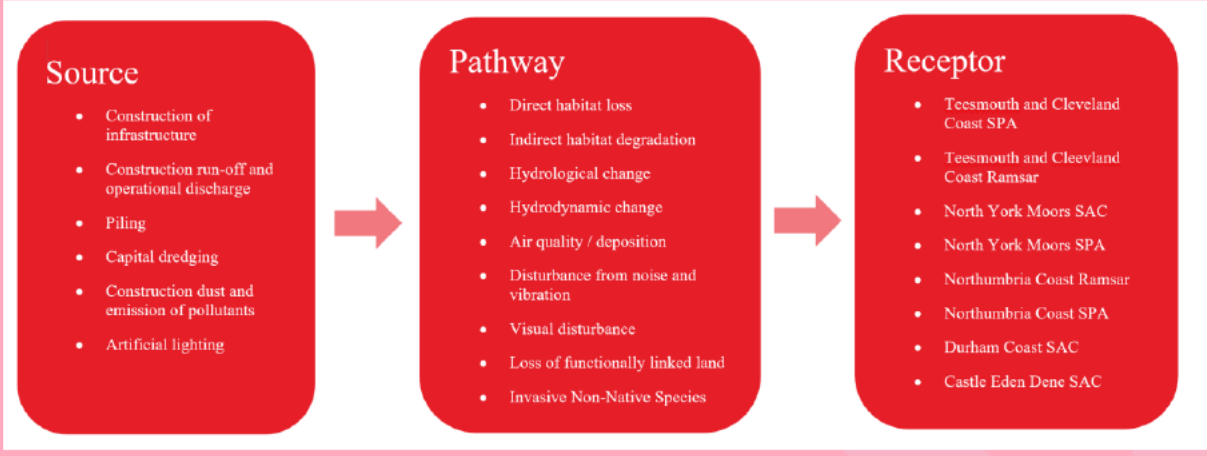
1.1 Overview

1.1.1 This report has been prepared by Arup on behalf of LGF Projects Limited (the Applicant). It presents the findings of a Stage 1 Habitats Regulations Assessment (HRA) screening and Stage 2 Appropriate Assessment (AA) for the proposed Lighthouse Green Fuels (LGF) project (the Proposed Development), comprising the construction, operation and decommissioning of what is anticipated to be the UK's first commercial-scale second generation Sustainable Aviation Fuel (SAF) production facility at Seal Sands Road, Seal Sands, Stockton-on-Tees, Teesside, TS2 1UB.

1.1.2 The screening and AA has been undertaken in accordance with Regulation 63 of The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations) [Ref 1] to determine, applying the precautionary principle, whether the proposed development is likely to have a significant effect on any site forming part of the National Site Network (Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites), either alone or in-combination with other plans or projects.

1.2 Summary of Approach

1.2.1 The assessment follows the approach in the Habitats Regulations [Ref 1] and relevant case law. It follows the Source-Pathway-Receptor model, the key elements of which are summarised in Inset 1.1.



Inset 1.1 Source-Pathway-Receptor Model for the Proposed Development

1.3 Conclusion

1.3.1 The screening assessment has identified a credible source–pathway–receptor linkage between the Proposed Development and qualifying features of the following European site(s):

- Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar via direct habitat loss (SPA (Marine Component GB) only), indirect habitat degradation, hydrological change, hydrodynamic change, air pollution, disturbance from noise and vibration, visual disturbance, loss of functionally linked land and introduction or spread of Invasive Non-Native Species (INNS);
- North York Moors SPA via air pollution;
- North York Moors SAC via air pollution;
- Northumbria Coast SPA and Ramsar via air pollution and introduction or spread of INNS;
- Durham Coast SAC via air pollution and introduction or spread of INNS; and
- Castle Eden Dene SAC via air pollution.

1.3.2 On the basis of the available evidence, and applying the precautionary principle in accordance with Waddenzee (C-127/02) [Ref 40], it cannot be excluded that the Proposed Development, either alone or in-combination with other plans or projects, would have a Likely Significant Effect (LSE) on Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar, North York Moors SPA and SAC, Northumbria Coast SPA and Ramsar, Durham Coast SAC and Castle Eden Dene SAC, in view of the sites' conservation objectives.

1.3.3 In accordance with Regulation 63 of the Habitats Regulations [Ref 1], the competent authority must therefore undertake an AA to determine whether the proposal would have an adverse effect on the integrity of the affected European site(s), and to identify any necessary mitigation or alternatives. This report contains information to enable the competent authority to undertake such an assessment.

1.3.4 This conclusion is based on the best available information at the time of writing and should be revisited if the project design, construction methods or programme materially change, or if additional information on site sensitivities becomes available prior to determination.

1.3.5 The findings of this report provide technical advice to inform the competent authority's determination under Regulation 63 of the Habitats Regulations [Ref 1]; the final screening decision rests with the competent authority.

2 Introduction

2.1 Overview

2.1.1 This **Report to Inform Habitats Regulations Assessment (Application Document Ref. 5.11)** has been prepared by Arup on behalf of LGF Projects Limited (the Applicant), to support an application (the Application) seeking development consent for the construction, operation, maintenance and decommissioning of the Lighthouse Green Fuels (LGF) project (the Proposed Development) on land within the administrative boundaries of Stockton-on-Tees Borough Council (STBC) and Redcar and Cleveland Borough Council (RCBC).

2.1.2 The Order limits for the Proposed Development are made up of the Main Site and Wider Site, together 'the Site'. A more detailed description of the Site is set out at Section 2.4.

2.1.3 The Application has been submitted to the Planning Inspectorate (PINS), and the decision whether to grant a Development Consent Order (DCO) will be made by the Secretary of State (SoS) for Energy Security and Net Zero pursuant to the Planning Act 2008 (the PA 2008) [Ref 2].

2.1.4 The Proposed Development comprises a commercial-scale second generation Sustainable Aviation Fuel (SAF) production facility and associated infrastructure.

2.2 The Applicant

2.2.1 The Applicant is wholly owned by Alfanar Energy Limited (Alfanar). Alfanar is part of a global project development, manufacturing, and engineering group headquartered in Saudi Arabia. Alfanar has developed significant in-house feedstock-to-SAF expertise. This experience will be utilised to construct and operate the Proposed Development.

2.3 Overview of the Proposed Development

2.3.1 The Proposed Development is anticipated to be the UK's first commercial-scale second generation SAF production facility.

2.3.2 The Proposed Development includes the construction, operation, maintenance and decommissioning of a commercial-scale facility that will produce approximately 180 million litres of advanced SAF and approximately 30 million litres of renewable naphtha each year.

2.3.3 The Proposed Development includes the following elements (the location of each Work No. is shown on the **Works Plans (Application Document Ref. 2.4)**):

Table 2.1 Works Description Summaries

Work Number:	
Work No. 1	SAF production facility comprising: • 1A - feedstock pre-treatment facility including flue gas treatment and stack • 1B - SAF processing facility including thermal oxidiser, flue gas treatment, and stack • 1C - up to two flare structures
Work No. 2	Combined heat and power (CHP) generating station comprising: • 2A - boilers and steam turbine generators • 2B - flue gas treatment and stack
Work No. 3	Feedstock and intermediate and final product handling and storage
Work No. 4	Cooling infrastructure for SAF production facility and CHP plant
Work No. 5	Bridge and culvert crossings of existing infrastructure
Work No. 6	Marine infrastructure comprising: • 6A - construction of permanent quay • 6B - permanent quay • 6C - capital and maintenance dredging
Work No. 7	Electrical connection works comprising: • 7A - underground and overground cable connections to the existing North Bank Supply Point • 7B - electrical connection works
Work No. 8	Modified or new natural gas connection and above ground infrastructure (AGI)
Work No. 9	Supply of industrial gases: Only one of Work No. 9A or Work No. 9B would be developed; • 9A - industrial gases connection works comprising installation of new and repurposing of oxygen and nitrogen pipeline connections, and connection to existing low pressure nitrogen supply • 9B - air separation unit (ASU) facility and connections to Work No. 1
Work No. 10	Modification or removal and replacement of industrial wastewater pipeline connection works
Works No. 11	• Export connection works:11A - pipeline(s) for the export of SAF and renewable naphtha • 11B or 11C - a pipeline for the export of carbon dioxide (CO_2) connecting to AGI by others (being either AGI C1 or C2 of the Northern Endurance Partnership (NEP) transport and storage pipeline) Only one of Work No. 11B or Work No. 11C would be developed
Works No. 12	Surface water attenuation, and drainage and discharge works
Works No. 13	Laydown areas comprising: • 13A - temporary construction compounds and laydown areas • 13B - permanent laydown and storage

Work No. 14	Access works and private street improvements

2.3.4 In addition a range of associated development, both specified and unspecified, is proposed in relation to the above.

2.3.5 The new quay on the River Tees (**Work No. 6**) will allow delivery of modular plant and construction materials by ship during construction and biomass and waste wood feedstock during operation, reducing reliance on road transport. Feedstock will be stored (**Work No. 3**) then pre-treated at the Main Site and processed into SAF through gasification and gas-to-liquids processes (**Work No.1**).

2.3.6 To support operations, the Proposed Development will include a biomass and waste wood-fired CHP plant (**Work No. 2**) with an electrical output capacity of up to 200 megawatts electrical (MWe), providing a low-carbon energy supply for the SAF process. Cooling infrastructure (**Work No. 4**) will be required for the SAF process and the CHP plant. Connections will provide electricity for start-up and to maintain ancillary site supplies (**Work No. 7**), natural gas for start-up and as auxiliary fuel for some processes during operation (**Work No. 8**), and oxygen and nitrogen which will either be delivered to the Site via pipelines or produced by a new ASU in the Main Site (**Work No. 9A or 9B** respectively). Waste materials, including off-specification materials will be exported from the Main Site by road. Finished products (SAF, and a secondary product of the process, renewable naphtha) will be transferred via pipeline(s) (**Work No. 11A**) to local marine loading facilities for marine export or export by road. CO_2 from the acid gas removal unit in Work No. 1B will be exported via pipeline (**Work No. 11B or Work No. 11C**) subject to a suitable agreement to connect to one of two proximate AGIs in the NEP project.

2.3.7 The Proposed Development will also include replacement and new wastewater pipeline connection works (**Work No. 10**), surface water drainage systems (**Work No. 12**) and access and street improvements (**Work No. 14**). Space within the Wider Site is identified for temporary construction and laydown and space within the Main Site identified for permanent laydown and storage areas (**Work No. 13**).

2.3.8 The preliminary layout of the Proposed Development is shown on **Indicative General Arrangement Plan (Application Document Ref. 2.5.1)** and **Indicative General Arrangement Isometric (Application Document Ref. 2.5.2)**.

2.4 The Site

2.4.1 The Site location and boundary (which is also known as the 'Order limits') are shown on **Site Location Plan (Application Document Ref. 2.1)**. The

Site is located in Teesside on land to the north and south of the River Tees with connection corridors crossing the Tees.

2.4.2 The Main Site is located in the industrial area of Seal Sands approximately 5km east of Billingham town centre and 4km north-east of Middlesbrough town centre, on the north bank of the River Tees in the borough of Stockton-on-Tees). The majority of the Main Site lies south of Seal Sands Road and largely comprises previously developed land formerly used as a chemical plant from the early 1970s. It was last operated by INEOS Nitriles.

2.4.3 The Main Site comprises the main SAF facility development area of the Site, lying to the south and north sides of Seal Sands Road and bounded by the proposed quay in the River Tees, with the River Tees to the east.

2.4.4 The eastern boundary of the Main Site is formed by the River Tees, where existing jetties will be demolished and a new quay developed.

2.4.5 The Wider Site comprises the connection corridors, including land required for road access, pipelines (including under the River Tees), dredging near to the Main Site, and utility connections and construction laydown in both North Tees and (in the borough of Redcar and Cleveland) South Tees.

2.5 The DCO Process

2.5.1 Part 3 of the PA 2008 defines which projects constitute a nationally significant infrastructure project (NSIP). Once classed as an NSIP, development consent (in the form of a DCO) is required under Part 4 of the PA 2008.

2.5.2 In legislative terms the Proposed Development comprises both a SAF production facility and a CHP generating station together with development associated with the SAF production facility and the CHP generating station.

2.5.3 The construction and operation of the main SAF production facility does not automatically fall within the definition of an NSIP. Therefore, on 12 August 2025, the Applicant formally requested a direction by the SoS for Energy Security and Net Zero, pursuant to section 35(1) of the PA 2008, that the following elements be treated as one for which development consent is required. The Section 35 direction request was made in respect of: a main gasification facility to process sustainably sourced biomass; feedstock pre-treatment, syngas clean-up apparatus; Fischer-Tropsch process units; refining units; feedstock, intermediates and finished product storage; quayside with ship loading/ offloading infrastructure; supporting infrastructure and utility connections (hereafter called the ‘Specified Elements’).

2.5.4 The SoS for Energy Security and Net Zero issued a direction under Section 35 of the PA 2008 [Ref 2] on 08 September 2025 to confirm that the Specified Elements of the Proposed Development, together with any matters/ development associated with them, should be treated as development for which development consent under the PA 2008 is required.

2.5.5 The CHP plant (**Work No. 2**) surpasses the 50 Megawatt (MW) threshold for generating stations defined in Section 15 of the PA 2008 and is therefore a NSIP in its own right.

2.5.6 An application for development consent for the Proposed Development has been submitted to PINS acting on behalf of the SoS. Subject to the Application being accepted, PINS will then examine it and make a recommendation to the SoS who will then decide whether to grant a DCO.

2.5.7 The application for development consent for the Proposed Development supersedes a previous application that was being progressed by Lighthouse Green Fuels Limited centred on a site off Huntsman Drive in Seal Sands, TS2 1TT (PINS ref. EN010150). Statutory consultation on that application took place between 16 May 2024 and 20 June 2024. As shown on the PINS website[1], that application is discontinued.

2.6 The Purpose and Structure of this Document

2.6.1 There are eight European designated sites within a precautionary search distance of 20km of the Site. Informed by impact pathways, the closest European designated site is the Teesmouth and Cleveland Coast Special Protection Area (SPA) (Marine Component GB) which lies partially within the Site.

2.6.2 This report presents the findings of the Stage 1 screening for Likely Significant Effects (LSE) and a Stage 2 AA undertaken in accordance with Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (Ref 1).

2.6.3 The purpose of the Stage 1 screening is to determine, beyond reasonable scientific doubt in line with *Waddenzee* [Ref 40] (e.g. using the precautionary principle), whether the Proposed Development could have a LSE on any site forming part of the National Site Network (NSN) (comprising Special Areas of Conservation (SACs), SPAs and, where relevant, Ramsar sites), either alone or in-combination with other plans or projects.

2.6.4 Where LSEs could not be excluded at Stage 1, a Stage 2 AA has been undertaken to determine whether the Proposed Development, either alone

[1] https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN010150

or in-combination with other plans or projects, would adversely affect the integrity of any European site in view of its conservation objectives.

3 The HRA Process

3.1 Legislative and Policy Context

3.1.1 The Habitats Regulations [Ref 1] transpose the requirements of Article 6(3) and 6(4) of the EU Habitats Directive (92/43/EEC) [Ref 3] into domestic law for England and Wales. These Regulations were amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 to ensure continuity of protections following the UK's withdrawal from the EU.

3.1.2 The Habitats Regulations [Ref 1] apply to projects within England and Wales and their inshore waters (i.e. within 12 nautical miles). Projects beyond inshore waters (i.e. offshore), are subject to the Offshore Marine Habitats and Species Regulations [Ref 4].

3.1.3 The Regulations require a competent authority to consider whether any plan or project, not directly connected with or necessary to the management of a European site, is likely to have a significant effect on that site in view of its conservation objectives.

3.1.4 Where LSEs cannot be excluded, the competent authority must undertake an AA of the implications of the project for the site in view of those conservation objectives before granting consent.

3.1.5 Relevant policy guidance is provided in:

- Defra (2021) Habitats Regulations Assessments: protecting a European site [Ref 5];
- Natural England (2023) Advice on Habitats Regulations Assessments and Appropriate Assessment [Ref 16];
- National Planning Policy Framework (NPPF) (2026) [Ref 6]. Policy N6(1)(a) of the NPPF confirms that the presumption in favour of sustainable development does not apply where a project is likely to have an LSE on a habitat site and provides the statutory requirement for an AA to be completed before a decision is made.
- Department for Energy Security and Net Zero (2026). Overarching National Policy Statement for energy (EN-1) [Ref 38], paragraphs 5.4.26 to 5.4.32; and
- Planning Inspectorate (2026) Nationally Significant Infrastructure Projects: Advice on Habitats Regulations Assessments [Ref 17].

3.2 Role of the Competent Authority

3.2.1 The competent authority is responsible for carrying out the statutory assessment required by Regulation 63 of the Habitats Regulations, including determining whether the Proposed Development is likely to have a significant effect on any European site and, where necessary, undertaking an AA before deciding whether to grant consent. The SoS is the competent authority for the purposes of this HRA. Natural England is a statutory consultee.

3.2.2 This report has been prepared by Arup to provide technical evidence, a reasoned screening opinion and an AA to assist the competent authority in discharging its duty under Regulation 63.

3.3 Need for HRA Screening and Purpose of Appropriate Assessment

3.3.1 Screening under the Habitats Regulations is required because the Proposed Development has the potential to affect eight European designated sites. The Site partially lies within the Teesmouth and Cleveland Coast SPA (Marine Component GB) and directly adjacent to the Teesmouth and Cleveland Coast Ramsar. The Proposed Development also lies within 20km (search radius informed by impact pathways) of designated sites for mobile qualifying bird species, including North York Moors SPA and Northumbria Coast SPA and Ramsar. In addition, the Proposed Development lies within impact pathway ranges for air and nitrogen pollution of Annex 1 habitats associated with North York Moors SAC, Durham Coast SAC and Castle Eden Dene SAC.

3.3.2 The purpose of the HRA screening stage is to determine, on a precautionary basis, whether any pathway exists that could give rise to a LSE on the integrity of European sites.

3.3.3 Where LSEs cannot be excluded, the purpose of the AA is to determine whether those effects would result in an adverse effect on site integrity, having regard to the conservation objectives of the affected European sites.

3.4 Scope of the Assessment

3.4.1 The screening considers potential effects on all onshore and offshore European designated sites within 20km of the Proposed Development and on any mobile qualifying species that may range beyond this distance as outlined in Section 6. Offshore European designated sites within 12 nautical miles of England (i.e. inshore waters) are included where functional ecological connectivity may exist.

3.4.2 Potential effect pathways assessed include those listed in Section 7.2 and in-combination pressures as in Section 8.1.

3.4.3 The assessment is based on best-available information, including data from sources listed in Section 5.2 and relevant conservation objectives.

3.4.4 The screening boundary represents a precautionary starting point and may be refined as the assessment progresses, based on ecological connectivity, species mobility and the nature of identified pathways.

3.4.5 Where pathways could not be excluded at the screening stage, those pathways have been taken forward to Appropriate Assessment.

3.5 Definitions and Terminology

3.5.1 Following the UK's withdrawal from the European Union, the network of sites previously referred to as "European sites" is now collectively termed the National Site Network (NSN) in England and Wales, though the protection afforded under the Habitats Regulations remains unchanged.

3.5.2 For the purposes of this assessment, references to European sites include all sites forming part of the NSN, comprising SACs and SPAs designated under the Habitats Regulations. These sites were originally classified or designated under the Habitats Directive (92/43/EEC) [Ref 3] and the Birds Directive (2009/147/EC) [Ref 39]. SACs are designated for the protection of habitats and non-avian species of European importance, whereas SPAs are classified for the protection of rare, vulnerable and migratory bird species and their supporting habitats.

3.5.3 On 21 May 2026, amendments to the Habitats Regulations introduced statutory protection to designated Ramsar sites which are equivalent to those for designated European sites. In line with Government policy, potential SPAs (pSPAs), candidate SACs (cSACs) and proposed Ramsar sites are treated as if they were formally designated European sites to ensure their qualifying features are fully safeguarded during assessment.

3.5.4 Ramsar sites are not part of the NSN but are afforded protection through the Habitats Regulations and national policy (NPPF [Ref 6], para. 194 and Defra 2021 [Ref 5]).

3.5.5 Functionally linked land (FLL) refers to off-site areas used by mobile qualifying species for feeding, roosting or movement, which are necessary to support the ecological function of the European site.

3.5.6 Conservation objectives are the published site-specific objectives which seek to maintain or restore the qualifying features of a European site and provide the framework against which LSEs and adverse effects on site integrity are assessed.

3.5.7 Site integrity refers to the coherence of a site's ecological structure and function, across its whole area, that enables it to sustain the habitats, species and ecological processes for which it has been designated.

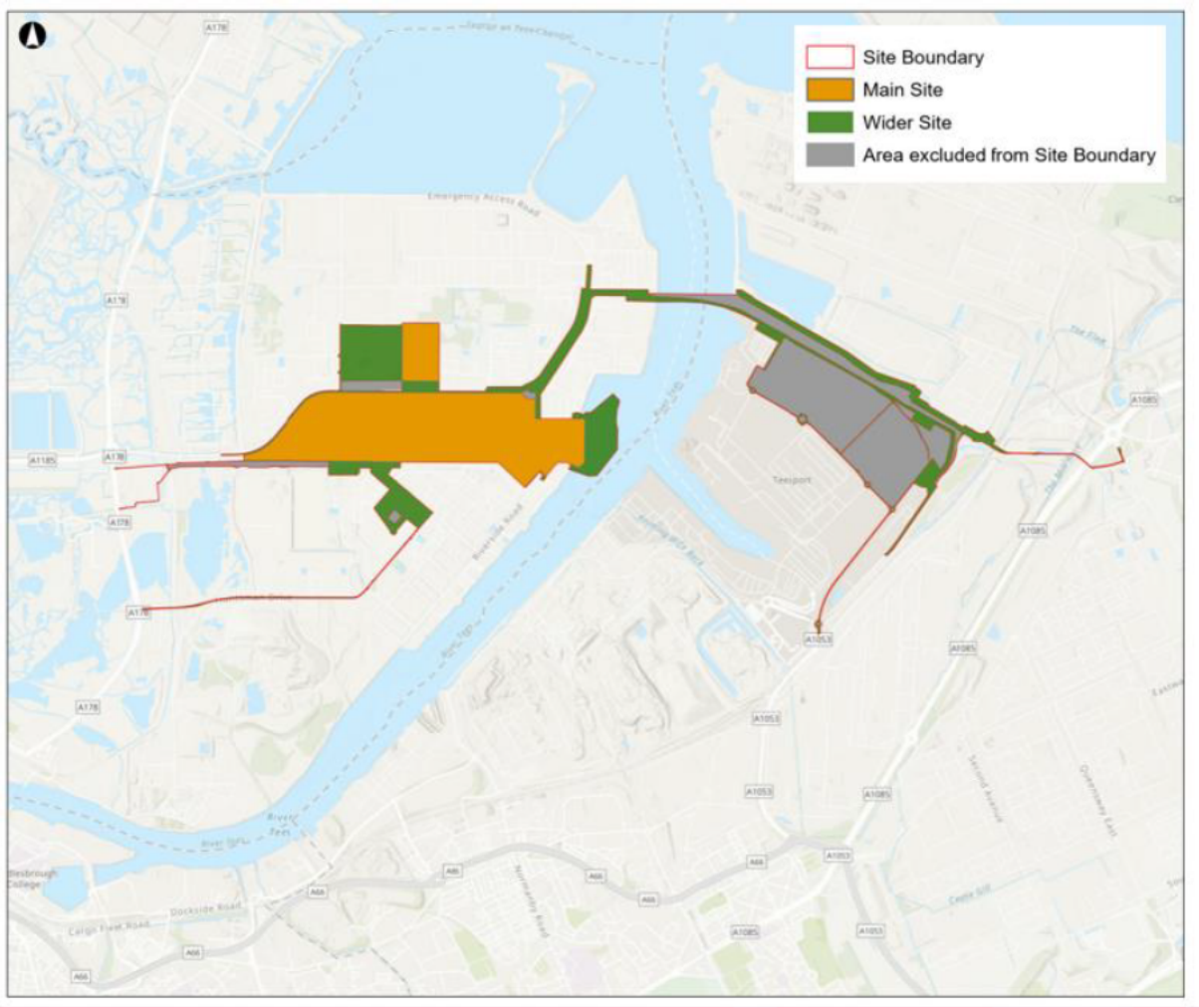
4 Proposed Development

4.1 Location and Context

4.1.1 The Site is described in two constituent parts: the 'Main Site' where the SAF production facility, CHP plant, ASU and new quay will be located, and the 'Wider Site' where pipeline corridors, some construction laydown, and some access routes (temporary and permanent) will be located (Inset 4.1).

4.1.2 The Main Site is located on land at Seal Sands Road, Seal Sands, Stockton-on-Tees, Teesside, TS2 1UB [approximate NGR: NZ 53119 23882]. The Main Site is immediately bounded by the River Tees to the east and is surrounded by the Seal Sands industrial area.

4.1.3 The nearest European designated site is Teesmouth and Cleveland Coast SPA (Marine Component GB) located partially within the Site boundary.



Inset 4.1 Extent of Proposed Development Site.

4.2 Proposed Development Description

4.2.1 The Proposed Development is described in Section 2.3. Additional details relevant to this report are set out below.

4.2.2 Currently, Bran Sands WwTW discharges treated wastewater to the Dabholm Gut, which in turn discharges to the Tees Estuary. NWL is proposing to construct a long sea outfall underground northward from Bran Sands to Tees Bay. This long sea outfall will comprise an approximately 3km onshore and 4.5km offshore pipeline and is planned to be operational by 2030. This pipeline aims to divert treated wastewater discharges from the Tees Estuary to the North Sea and to reduce nutrient nitrogen concentrations within the Tees Transitional Waterbody and Tees Bay. When operational, this long sea outfall will discharge treated wastewater from industries within Teesside.

4.2.3 It is therefore proposed that the treated effluent from the Proposed Development will be discharged via NWL's proposed new long sea outfall, which is currently programmed to be operational before the Proposed Development.

4.2.4 No new pipeline or tunnel boring will take place under the Tees Estuary, any pipelines or connections will utilise existing infrastructure.

4.2.5 The Proposed Development includes several elements that may give rise to impact pathways to European sites, including emissions to air, construction and operational disturbance, hydrological discharges, and direct habitat loss.

4.3 Embedded Design Features

4.3.1 In the absence of defined embedded design features, the screening assessment adopts a precautionary worst-case scenario and does not rely on mitigation to exclude LSEs. Measures proposed to avoid or reduce effects are considered, where relevant, within the Appropriate Assessment.

4.4 Construction Methods and Timing

4.4.1 The Proposed Development construction programme is anticipated to commence shortly after the DCO decision (projected to be by end of 2027) and after the Final Investment Decision (FID). The construction phase is therefore likely to be approximately three to four years in duration lasting from 2028 to 2031.

4.4.2 The key stages of the construction programme are currently expected to be:

- 2028 – preliminary works, site establishment, site preparation, commencement of quay construction, commencement of civils works;

- 2029-30 – site preparation, civils works, construction of the SAF production facility, CHP plant and infrastructure including utilities; and
- 2030-2031 – mechanical installation and commissioning.

4.4.3 A more detailed construction programme is shown in Inset 4.2.

	2028				2029				2030				2031			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Quay Construction																
Site Preparation																
Civils																
Module Deliveries																
Mechanical Installation																
E&I Installation																
Pipelines																
Commissioning																
Operation																

Inset 4.2 Outline construction programme

4.4.4 Construction plant is likely to include (but is not limited to):

- piling equipment;
- mobile plant and civils equipment;
- heavy lifting equipment (including cranes);
- concrete batching plant; mobile power generating equipment; and
- trenchless crossing equipment (for example Horizontal Directional Drilling (HDD)).

4.4.5 Construction would be undertaken using standard plant and techniques appropriate to the scale of development. Core working hours are anticipated to be 07:00–19:00 Monday to Friday (except bank holidays where no work will take place), Saturday 07:00–16:00 and Sunday 08:00-17:00. However, it is likely that some construction activities may need to be undertaken outside of these core working hours. This is principally because certain construction activities cannot be stopped, such as concrete pouring, but also potentially to manage the construction programme and ensure the completion of the works in line with the agreed timescales for commissioning. Where works within the Proposed Development are to be conducted outside the core hours, they would comply with any restrictions agreed with the local planning authority, in particular regarding control of

noise and traffic. These measures which are proposed to avoid or reduce effects are considered within the Appropriate Assessment.

4.4.6 Given the above, activities that could generate a noise nuisance will not be undertaken at night (i.e. between 19:00 and 07:00) unless by prior agreement with the local authority. Such activities may include but are not limited to sheet piling, percussive piling, use of impact wrenches, concrete scabbling, use of reversing sirens, and concrete jack hammering. However, these measures are not relied upon to exclude LSEs at screening stage of the HRA.

4.4.7 Construction access to the Main Site and associated utility connections in North Tees will be principally from Seal Sands Road which connects to the trunk road network via the A1185 and the A689/A19. It is anticipated that there will be a number of access points to the Main Site from Seal Sands Road. Construction access to the Linkline pipeline corridor, the off-site electrical connection and associated utility connection works within North Tees may also be provided via Huntsman Drive, which serves the North Tees estate, and via other existing access roads connecting form the A178 to the utility corridor alignment. In South Tees, construction access for utility connections would be from Wilton International North Gate off the A1085 Steel House Gate Roundabout and then via the internal road network to the Dabholm Gut, or alternatively, via the A1053, Tees Dock Road. There will be an estimated peak of around 180 HGV one-way movements per day to the Main Site. There will be a smaller number of HGV movements per day for connections south of the Tees. The primary route for module delivery will be by ship using the newly constructed quay, which will operate as a marine off-loading facility during construction. It is expected that up to 300 consignments within 200 shipments will be required to facilitate the delivery of modular plant and construction equipment via the Quay over an 18-month period within the construction phase.

4.4.8 It is estimated that there will be around 2,200 personnel contracted to work on the Proposed Development at the peak of construction. The peak of construction activity and associated traffic is anticipated to be in 2030.

4.4.9 Temporary generators are likely to be required during construction (where a grid connection is not available) and mobile generators will be used along the construction corridors. Temporary site lighting is proposed to enable safe working on the construction site in hours of darkness. Construction temporary lighting will be arranged so that glare is minimised outside the construction site. A **Framework Lighting Strategy (Appendix 13C, ES Volume III, Application Document Ref. 6.3)** has been prepared to accompany the DCO application, and a final Strategy will be prepared by

the EPC contractor, to adhere to the principles set out in the **Framework Lighting Strategy (Appendix 13C, ES Volume III, Application Document Ref. 6.3)**. Lighting will be designed so as to minimise any potential nuisance (as far as practicable) outside of the Site in relation to views from residential receptors or light disturbance to ecological receptors. These measures which are proposed to avoid or reduce effects are considered within the Appropriate Assessment.

4.4.10 A Construction Environmental Management Plan (CEMP) will be prepared prior to construction to detail construction-phase environmental controls. The submission, approval and implementation of this is secured by requirement in the draft DCO. A **Framework CEMP (fCEMP) (Appendix 5A, ES Volume III, Application Document Ref. 6.3)** has been prepared to accompany the DCO application. The submission, approval and implementation of the CEMP is secured through the DCO requirements within the **draft DCO (Application Document Ref. 3.1)**. This assessment does not rely on the future CEMP to exclude LSEs at screening.

4.4.11 These activities have the potential to result in disturbance, emissions, and hydrological effects, which are assessed in the HRA screening.

4.5 Operation and Maintenance

4.5.1 The Proposed Development will be capable of operating for 24 hours a day, 7 days a week. Following start-up, it is envisaged that the plant will remain in continuous operation for a period of up to 36 months before the first routine maintenance shut-down (regular maintained shut-downs will take place every 36 months).

4.5.2 Operation of the Proposed Development is anticipated to create over 300 full-time operational roles. Plant operative staff are likely to work on a two 12-hour shift pattern, with the first shift between 07:00 - 19:00 and the second between 19:00 - 07:00.

4.5.3 Operational access to the Main Site and associated utility connections in North Tees will be via Seal Sands Road which connects to the trunk road network via the A1185 and the A689/A19. Access for the operation and maintenance of associated utility infrastructure in North Tees, including the power cable connection and North Bank supply point located within the SABIC estate, would be via Huntsman Drive and the existing internal road network. In South Tees, access for operational traffic undertaking inspection and maintenance of utility connections would be from the Wilton International North Gate located off the A1085 Steelhouse Gate Roundabout and then via the internal road network to Dabholm Gut, or alternatively, via the A1053, Tees Dock Road.

4.5.4 The proposed quay will be located at the eastern end of the Main Site on the River Tees. It will have a single Panamax-sized berth (suitable for up to two smaller vessels) including topside infrastructure to facilitate the import of feedstock for the Proposed Development. The berth would be capable of handling a variety of vessels up to Panamax size.

4.5.5 Temporary lighting will be needed to facilitate nighttime working and security as required. A **Framework Lighting Strategy is provided in (Appendix 13C, ES Volume III, Application Document Ref. 6.3)**. A final Lighting Strategy will be produced and a detailed lighting scheme will be submitted to the local planning authority for approval. The external lighting scheme will be designed in accordance with relevant standards, including the Guidance Notes for the Reduction of Obtrusive Light published by the Institute of Lighting Engineers [Ref 7] and/or Chartered Institution Building Services Engineers (CIBSE) requirements, as appropriate. The external lighting scheme will be designed to provide safe working conditions in all relevant areas of the Proposed Development whilst reducing light pollution and the visual impact on the local environment. These measures include that lighting will be designed to include shielded and directional luminaires to limit the amount of light spill. These measures which are proposed to avoid or reduce effects are considered within the Appropriate Assessment.

4.5.6 During operation there will be emissions of combustion products from the pre-treatment units; these emissions will be directed via a flue gas treatment system and dispersed to atmosphere via a single stack.

4.5.7 Noise emission limits have been defined for the stacks and quayside unloading operations as neither of these noise sources had specific plant noise data available to include in the noise prediction model at this stage of design development. The stacks are expected to be the largest contribution of noise at noise sensitive receptors (NSRs), given the source elevation. The quayside unloading operations, while expected to be intermittent, can take between 24 – 72 hours at a time, including overnight operation. Therefore, noise emission limits for both of these noise sources have been calculated using the Rochdale Envelope approach to model a precautionary worst-case scenario (see **Chapter 9: Noise and Vibration, ES Volume I, Application Document Ref. 6.1**). To do this, operational noise emission limits have been calculated and agreed with the Applicant [Ref 8]. It is assumed that the design and operation will ensure that noise emitted by selected plant for these items will meet the noise emission limits. Noise from operational noise sources will be controlled through design to ensure compliance with local authority criteria guidance from BS4142 [Ref 9] and using Best Available Techniques (BAT). Further mitigation measures for

noise and vibration which can be implemented as part of the design are assessed within the AA.

4.5.8 The Proposed Development will be designed to recycle water back into the process wherever possible, using treatment facilities within the Main Site. Industrial wastewater will be exported for any required treatment using a replacement for an existing disused pipeline. The pipeline to be replaced runs from the Main Site, through an existing tunnel under the River Tees and along the northern side of the Dabholm Gut in South Tees. It will be then necessary to construct a new connecting pipeline into NWL's Bran Sands Wastewater Treatment Works (WwTW). The pipeline will carry industrial wastewater treated using the treatment plant on the Main Site for any required additional treatment and appropriate discharge of the wastewater from Bran Sands WwTW.

4.5.9 Currently, Bran Sands WwTW discharges treated wastewater to the Dabholm Gut, which in turn discharges to the Tees Estuary. NWL is proposing to construct a long sea outfall (LSO) underground northward from Bran Sands to Tees 1Bay. NWL is in the process of submitting a planning application for the LSO to Redcar and Cleveland Borough Council as the Local Planning Authority which is currently at the scoping stage (planning application reference R/2026/0419/SCP). This long sea outfall will comprise an approximately 3km onshore and 4.5km offshore pipeline and is proposed to be operational by 2030. This pipeline aims to divert treated wastewater discharges from the Tees Estuary to the North Sea and to reduce nutrient nitrogen concentrations within the Tees Transitional Waterbody and Tees Bay. When operational, this long sea outfall will discharge treated wastewater from industries within Teesside.

4.5.10 It is therefore proposed that the treated effluent from the Proposed Development will be discharged via NWL's new long sea outfall, which is currently programmed to be operational before the Proposed Development.
.

4.5.11 There will be scheduled, routine maintenance periods approximately every 36 months to ensure that the Proposed Development, including corridor connections, operates safely and reliably.

4.5.12 These activities have the potential to result in disturbance, emissions, and hydrological effects, which are assessed in the HRA screening.

4.6 Decommissioning

4.6.1 At the end of its operating life, the most likely scenario is that the Proposed Development would be decommissioned. In this scenario, a Decommissioning Environmental Management Plan (DEMP) will be

produced and agreed with the local planning authority (LPA) in consultation with the Environment Agency (EA) as part of the Environmental Permit and site surrender process. It is anticipated that it would take up to a year to decommission the Main Site (Inset 4.1), with demolition following thereafter, taking at least two years to complete. Decommissioning activities will be conducted in accordance with the appropriate guidance, legislation and relevant consents from the local authority at the time of the Proposed Development's closure. The quay and associated infrastructure are expected to be retained for future use by third parties and not decommissioned at the same time as the rest of Proposed Development.

4.6.2 Prevention of contamination will be a specific requirement of the Environmental Permit for the operation of the Proposed Development and therefore it is being designed such that it will not create any new areas of ground contamination or pathways to receptors from construction or operation. Once the relevant plant and equipment have been removed to ground level, it is expected that the hardstanding and sealed concrete areas will be left in place. Any areas of the Proposed Development which are to be decommissioned and that are below ground level will be backfilled to ground level to leave a levelled area.

4.6.3 A DEMP will be produced and agreed with the LPA and in consultation with the EA as part of the Environmental Permit and site surrender process. 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 surface water drainage should be managed during decommissioning and demolition. These measures which are proposed to avoid or reduce effects are considered within the Appropriate Assessment.

4.6.4 The works that will take place during the decommissioning phase of the Proposed Development are expected to be similar in magnitude (or less extensive) than those required for construction. No decommissioning activities are proposed in relation to the quay infrastructure. The quay and associated marine components are intended to remain in place and continue serving other operational purposes beyond the operational phase of the SAF production facility.

5 Methodology

5.1 Overview of the HRA Process

5.1.1 This assessment follows relevant Government guidance, Natural England advice, and applicable case law.

5.1.2 The process comprises two principal stages:

- Stage 1 – Screening for LSE: This determines whether the proposal, alone or in combination, is likely to have a significant effect on any European site in view of its conservation objectives; and
- Stage 2 – AA : Undertaken only if the screening cannot rule out LSE. It considers whether the proposal would have an adverse effect on the integrity of any European site, and, if necessary, identifies mitigation or alternatives.

5.1.3 This report relates to Stage 1 – Screening and Stage 2 – AA, both of which have been undertaken applying the precautionary principle, as established in *Waddenzee* (C-127/02) [Ref 40].

5.1.4 The precautionary principle requires that, where uncertainty exists, it must be assumed that a significant effect may occur unless it can be excluded on the basis of objective scientific evidence.

5.1.5 Embedded design features forming integral parts of the project have been taken into account at the AA stage, where relevant, whereas mitigation measures intended to avoid or reduce effects cannot be considered during the screening stage (*People Over Wind*, C-323/17) [Ref 41].

5.1.6 The AA has considered whether, taking account of mitigation measures proposed as part of the project and secured through the consenting process, the Proposed Development would adversely affect the integrity of any European site in view of its conservation objectives.

5.2 Data Sources and Evidence Base

5.2.1 The assessment has been informed by publicly available datasets and relevant project information, comprising:

- MAGIC Map [Ref 10]: for identification and mapping of European sites within the study area;
- Natural England's Designated Sites View [Ref 11]: for site citations, qualifying features and Supplementary Advice on Conservation Objectives;

- Air Pollution Information System (APIS) [Ref 12]: to identify air quality sensitivities and critical loads for designated features;
- Joint Nature Conservation Committee (JNCC) website [Ref 13]: for site citations, qualifying features and Supplementary Advice on Conservation Objectives;
- STBC planning portal [Ref 14]: for information on planning applications within the local planning authority area;
- RCBC planning portal [Ref 15]: for information on planning applications within the local planning authority area;
- Ordnance Survey base mapping: for spatial context; and
- Project-specific information: including site layout drawings and environmental data provided by the Applicant.

5.2.2 All datasets are the best available at the time of assessment. Site boundaries and features are indicative and may be refined by Natural England as part of ongoing dataset updates.

5.3 Identification of European Sites Considered

5.3.1 Information System (GIS) analysis and a review of published datasets listed in Section 5.2 has been undertaken.

5.3.2 The following search parameters were applied to identify relevant sites within a precautionary screening area, based on typical effect distances informed by recognised impact pathways (for example air emissions, hydrological connectivity, and species mobility):

- Sites within or immediately adjacent to the Proposed Development boundary;
- Sites linked by hydrological pathways, including watercourses within or downstream of the site (up to approximately 20km or to the nearest tidal influence);
- Sites within 20km of the Proposed Development where qualifying features may be sensitive to air quality or atmospheric nitrogen deposition; and
- Sites supporting mobile qualifying species (e.g. birds, bats, fish) that may use functionally linked land or habitat within approximately 20km of the Proposed Development (extending to 30km where bats are a qualifying feature of the designated site).

5.3.3 These search distances reflect standard professional practice for screening under the Habitats Regulations, consistent with Natural England and Planning Inspectorate guidance [Ref 17].

5.3.4 The identified sites are listed in Table 6.1.

5.4 Criteria for Determining LSE

5.4.1 The assessment follows the precautionary approach set out in case law (*Waddenzee* (C-127/02) [Ref 40], *People Over Wind* (C-323/17) [Ref 41]), under which a LSE is identified where there is a risk or possibility of an effect on a European site that cannot be excluded on the basis of objective information capable of removing reasonable scientific doubt.

5.4.2 Screening has therefore been undertaken using the following criteria:

- The existence of a plausible impact pathway connecting the Proposed Development to a European site or its qualifying features (e.g. via air, water, noise, light, or land);
- The scale, nature and duration of the activity relative to the site's sensitivities;
- The conservation objectives and known vulnerabilities of the site and its qualifying features; and
- The potential for temporal or spatial overlap with other relevant plans or projects.

5.4.3 Where no credible pathway exists, or the source-pathway-receptor linkage can be objectively excluded, a LSE is ruled out and the site is screened from further consideration.

5.5 Consideration of the Significance of Potential Effects

5.5.1 Potential effects have been assessed in the absence of mitigation, using professional ecological judgement informed by the best available data and the conservation objectives for each site.

5.5.2 At the screening stage, a detailed assessment against specific conservation objectives is not required; rather, the question is whether it can be excluded, on the basis of objective information, that the proposal will have an effect on the integrity of a European site that is more than trivial or inconsequential.

5.5.3 Professional judgement was applied with reference to:

- The vulnerability and sensitivity of qualifying features;

- The phase and duration of potential effects (e.g. construction and/or operation);
- The likely geographical extent of potential effects; and
- The probability of effects occurring, based on comparable experience and evidence.

5.5.4 Where uncertainty remained, the precautionary principle was applied such that the project was assumed to have a LSE unless there was no reasonable scientific doubt that it would not.

5.5.5 This approach ensures that conclusions are based on the best available evidence and consistent with the legal interpretation of Article 6(3) of the Habitats Directive as set out in *Waddenzee* (C-127/02) [Ref 40].

5.5.6 Where LSEs could not be excluded, the relevant pathways were taken forward to Appropriate Assessment. Appropriate Assessment considered the implications of the Proposed Development for the conservation objectives of the affected European sites and whether adverse effects on site integrity could be excluded beyond reasonable scientific doubt.

5.6 In-combination Assessment Approach

5.6.1 In line with Regulation 63(1) of the Habitats Regulations [Ref 1], the assessment also considers whether the Proposed Development could have effects in-combination with other plans or projects.

5.6.2 Where a potential impact pathway was identified, the assessment considered whether the Proposed Development could contribute to in-combination effects with other relevant plans or projects. Only those with potential spatial or temporal overlap and a shared impact pathway were included.

5.6.3 Relevant plans and projects were identified through a review of:

- Current and emerging Local Plans and major planning applications as outlined within Table 22.1 Summary of Indicative Zones of Influence (Zols) (**Chapter 22: Cumulative and Combined Effects, ES Volume I, Application Document Ref. 6.1**);
- Infrastructure or utility schemes known to be under development; and
- Other relevant information from the EA and Natural England.

5.6.4 Only those plans or projects with a realistic potential to act cumulatively on the same qualifying features were taken forward for in-combination consideration. This proportional approach is consistent with Natural England [Ref 16] and Planning Inspectorate [Ref 17] guidance.

5.6.5 A full list of in-combination projects considered is provided **in Appendix 22A: Long List of Other Developments (ES Volume III, Application Document Ref. 6.3)**.

5.7 Appropriate Assessment (AA)

5.7.1 Where likely significant effects could not be excluded, the relevant impact pathways and qualifying features were taken forward to Stage 2 Appropriate Assessment.

5.7.2 The AA was undertaken in view of the conservation objectives of the European sites for which LSEs could not be excluded and considered whether the Proposed Development,, either alone or in-combination with other plans or projects, would adversely affect the integrity of the sites.

5.7.3 The assessment considered:

- the nature, scale, duration and timing of the proposed enabling works;
- the sensitivity and ecological requirements of the relevant qualifying features;
- the extent and function of affected habitats, including functionally linked land;
- the effectiveness, certainty and deliverability of any avoidance, mitigation or compensation measures relied upon; and
- whether any residual effects would undermine the achievement of the site's conservation objectives.

5.7.4 The AA was undertaken using the best available scientific evidence at the time of writing and professional ecological judgement, applying the precautionary principle where uncertainty remained.

5.8 Limitations

5.8.1 This HRA Stage 1 - Screening and Stage 2 – AA has been undertaken using the best available information at the time of assessment. Should design or data change, the assessment should be revisited to confirm conclusions remain valid.

5.8.2 Information obtained from third-party and publicly available sources is considered accurate and up to date at the time of publication. However, due to the dynamic nature of the environment, local conditions and datasets may change between completion of this report and the construction or operation of the Proposed Development.

5.8.3 The assessment is therefore subject to limitations inherent in the age, resolution, coverage, and availability of source data. Designated site information is sourced primarily from Natural England's Designated Sites View [Ref 11] and MAGIC [Ref 10], which are periodically updated; users of this report should ensure they refer to the latest datasets at the time of decision-making.

5.8.4 The conclusions of this assessment are based on the design information and scope defined in Section 3.4. Should the design, footprint or construction methods change materially, the assessment may need to be revisited to confirm that its conclusions remain valid.

5.8.5 Where uncertainty remains, professional ecological judgement has been applied in accordance with recognised guidance and the precautionary principle. Any such uncertainties that could influence the conclusions have been identified and acknowledged where relevant within this report.

6 European Sites Considered

6.1 Overview

6.1.1 Using the search parameters outlined in Section 5.3, a total of eight European sites were identified within the defined screening area. These include three SACs, three SPAs and two Ramsar sites.

6.1.2 **Figure 10.2: International Statutory Designated Sites within 20km (ES Volume II, Application Document Ref. 6.2**, reproduced in Annex A) illustrates their locations in relation to the Proposed Development.

6.2 Summary of Sites Identified

6.2.1 Table 6.1 summarises the European sites identified within the defined screening area and considers the potential impact pathways from the Proposed Development.

Table 6.1 Summary of European Sites and Potential Impact Pathways

Designated Site	Approximate Distance & Direction from the Site	Qualifying Features (Summary)	Potential Connectivity / Impact Pathway	Taken forward for Appropriate Assessment
Teesmouth and Cleveland Coast SPA (Marine Components GB)	Within the Site (12.72 ha, 0.10% of designation) Only 12.20 ha will be impacted by the Proposed Development (i.e. proposed quay and associated marine working area) as 0.50 ha consists of the existing underground River Tees tunnel.	The SPA site qualifies under Article 4 of the Birds Directive for the following reasons: The SPA site regularly supports more than 1% of the Great Britain populations of five species listed in Annex I of the Birds Directive: • Pied avocet *Recurvirostra avosetta*; • Sandwich tern *Thalasseus sandvicensis*; • Common tern *Sterna hirundo*; • Little tern *Sternula albifrons*; and • Ruff *Calidris pugnax*. The SPA site regularly supports more than 1% of the biogeographic population of two regularly occurring migratory species not listed in Annex I of the Birds Directive; • Red knot *Calidris canutus*; and • Common redshank *Tringa totanus*. The SPA site qualifies under Article 4 of the Birds Directive as it used regularly by over 20,000 waterfowl (waterfowl as defined by the Ramsar Convention) or 20,000 seabirds in any season.	• Direct habitat loss, including habitats that may support qualifying species, as the designated site is located partially within the Site • Indirect habitat degradation of habitats that support qualifying bird species due to pollution pathways • Hydrological changes due to potential changes in water quality or sediment processes within the Tees estuary system operating waterbody • Hydrodynamic changes due to potential changes in water quality or sediment processes within the Tees estuary system • Air quality impacts on qualifying habitats from works in construction and operation, particularly nitrogen deposition • Disturbance from noise and vibration to qualifying bird species due to construction and operation works	Yes

Designated Site	Approximate Distance & Direction from the Site	Qualifying Features (Summary)	Potential Connectivity / Impact Pathway	Taken forward for Appropriate Assessment
			• Visual disturbance to qualifying bird species due to artificial lighting and loss of sightlines • Loss of functionally linked land as areas of the SPA lie directly within and adjacent to the Site • The spread and introduction of INNS due to transport of matter and vessels with potentially contaminated material associated with construction and operation.)	
Teesmouth and Cleveland Coast Ramsar	Adjacent to the Site	Teesmouth and Cleveland Coast Ramsar site is designated as a wetland of international importance because: The Ramsar site qualifies under Ramsar criterion 5 as it is regularly used by over 20,000 waterbirds in any season; The Ramsar site qualifies under criterion 6 as it is regularly used by 1% or more of the biogeographic populations of the following bird species in any season: • Red knot; and • Common redshank.	• Indirect habitat degradation of habitats that support qualifying bird species due to pollution pathways • Hydrological changes due to potential changes in water quality or sediment processes within the Tees estuary system operating waterbody • Hydrodynamic changes due to potential changes in water quality or sediment processes within the Tees estuary system • Air quality impacts on qualifying habitats from works in construction and operation, particularly nitrogen deposition • Disturbance from noise and vibration to qualifying bird	Yes

Designated Site	Approximate Distance & Direction from the Site	Qualifying Features (Summary)	Potential Connectivity / Impact Pathway	Taken forward for Appropriate Assessment
			species due to construction and operation works • Visual disturbance to qualifying bird species due to artificial lighting and loss of sightlines • Loss of functionally linked land as areas of the Ramsar lie directly adjacent to the Site • The spread and introduction of INNS due to transport of matter and vessels with potentially contaminated material associated with construction and operation	
North York Moors SPA	10.00km south	The SPA site qualifies under article 4.1 of the Birds Directive as it is used regularly by 1% or more of the Great Britain population of two species listed in Annex I of the Birds Directive in any season: • Merlin *Falco columbarius*; and • European golden plover *Pluvialis apricaria*.	• Air quality impacts on qualifying habitats from works in construction and operation, particularly nitrogen deposition • Disturbance from noise and vibration to qualifying bird species due to construction and operation works • Visual disturbance to qualifying bird species due to artificial lighting and loss of sightlines • Loss of functionally linked land as the Site lies within the potential foraging ranges of qualifying bird species	Yes

Designated Site	Approximate Distance & Direction from the Site	Qualifying Features (Summary)	Potential Connectivity / Impact Pathway	Taken forward for Appropriate Assessment
North York Moors SAC	10.00km south	The SAC site is designated under article 4(4) of the Habitats Directive as it hosts the following habitats listed in Annex I of the Habitats Directive: • Blanket bogs (Annex I priority habitat) • European dry heaths • Northern Atlantic wet heaths with *Erica tetralix*. (Wet heathland with cross-leaved heath)	Air quality impacts on qualifying habitats from works in construction and operation, particularly nitrogen deposition	Yes
Northumbria Coast SPA	13.49km north	The SPA site qualifies under Article 4 of the Birds Directive for the following reasons: The SPA site regularly supports more than 1% of the GB populations of two species listed in Annex I of the Birds Directive: • Arctic tern *Sterna paradisaea*; and • Little tern The SPA site regularly supports more than 1% of the biogeographical population of two regularly occurring migratory species not listed in Annex I of the Birds Directive: • Turnstone *Arenaria interpres*; and • Purple sandpiper *Calidris maritima*.	• Air quality impacts from works in construction and operation, particularly nitrogen deposition • Loss of functionally linked land as the Site lies within the potential foraging ranges of qualifying bird species • The spread and introduction of INNS due to transport of vessels with potentially contaminated material associated with construction and operation	Yes
Northumbria Coast Ramsar	13.49km north	The Ramsar site supports internationally important wintering populations of turnstone and purple sandpiper.	• Air quality impacts from works in construction and operation, particularly nitrogen deposition • Loss of functionally linked land as the Site lies within the potential	Yes

Designated Site	Approximate Distance & Direction from the Site	Qualifying Features (Summary)	Potential Connectivity / Impact Pathway	Taken forward for Appropriate Assessment
			foraging ranges of qualifying bird species • The spread and introduction of INNS due to transport of vessels with potentially contaminated material	
Durham Coast SAC	13.49km north	The SAC site is designated under article 4(4) of the Habitats Directive as it hosts the following habitats listed in Annex I of the Habitats Directive: • Vegetated sea cliffs of the Atlantic and Baltic coasts.	• Air quality impacts from works in construction and operation, particularly nitrogen deposition • The spread and introduction of INNS due to transport of vessels with potentially contaminated material associated with construction and operation	Yes
Castle Eden Dene SAC* *(Castle Eden Dene SAC is outside the traditional zone of influence for impacts on European designated sites but has been included following guidance from Natural*	16.85km north-west	Castle Eden Dene SAC is the largest and biologically the richest of a series of steep-sided wooded denes, formed as deep ravines in the Magnesian Limestone and boulder clay of the Durham Coast. Due to difficult terrain large parts of the woodland remain free from human disturbance. Majority of the woodland on base-rich soils with ash *Fraxinus excelsior* and wych elm *Ulmus glabra* as the main canopy species. The boulder clay slopes of the dene are unstable and prone to land slipes which become colonised with a wide range of ruderal and wetland plants with giant horsetail *Equisetum telmateia* often abundant, however in time willow *Salix* sp. scrub becomes established.	Air quality impacts from works in construction and operation, particularly nitrogen deposition	Yes

Designated Site	Approximate Distance & Direction from the Site	Qualifying Features (Summary)	Potential Connectivity / Impact Pathway	Taken forward for Appropriate Assessment
England in the Environmental Impact Assessment Consultation1 due to the high sensitivity of the site to nitrogen deposition)		At the western end of the dene is a small grassland containing species such as blue moor-grass *Sesleria albicans*, rock rose *Helianthemum nummularium* and fragrant orchid *Gymnadenia conopsea*. The SAC site is rich in insects with a large population of nationally and regionally rare species including the elm feeding moth, Blomer's rivulet *Discoloxia blomeri*.		

6.3 European Sites Taken Forward for Assessment

6.3.1 All eight European sites identified within the study area were taken forward for assessment. A summary of the qualifying features, conservation objectives and potential impact pathways relevant to each site is provided below.

Teesmouth and Cleveland Coast SPA (Marine Components GB)

6.3.2 The Teesmouth and Cleveland Coast SPA (Marine Component GB) is located partially within the Site. It is designated for its waterfowl assemblage and for supporting the regular usage by 1% or more of the biogeographic populations of a range of wader and tern species, including some species listed on Annex 1. Natural England's conservation objectives for the SPA site [Ref 18] seek to maintain or restore the populations of the qualifying species and the integrity, condition, structure and function of habitats that support these species, in particular coastal and intertidal habitats.

6.3.3 With reference to the Proposed Development, Natural England's site improvement plan [Ref 19] lists pressures/threats including physical modification, direct land take from development, water pollution, inappropriate water levels, coastal squeeze, changes to site conditions and air pollution: impact of atmospheric nitrogen deposition. As the designated site is located partially within the Proposed Development boundary and is designated for mobile qualifying bird species, there are multiple potential impact pathways to this site, including direct habitat loss of qualifying habitats due to quay construction, indirect habitat degradation, hydrological change, hydrodynamic change, air quality impacts on habitats that support qualifying bird species, disturbance from noise and vibration during construction and operation, visual disturbance, introduction and spread of INNS and loss of functionally linked land. The SPA has therefore been taken forward for further assessment within this HRA due to the potential for direct and indirect impact pathways between the Proposed Development and its qualifying features.

Teesmouth and Cleveland Coast Ramsar

6.3.4 The Teesmouth and Cleveland Coast Ramsar is located directly adjacent to the Site. It is designated for its waterfowl assemblage and for supporting the regular usage by 1% or more of the biogeographic populations of red knot and common redshank. As the designated site is located directly adjacent to the Proposed Development boundary and is designated for mobile qualifying bird species, there are multiple potential impact pathways to this site, including indirect habitat degradation, hydrological change,

hydrodynamic change, air quality impacts on habitats that support qualifying bird species, disturbance from noise and vibration, visual disturbance, introduction and spread of INNS and loss of functionally linked land. The Ramsar site has therefore been taken forward for further assessment within this HRA due to the potential for impact pathways between the Proposed Development and its qualifying features.

North York Moors SPA

6.3.5 The North York Moors SPA is located approximately 10.03km south of the Site. It is designated for supporting the regular usage by 1% or more of the biogeographic populations of Annex 1 species, merlin and golden plover. The site's conservation objectives seek to maintain or restore the populations of the qualifying species and the integrity, condition, structure and function of habitats that support these species. With reference to the Proposed Development, there is a Natural England conservation objective [Ref 20] to restore concentrations and deposition of air pollutants to at or below the site-relevant Critical Load or Level values given for this feature's supporting habitats. The Natural England site improvement plan [Ref 21] also lists pressures/threats relevant to the Proposed Development, including air pollution: impact of atmospheric nitrogen deposition and a Site Nitrogen Action Plan is recommended. As the designated site is located within 20km of the Site and is designated for mobile qualifying bird species, there are multiple potential impact pathways to this site, including air quality impacts on habitats that support qualifying bird species, disturbance from noise and vibration, visual disturbance and loss of functionally linked land. The SPA has therefore been taken forward for further assessment within this HRA due to the potential for impact pathways relating to air quality and qualifying bird species.

North York Moors SAC

6.3.6 The North York Moors is located approximately 10.03km south of the Site. It is designated for supporting Annex 1 habitats including blanket bog, European dry heaths and Northern Atlantic wet heaths with *Erica tetralix* (Wet heathland with cross-leaved heath). The site's conservation objectives seek to maintain or restore the integrity, condition, structure and function of habitats the site is designated for. With reference to the Proposed Development, there is a Natural England conservation objective [Ref 22] to restore concentrations and deposition of air pollutants to at or below the site-relevant Critical Load or Level values given for this feature's supporting habitats. The Natural England site improvement plan [Ref 23] also lists pressures/threats relevant to the Proposed Development, including air pollution: impact of atmospheric nitrogen deposition and a Site Nitrogen

Action Plan is recommended. As the designated site is located within 20km of the Site and is designated for habitats sensitive to air pollution, there is a potential impact pathway to this site, namely through air quality impacts on qualifying habitats. The SAC has therefore been taken forward for further assessment within this HRA due to the potential for air quality and atmospheric nitrogen deposition effects on qualifying habitats.

Northumbria Coast SPA

6.3.7 The Northumbria Coast SPA is located approximately 13.49km north of the Site. It is designated for supporting the regular usage by 1% or more of the biogeographic populations of Annex 1 species arctic tern and for supporting more than 1% of the biogeographical population of two regularly occurring migratory species not listed in Annex I, including turnstone and purple sandpiper. The Natural England site conservation objectives [Ref 24] seek to maintain or restore the populations of the qualifying species and the integrity, condition, structure and function of habitats that support these species. With reference to the Proposed Development, the Natural England site improvement plan [Ref 25] lists prioritised issues for the site including water pollution, coastal squeeze, transportation and service corridors, change in land management and air pollution: risk of atmospheric nitrogen deposition. As the designated site is located within 20km of the Site and is designated for mobile qualifying bird species, there are multiple potential impact pathways to this site, including air quality impacts on habitats that support qualifying bird species, disturbance from noise and vibration, visual disturbance, introduction and spread of INNS and loss of functionally linked land. The SPA has therefore been taken forward for further assessment within this HRA due to the potential for impact pathways affecting its qualifying features.

Northumbria Coast Ramsar

6.3.8 The Northumbria Coast Ramsar is located approximately 13.49km north of the Site. It is designated for supporting internationally important wintering populations of turnstone and purple sandpiper. As the designated site is located within 20km of the Site and is designated for mobile qualifying bird species, there are multiple potential impact pathways to this site, including air quality impacts on habitats that support qualifying bird species, disturbance from noise and vibration, visual disturbance, introduction and spread of INNS and loss of functionally linked land. The Ramsar site has therefore been taken forward for further assessment within this HRA due to the potential for impact pathways affecting its qualifying features.

Durham Coast SAC

6.3.9 The Durham Coast is located approximately 13.49km north of the Site. It is designated for supporting Annex I habitats including vegetated sea cliffs of the Atlantic and Baltic coasts. The site's conservation objectives seek to maintain or restore the integrity, condition, structure and function of habitats the site is designated for. With reference to the Proposed Development, there is a Natural England conservation objective [Ref 26] to restore as necessary the concentrations and deposition of air pollutants to or below the site-relevant Critical Load or Level values as the qualifying habitat is considered to be sensitive to changes in air quality. The Natural England SAC site improvement plan [Ref 27] lists prioritised issues for the site but none of which relate directly to the Proposed Development. As the designated site is located within 20km of the Site there are potential impact pathways including air quality impacts on qualifying habitats and introduction and spread of INNS. The SAC has therefore been taken forward for further assessment within this HRA due to the potential for impact pathways affecting its qualifying habitats.

Castle Eden Dene SAC

6.3.10 The Castle Eden Dene SAC is located approximately 16.85km north-west of the Site. The site is designated for supporting the priority habitat type H91J0 *Taxus baccata* (Yew) woods of the British Isles which is associated with a variety of insects, including a large population of nationally and regionally rare species including the elm feeding moth, Blomer's rivulet. The SAC site's conservation objectives seek to maintain or restore the integrity, condition, structure and function of habitats the site is designated for. With reference to the Proposed Development, there is a Natural England conservation objective [Ref 28] to restore as necessary the concentrations and deposition of air pollutants to below the site-relevant Critical Load or Level values, as the qualifying habitat is considered to be sensitive to air quality changes. The Natural England site improvement plan [Ref 29] also states that a site nitrogen action plan should be implemented. As the designated site is located within 20km of the Site and is designated for habitats sensitive to air pollution, there is a potential impact pathway to this site, namely through air quality impacts on qualifying habitats. As the SAC site is designated for habitats sensitive to atmospheric pollution and was specifically identified by Natural England during the Environmental Impact Assessment Scoping Consultation, it has been taken forward for further assessment in relation to air quality and atmospheric nitrogen deposition.

6.4 Sites Screened Out

6.4.1 No European sites identified within the study area were screened out at this stage. All eight sites were taken forward for assessment due to the potential for one or more impact pathways between the Proposed Development and their qualifying features.

6.5 Summary of Assessment Scope

6.5.1 In summary, eight European sites were identified within the study area and all were taken forward for assessment due to the potential for one or more impact pathways between the Proposed Development and their qualifying features. Section 7 presents the Stage 1 screening assessment, including consideration of LSEs both alone and in-combination with other plans and projects. Where LSEs cannot be excluded, the relevant pathways are subsequently considered within the Appropriate Assessment.

7 Stage 1 Screening Assessment - Assessment of Likely Significant Effects

7.1.1 The following Stage 1 screening assessment considers whether the identified source–pathway–receptor linkages between the Proposed Development and the European sites identified in Section 6 could result in LSEs, either alone or in-combination with other plans or projects. The assessment has been undertaken applying the precautionary principle and without reliance on mitigation measures, in accordance with *People Over Wind* (C-323/17) [Ref 41].

7.2 Identification of Potential Impact Pathways

7.2.1 Potential impact pathways have been identified based on the characteristics of the Proposed Development, its location and the sensitivities of European sites identified in Section 6.

7.2.2 The following potential pathways were considered, reflecting standard professional practice and relevant guidance from Natural England and the Planning Inspectorate:

- Direct habitat loss or physical damage to European designated sites or supporting habitats;
- Indirect habitat degradation effects such as edge effects;
- Hydrological change and water quality effects arising from surface or groundwater flows;
- Hydrodynamic changes from alterations to water features;
- Air quality and atmospheric deposition associated with construction or operational emissions;
- Disturbance from noise, vibration, or human activity;
- Visual disturbance from artificial lighting, or loss of sightlines;
- Loss or fragmentation of FLL used by mobile qualifying species; and
- Introduction or spread of INNS through material handling, site runoff or vessel movements.

7.2.3 The potential impact pathways have been assessed below for each designated site screened in.

Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar

7.2.4 Table 7.1 summarises the potential impact pathways considered for the Proposed Development and the outcome of the source–pathway–receptor analysis for Teesmouth and Cleveland Coast SPA (Marine Components GB) and Teesmouth and Cleveland Coast Ramsar site. These European designated sites have been considered together due to their similarity in designation type, footprint and potential impact pathways. Where a complete linkage between source, pathway and receptor (Teesmouth and Cleveland Coast SPA (Marine Components GB) and Teesmouth and Cleveland Coast Ramsar) could not be established, the pathway has been excluded from further assessment.

Table 7.1 Potential Impact Pathways for Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar

Impact Pathway	Phase	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
Direct Habitat Loss /Damage	Construction	Construction of infrastructure within a European designated site boundary	Potential for direct loss of habitat within a European designated site	Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar	The Site includes an area (12.20 ha, 0.09% of designation) of the Teesmouth and Cleveland Coast SPA (Marine Components GB) that will be directly impacted by the Proposed Development due to dredging activities. Therefore, there is a direct potential land-take pathway expected for Teesmouth and Cleveland Coast SPA (Marine Components GB). Based on currently available information, it is anticipated that habitats at the proposed quay location, above the mean high-water mark, will be permanently lost. While these habitats are artificial, their potential function to support SPA qualifying species must be considered and LSE cannot be ruled out. Capital dredging and associated marine construction works (including jetty demolition, quay construction and vessel anchoring) have the potential to cause direct loss and disturbance of subtidal habitats and benthic communities within the footprint of the works. Dredging of approximately 500,000–1,000,000 m³ of sediment will remove seabed material and generate temporary sediment plumes that may smother benthic organisms and alter habitat conditions, although effects are expected to be largely localised and are considered reversible. While baseline subtidal communities within the footprint are not of high conservation value, a precautionary approach has been adopted. Teesmouth and Cleveland Coast Ramsar lies directly adjacent to the Proposed Development. Therefore, no direct land-take pathway is expected for Teesmouth and Cleveland Coast Ramsar.	Yes – AA required (Teesmouth and Cleveland Coast SPA (Marine Components GB) only)
Indirect Habitat Degradation (Edge Effects)	Construction	Earthworks, excavation and traffic in proximity to a European designated site.	Potential dispersal of dust emission and pollution	Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar	The Proposed Development lies within the Teesmouth and Cleveland Coast SPA (Marine Components GB) and is adjacent to the Teesmouth and Cleveland Coast Ramsar. Therefore, the European designated sites are within the ZoI for construction dust and NRMM set by the Institute of Air Quality Management (IAQM) [Ref 30] (up to 50m from the Proposed Development and construction traffic route (up to 250m from the Site entrance(s))). This dust may settle on habitats within the European designated sites, smothering vegetation and potentially polluting the soil/vegetation if the dust is contaminated. This may lead to a temporary or permanent impact on habitats within the European designated sites, causing habitat degradation. While the **fCEMP (Appendix 5A, ES Volume III, Application Document Ref. 6.3)** has been prepared, this cannot be relied upon at screening stage. As the LSEs from dust and pollution cannot be ruled out, it is identified that there is a potential impact pathway to cause indirect habitat degradation.	Yes – AA required

Impact Pathway	Phase	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
	Operation	Operational traffic and construction of structures in proximity to a European designated site.	Potential dispersal of dust and shading from constructed structures	Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar	The Proposed Development lies within the Teesmouth and Cleveland Coast SPA (Marine Components GB) and is adjacent to the Teesmouth and Cleveland Coast Ramsar. Operational traffic may promote the dispersal of dust. This dust may settle on habitats within the European designated sites, smothering vegetation. This may lead to a temporary or permanent impact on habitats within the European designated sites, causing habitat degradation. The size and masterplan of structures within the Main Site are yet to be confirmed. It is expected that the highest structures will be flares and stacks which are projected to have a maximum height of 140m. The 140m stacks are currently proposed to be located in the centre of the main site, and other sizeable infrastructure is located at least 100m from perimeter areas (see Figure 4.1: Indicative Proposed Development Layout (**Environmental Statement (ES) Volume II, Document Ref. 6.2**). Their location is therefore considered a sufficient distance from the Teesmouth and Cleveland Coast SPA and Ramsar site, and areas identified as FLL, that habitat degradation of these areas as a result of possible shading impacts is unlikely. Therefore, the LSEs from dust and shading cannot be ruled out and further assessment is required.	
Hydrological Change and Water-Quality	Construction	Construction runoff, piling, capital dredging, spillage	Potential entry of silt, sediment, or pollutants to surface water draining into the receiving waterbody	Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar – riverine and estuarine habitats and associated qualifying bird species	The Proposed Development will be located partly within the River Tees channel and therefore is directly hydrologically connected to the Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar. Works will take place within the River Tees itself, including the demolition of jetties and new quay construction which could increase turbidity. Water quality could also be affected through the release of pre-existing potentially contaminated materials from piling, capital or maintenance dredging and increased wave wash from associated works such as navigation. There could be an increase in the amount and/or concentration of pollution entering the water bodies. For example, from mobilised sediment-laden runoff, spillage of fuels or other harmful substances that may enter surface water and/or groundwater receptors. There are potential changes to groundwater levels, flow pathways and/or water quality arising from construction activities. These impacts are primarily associated with dewatering, earthworks and intrusive investigation works creating new flow paths for groundwater. During construction there are also potential impact pathways on receiving surface water and/or groundwater quality from the leaching of contaminants from soils into groundwater. These impacts could contribute to decreasing water quality in the estuary. Therefore, as a precaution, it is viewed that there is a potential impact pathway in relation to water quality.	Yes – AA required

Impact Pathway	Phase	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
	Operational	Increased navigation traffic, maintenance dredging, discharge of effluent water	Potential for increased suspension of sediment and degradation of water quality in the receiving waterbody	Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar – riverine and estuarine habitats and associated qualifying bird species	The Proposed Development will be located partly within the River Tees channel and therefore is directly hydrologically connected to the Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar. Operations will be conducted within the River Tees itself. The Proposed Development is in an area already subject to maintenance dredging and river traffic. As a consequence of the Proposed Development, there could be changes to water quality (including suspension of sediment bound contaminants) within the River Tees associated with operational navigation (including from wave wash disturbing sediment) and a larger area where maintenance dredging is required. The Proposed Development will also pipe wastewater to the nearby Bran Sands WwTW for treatment. Treated wastewater is anticipated to be discharged to Tees Bay via NWL's proposed new outfall from Bran Sands WwTW which is anticipated to be in use by the time the Proposed Development becomes operational. As there is a potential for the Proposed Development to result in decreased water quality in operation this is assessed as a potential impact pathway.	Yes – AA required
Hydrodynamic changes	Operation	Alteration of water features	Potential to impact hydrodynamics and increase erosion up and/or downstream	Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar – riverine and estuarine habitats and associated qualifying bird species	The Proposed Development's new quay will operate within the River Tees channel and catchment and therefore the Proposed Development is directly hydrologically connected to the Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar. Following works within or near water features there is the potential for permanent impact on the hydro-morphological qualities of these features. There is also the potential introduction of a barrier to river flow and changes to surface water and/or groundwater connectivity which could also cause permanent impacts to catchment hydrology. An assessment of impacts on hydrodynamic forcing and sediment pathways from the Proposed Development revealed subsequent changes to be small with no predicted impact on erosion and sedimentation rates in the capital dredging area or wider estuary. The magnitude of impact is considered low within the vicinity of the capital dredging area and very low in the wider estuary, indicating that there is no impact pathway to cause hydrodynamic changes.	Yes – AA required
Air Quality and Atmospheric Deposition	Construction	Construction dust and construction traffic, including shipping traffic	Potential dispersal of dust and air pollution	Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar	The Proposed Development lies within the Teesmouth and Cleveland Coast SPA (Marine Components GB) and is adjacent to the Teesmouth and Cleveland Coast Ramsar. Therefore, the designated site is within the ZoI for construction dust and NRMM as outlined by IAQM [Ref 30] (up to 50m from	Yes – AA required

Impact Pathway	Phase	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
					the Proposed Development and construction traffic route (up to 250m from the Site entrance)); traffic emissions as set out by Environmental Protection UK (EPUK)/IAQM guidance [Ref 31]; and shipping traffic outlined in Local Air Quality Management (LAQM) Technical Guidance (TG) [Ref 32]. During the construction phase, local air pollution (nitrogen oxides (NO_x), ammonia (NH_3), nitrogen deposition, acid deposition, nitrogen dioxide (NO_2)) may be increased by increased road and sea movements associated with the Proposed Development. These movements may cause a temporary or permanent impact on habitats within the European designated sites, causing habitat degradation. All types of air pollution, excluding nitrogen deposition, were assessed to have insignificant results on the Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar. Due to nitrogen deposition being >1% and the Predicted Environmental Concentration (PEC) exceeding 70% of the critical load at these locations, nitrogen deposition could not be initially screened out of further assessment. These results can be considered to be not significant using professional judgement, given the highly conservative nature of the data used in the modelling. Therefore, it cannot be excluded that the impact pathway may result in a LSE and the pathway is taken forward to Appropriate Assessment.	
	Operation	Operational road traffic, operational shipping traffic, emissions from operational plant	Potential dispersal of dust and air pollution	Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar	The Proposed Development lies within the Teesmouth and Cleveland Coast SPA (Marine Components GB) and is adjacent to the Teesmouth and Cleveland Coast Ramsar. Therefore, the European designated sites are within the zone of influence for air pollution produced by operational traffic; shipping as defined by LAQM TG [Ref 32]; and for operational plant emissions as outlined by the EA [Ref 33]. The emissions from operational traffic and shipping have been assessed to have expected negligible impacts on air quality for these European designated sites. This is based on the modelled concentrations being less than 1% of the relevant critical level or critical load. In relation to operational plant, all air pollutants assessed (NO_x, NH_3, sulphur dioxide (SO_2), hydrogen fluoride (HF), acid deposition and metals) excluding nitrogen deposition, were assessed to have insignificant results on the Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar. However, impacts from nitrogen deposition cannot be screened out as insignificant as they are over 1% of the lower end of the critical load, in line with EA guidance. However, the air quality assessment of operational impacts has assumed that the Best Available Technique – Associated Emission Levels (BAT-AELs) will be met for the operational plant as required under the Industrial Emissions Directive (IED) and in accordance with the use of BAT under the Environmental Permitting regime. As a form of embedded mitigation, the emissions of NO_x will be controlled to the required BAT-AELs through the use of low-NO_x burners and Selective Non-Catalytic Reduction/Selective Catalytic Reduction (SNCR/SCR). As the use of SNCR/SCR to	Yes – AA required

Impact Pathway	Phase	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
					reduce NOX emissions can result in an emission of NH3 slip, further abatement through additional mitigation may be required (such as wet scrubbing) to reduce the potential emissions of NH3 to ensure that nitrogen deposition impacts are considered acceptable. Therefore, it cannot be excluded that the impact pathway may result in a LSE and the pathway is taken forward to Appropriate Assessment.	
Disturbance (Noise, Vibration, Human Activity)	Construction	Construction activities including drilling and piling	Disturbance to birds through noise and vibration	Teesmouth and Cleveland Coast SPA (Marine Components GB) – qualifying bird species	The Proposed Development lies within the Teesmouth and Cleveland Coast SPA (Marine Components GB) and is adjacent to the Teesmouth and Cleveland Coast Ramsar. Construction activities such as drilling and piling are expected to occur within the Proposed Development and lead to an increase in noise and vibration at land within and functionally linked to the European designated sites. Construction is expected to lead to an increase in noise and vibration from activities including site preparation, enabling works and removal of existing foundations and hard ground (including breaking and crushing concrete); earthworks and excavation (including import and placement of fill); transporting, unloading and installation of modules; percussive piling activities; and installation of pipelines and utilities. There is potential that noise breakout from construction areas and laydown areas spill into adjacent habitats and affect qualifying species which may then avoid certain habitats, affecting their foraging, commuting, roosting or other activities. The **fCEMP (Appendix 5A, ES Volume III, Application Document Ref. 6.3)** sets out industry good practice mitigation measures during the construction phase. A baseline noise survey and construction noise assessment has taken place and has indicated that significant noise impacts will occur without mitigation. Therefore, further assessment is required.	Yes – AA required
	Operation	Operational noise	Disturbance to birds through noise	Teesmouth and Cleveland Coast SPA (Marine Components GB) – qualifying bird species	The Proposed Development lies within the Teesmouth and Cleveland Coast SPA (Marine Components GB) and is adjacent to the Teesmouth and Cleveland Coast Ramsar. Operational activities within the Main Site are expected to increase noise and vibration levels on land within and functionally linked to the European designated sites. No operational noise modelling without embedded mitigation has been performed to identify areas where operational noise would exceed the threshold for impacting ecological receptors. Therefore, using the precautionary principle areas where the noise threshold is expected to be exceeded include the Main Site, including the proposed quay, and surrounding areas such as the reclamation pond. Baseline data indicates that flocks of lapwing and herring gull use the Main Site and quayside to forage, breed and overwinter. These qualifying species will be displaced by the construction of the Proposed Development however herring gull are likely habituated to the industrial area and could recolonise less active parts of the Main Site during the operational phase. As there are potential impacts to	Yes – AA required

Impact Pathway	Phase	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
					qualifying bird species from disturbance from operational noise, further assessment is required.	
Visual disturbance (artificial lighting and loss of sightlines)	Construction	Artificial lighting used in construction	Disturbance to birds through artificial changes to lighting levels	Teesmouth and Cleveland Coast SPA (Marine Component GB) – qualifying bird species	The Proposed Development lies within the Teesmouth and Cleveland Coast SPA (Marine Components GB) and is adjacent to the Teesmouth and Cleveland Coast Ramsar. Artificial lighting used during construction will be focused on works areas or those used by personnel working on the Proposed Development within the Proposed Development boundary. There is the potential that light spill from artificial lighting could impact the land within and functionally linked to the European designated sites and consequently the qualifying bird species found there. Artificial lighting can cause birds to avoid certain habitats, affecting their foraging, commuting, breeding or other activities. Alternatively, lighting may illuminate nests making them more prone to predation. The **fCEMP (Appendix 5A, ES Volume III, Application Document Ref. 6.3)** and **the Framework Lighting Strategy (Appendix 13C, ES Volume III, Application Document Ref. 6.3)** set out industry good practice mitigation measures during the construction phase. However, the overall construction lighting requirements are not yet known, so as a precaution, further assessment is required on the impacts of artificial lighting on qualifying bird species.	Yes – AA required
	Operation	Proposed development resulting in operational artificial lighting and loss of sightlines	Visual disturbance to birds	Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar – qualifying bird species	The Proposed Development lies within the Teesmouth and Cleveland Coast SPA (Marine Components GB) and is adjacent to the Teesmouth and Cleveland Coast Ramsar. External lighting will be used in operation and there is the potential that light spill from artificial lighting could impact the land within and functionally linked to the European designated sites and consequently the qualifying bird species found there. Artificial lighting can cause birds to avoid certain habitats, affecting their foraging, commuting, breeding or other activities. Alternatively, lighting may illuminate nests making them more prone to predation. The **Framework Lighting Strategy (Appendix 13C, ES Volume III, Application Document Ref. 6.3)** sets out the approach to operational lighting design for the Proposed Development. Control measures include that lighting will be designed to include shielded and directional luminaries to limit the amount of light spill. The structures constructed as a part of the Proposed Development could also cause visual disturbance and a loss of sightlines for qualifying bird species utilising the Teesmouth and Cleveland Coast SPA and Ramsar. Disturbing and/or	Yes – AA required

Impact Pathway	Phase	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
					removing existing sightlines could affect qualifying bird species within and adjacent to the Main Site as they may then avoid certain habitats, affecting their foraging, commuting, breeding or other activities. As a precaution, the impact of visual disturbance on qualifying bird species during operation requires further assessment.	
Habitat Fragmentation or Connectivity Loss (Functionally Linked Land)	Construction	Construction of Proposed Development within a designated site and adjacent functionally linked land	Loss of functionally linked habitat	Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar – qualifying bird species	The Proposed Development lies within the Teesmouth and Cleveland Coast SPA (Marine Components GB) and is adjacent to the Teesmouth and Cleveland Coast Ramsar. During construction, functionally linked land may be permanently or temporarily lost due to habitat loss, loss of sightlines, noise pollution or water pollution, [redacted] Therefore, there is a potential significant effect relating to the loss of functionally linked land of the European designated sites, further assessment required.	Yes – AA required
Introduction or Spread of Non-Native / Invasive Species	Construction	Construction involving contaminated soil or plant material	Transport of propagules or organisms considered to be non-native/invasive	Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar	There is evidence of terrestrial INNS on Site. As set out in the **fCEMP (Appendix 5A, ES Volume III, Application Document Ref. 6.3)**, there will be an invasive species management plan implemented during construction to prevent the introduction of spread of these species. The existing aquatic/marine INNS present within the vicinity of the Proposed Development are limited and none appear to be detrimental to native species habitats, diversity or ecosystem functioning. Therefore, it cannot be excluded that the impact pathway may result in a LSE and the pathway is taken forward with further assessment required.	Yes – AA required
	Operation	Ballast water exchange and biofouling from vessels	Transport of propagules or organisms considered to be non-native/invasive	Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar	The existing aquatic/marine INNS present within the vicinity of the Proposed Development are limited and none appear to be detrimental to native species habitats, diversity or ecosystem functioning. However, ballast water exchange and biofouling may increase the numbers of these species and introduce new species into the Tees Estuary. Therefore, without mitigation, it cannot be excluded that the impact pathway may result in a LSE and the pathway is taken forward, further assessment required.	Yes – AA required

North York Moors SPA

7.2.5 Table 7.2 summarises the potential impact pathways considered for the Proposed Development and the outcome of the source–pathway–receptor analysis for North York Moors SPA. Where a complete linkage between source, pathway and receptor (North York Moors SPA) could not be established, the pathway has been excluded from further assessment.

Table 7.2 Potential Impact Pathways for North York Moors SPA

Impact Pathway	Phase	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
Air Quality and Atmospheric Deposition	Construction	Construction dust and construction traffic, including shipping traffic	Potential dispersal of dust and air pollution	North York Moors SPA and qualifying species	North York Moors SPA lies approximately 10km south of the Site. The North York Moors SPA is out of the ZoI related to air pollution for construction dust (250m [Ref 34]), construction traffic (200m) and shipping traffic (1km from shipping route) as calculated in **Appendix 8A: Construction Air Quality Assessment (ES Volume III, Application Document Ref. 6.3)**. Therefore, no air quality pathways are expected for this site in construction.	No - pathway excluded
	Operation	Operational road traffic, operational shipping traffic, emissions from operational plant	Potential dispersal of dust and air pollution	North York Moors SPA and qualifying bird species	North York Moors SPA lies approximately 10km south of the Site. The North York Moors SPA is outside the ZoI related to air pollution for operational traffic and shipping. The North York Moors SPA is within the ZoI related to air pollution for operational plant but it has been assessed that there are insignificant impacts on air quality for this European designated site expected from this pathway. Operational emission concentrations have been based on the BAT-AELs for the relevant processes being carried out, or where lower emission concentrations are required to ensure impacts are acceptable, these have been modelled. Due to the early stage of plant design, conservative assumptions on emission parameters and concentration have been taken, and therefore it is anticipated that actual impacts from the operation of the Proposed Development may be lower than those presented in the assessment. Therefore, it cannot be excluded that the impact pathway may result in a LSE and the pathway is taken forward with further assessment required.	Yes – AA required
Disturbance (Noise, Vibration, Human Activity)	Construction	Construction activities including drilling and piling	Disturbance to birds through noise and vibration	North York Moors SPA and qualifying bird species	Construction activities are expected to occur within the Proposed Development and lead to an increase in noise. This could disturb qualifying bird species, but the North York Moors SPA lies approximately 10.03km south of the Proposed Development, so is likely beyond the range for significant impact on bird populations. Furthermore, the North York Moors SPA is designated for breeding bird species, golden plover and merlin. Both species breed in upland moorland. During the breeding season merlin forage over open habitats such as moorland and blanket bog where they hunt small birds, especially meadow pipit *Anthis pratensis*. They have a core foraging range during the breeding season of 5km [Ref 35] so the Site, is not deemed to be FLL to the North York Moors SPA . During the breeding season golden plover have a core foraging area of 3km with a maximum foraging range of 11km [Ref 35]. Golden plover forage during the breeding season in areas of bog, cotton-grass (*Eriophorum*) mires, mosaics of grass, moss and low heather and improved grazed pastures. The Site does not contain these habitats and is not considered to be FLL. As such birds will not be disturbed by operational noise whilst on FLL, Therefore, the impacts of operational noise and vibration on qualifying bird species are likely to be insignificant.	No – pathway excluded

Impact Pathway	Phase	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
	Operation	Operational noise	Disturbance to birds through noise	North York Moors SPA and qualifying bird species	Operational activities are expected to occur within the Proposed Development and lead to an increase in noise. This could disturb qualifying bird species, but the North York Moors SPA lies approximately 10.03km south of the Proposed Development, so is outside the likely range for significant impact on bird populations. Furthermore, the North York Moors SPA is designated for breeding bird species, golden plover and merlin. Both species breed in upland moorland. During the breeding season merlin forage over open habitats such as moorland and blanket bog where they hunt small birds, especially meadow pipit. The have a core foraging range during the breeding season of 5km [Ref 35] so the Site, is not deemed to be FLL. During the breeding season golden plover have a core foraging area of 3km with a maximum foraging range of 11km [Ref 35]. Golden plover forage during the breeding season in areas of bog, cotton-grass (*Eriophorum* sp.) mires, mosaics of grass, moss and low heather and improved grazed pastures. The Site does not contain these habitats and is not considered to be FLL. As such birds will not be disturbed by operational noise whilst on FLL, Therefore, the impacts of operational noise on qualifying bird species are likely to be insignificant.	No – pathway excluded
Visual disturbance (artificial lighting and loss of sightlines)	Construction	Artificial lighting used in construction	Disturbance to birds through artificial changes to lighting levels	North York Moors SPA and qualifying bird species	Artificial lighting used during construction would be focused on works areas or those used by personnel working on the Proposed Development within the Proposed Development boundary. There is the potential that light spill from artificial lighting could impact the surrounding land (**Appendix 13C: Framework Lighting Strategy (ES Volume III, Application Document Ref. 6.3)**). Artificial lighting can cause birds to avoid certain habitats, affecting their foraging, commuting, breeding or other activities. Alternatively, lighting may illuminate nests making them more prone to predation. The North York Moors SPA lies approximately 10.03km south of the Proposed Development, so is outside the likely range for significant impact on qualifying bird populations. Furthermore, the North York Moors SPA is designated for breeding bird species, golden plover and merlin. Both species breed in upland moorland. During the breeding season merlin forage over open habitats such as moorland and blanket bog where they hunt small birds, especially meadow pipit. The have a core foraging range during the breeding season of 5km [Ref 35] so the Site is not deemed to be FLL. During the breeding season golden plover have a core foraging area of 3km with a maximum foraging range of 11km [Ref 35]. Golden plover forage during the breeding season in areas of bog, cotton-grass (*Eriophorum*) mires, mosaics of grass, moss and low heather and improved grazed pastures. The Site does not contain these habitats and is not considered to be FLL. As such birds will not be disturbed by artificial lighting whilst on FLL. Therefore, the impacts of visual disturbance on qualifying bird species are likely to be insignificant.	No – pathway excluded

Impact Pathway	Phase	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
	Operation	Proposed Development resulting in operational artificial lighting and loss of sightlines	Visual disturbance to birds	North York Moors SPA and qualifying bird species	External lighting will be used in operation and there is the potential that light spill from artificial lighting could impact the surrounding land. Artificial lighting can cause birds to avoid certain habitats, affecting their foraging, commuting, breeding or other activities. Alternatively, lighting may illuminate nests making them more prone to predation. The structures constructed as a part of the Proposed Development could also cause visual disturbance and a loss of sightlines for bird species utilising the North York Moors SPA. The North York Moors SPA lies approximately 10.03km south of the Proposed Development, so is outside the likely range for significant impact on qualifying bird populations. Furthermore, the North York Moors SPA is designated for breeding bird species, golden plover and merlin. Both species breed in upland moorland. During the breeding season merlin forage over open habitats such as moorland and blanket bog where they hunt small birds, especially meadow pipit. The have a core foraging range during the breeding season of 5km [Ref 35] so the Site, is not deemed to be FLL. During the breeding season golden plover have a core foraging area of 3km with a maximum foraging range of 11km [Ref 35]. Golden plover forage during the breeding season in areas of bog, cotton-grass (*Eriophorum*) mires, mosaics of grass, moss and low heather and improved grazed pastures. The Site does not contain these habitats and is not considered to be FLL. As such birds will not be disturbed by artificial lighting whilst on FLL. Therefore, the impacts of visual disturbance on qualifying bird species are likely to be insignificant.	No – pathway excluded
Habitat Fragmentation or Connectivity Loss (Functionally Linked Land)	Construction	Construction of Proposed Development within a designated site and adjacent functionally linked land	Loss of functionally linked habitat	North York Moors SPA and qualifying bird species	The North York Moors SPA lies approximately 10.03km south of the Proposed Development. Between the designated site and Proposed Development there is a mix of arable, urban and industrial land. The North York Moors SPA is designated for breeding bird species, including golden plover and merlin. Both species breed in upland moorland. During the breeding season merlin forage over open habitats such as moorland and blanket bog where they hunt small birds, especially meadow pipit. The have a core foraging range during the breeding season of 5km (**Appendix 10C: Breeding Birds Survey Report (ES Volume III, Application Document Ref. 6.3))** so the Site, is not deemed to be FLL. During the breeding season golden plover have a core foraging area of 3km with a maximum foraging range of 11km (**Appendix 10C: Breeding Birds Survey Report (ES Volume III, Application Document Ref. 6.3))**. Golden plover forage during the breeding season in areas of bog, cotton-grass (*Eriophorum*) mires, mosaics of grass, moss and low heather and improved grazed pastures. However, developments affecting FLL more than 10km from the site are unlikely to impact significantly on designated populations. Furthermore, as the Site does not support the habitat requirements of these species and these species were not record on Site during the bird surveys **(Appendix 10C: Breeding Birds Survey Report and Appendix 10D: Wintering Birds Survey Report (ES Volume III, Application Document Ref. 6.3)**) the Site is not deemed to be FLL that may be lost permanently or temporarily lost due to habitat loss, loss of sightlines, noise pollution or water pollution during construction, pathway excluded from further assessment.	No – pathway excluded

North York Moors SAC

7.2.6 The potential impact pathways to North York Moors SAC have been considered for the Proposed Development and the outcome of the source-pathway-receptor analysis is discussed below. Where a complete linkage between source, pathway and receptor (North York Moors SAC) could not be established, the pathway has been excluded from further assessment.

7.2.7 The North York Moors SAC lies approximately 10km south of the Proposed Development and is within the potential ZoI for some air pollution impact pathways. The North York Moors SAC is outside the ZoI related to air pollution for construction dust and construction traffic and therefore, no air quality pathways are expected for this site in construction. The North York Moors SAC is out of the ZoI related to air pollution for operational traffic and shipping and therefore no impact pathways are expected from operational traffic or shipping. The designated site is however within the ZoI for operational plant emissions as outlined by the EA [Ref 33], but the Proposed Development is assessed to have expected negligible impacts on air quality.

7.2.8 Operational emission concentrations have been based on the BAT-AELs for the relevant processes being carried out, or where lower emission concentrations are required to ensure impacts are acceptable, these have been modelled. Due to the early stage of plant design, conservative assumptions on emission parameters and concentration have been taken, and therefore it is anticipated that actual impacts from the operation of the Proposed Development be lower than those presented in the assessment. Therefore, it cannot be excluded that the impact pathway may result in a LSE and the pathway is taken forward to Appropriate Assessment.

7.2.9 Table 7.3 shows the APIS Critical Nitrogen Levels for the qualifying habitats of the North York Moors SAC.

Table 7.3 APIS Critical Nitrogen Levels for North York Moors SAC

Habitat type	Is the feature sensitive to nitrogen?	Minimum critical load for nitrogen (kg/N/ha/yr)	Maximum critical load for nitrogen (kg/N/ha/yr)	Ammonia critical level (µg/m^3)	NOx critical level (µg/m^3)	SO2 critical level (µg m^3)
Blanket bogs (* if active bog)	Yes	5	10	1	30	10
European dry heaths	Yes	5	15	1	30	10
North Atlantic wet heaths with *Erica tetralix*	Yes	5	15	1	30	10

Northumbria Coast SPA and Northumbria Coast Ramsar

7.2.10 Table 7.4 summarises the potential impact pathways considered for the Proposed Development and the outcome of the source–pathway–receptor analysis for Northumbria Coast SPA and Ramsar. These European designated sites have been considered in a combined assessment due to their similarity in designation type, footprint and potential impact pathways. Where a complete linkage between source, pathway and receptor (Northumbria Coast SPA and Ramsar) could not be established, the pathway has been excluded from further assessment.

Table 7.4 Potential Impact Pathways for Northumbria Coast SPA and Ramsar

Impact Pathway	Phase	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
Air Quality and Atmospheric Deposition	Construction	Construction dust and construction traffic, including shipping traffic	Potential dispersal of dust and air pollution	Northumbria Coast SPA and Ramsar and qualifying bird species	Northumbria Coast SPA and Ramsar lie approximately 13.5km north of the Site. The Northumbria Coast SPA and Ramsar are out of the zone of influence related to air pollution for construction dust, construction traffic and shipping traffic. Therefore, no air quality pathways are expected for this site in construction.	No – pathway excluded
	Operation	Operational road traffic, operational shipping traffic, emissions from operational plant	Potential dispersal of dust and air pollution	Northumbria Coast SPA and Ramsar and qualifying bird species	Northumbria Coast SPA and Ramsar lie approximately 13.5km north of the Site. The Northumbria Coast SPA and Ramsar are out of the ZoI related to air pollution for operational traffic and shipping and therefore no impact pathways are expected from operational traffic and shipping. The European designated sites are within the ZoI for operational plant emissions as outlined by the EA [Ref 33], but this is assessed to have expected negligible impacts on air quality. Operational emission concentrations have been based on the BAT-AELs for the relevant processes being carried out, or where lower emission concentrations are required to ensure impacts are acceptable, these have been modelled. Due to the early stage of plant design, conservative assumptions on emission parameters and concentration have been taken, and therefore it is anticipated that actual impacts from the operation of the Proposed Development be lower than those presented in the assessment. Therefore, it cannot be excluded that the impact pathway may result in a LSE and the pathway is taken forward withfurther assessment required.	Yes – AA Required
Disturbance (Noise, Vibration, Lighting, Human Activity)	Construction	Construction activities including drilling and piling	Disturbance to birds through noise and vibration	Northumbria Coast SPA and Ramsar and qualifying species	Construction activities such as drilling and piling are expected to occur within the Site and lead to an increase in noise and vibration. However, Northumbria Coast SPA and Ramsar are approximately 13.5km north of the Site, so are outside the likely range for significant impact on bird populations. Furthermore, the Northumbria Coast SPA and Ramsar are designated for arctic tern, little tern, turnstone and purple sandpiper. These species breed (where applicable) and forage in marine, intertidal and wetland habitats. These species have an expected impact risk zone of ~500m, so impacts of noise and vibration on qualifying bird species are likely insignificant.	No – pathway excluded

Impact Pathway	Phase	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
	Operation	Operational noise	Disturbance to birds through noise	Northumbria Coast SPA and qualifying species	Operational activities are expected to occur within the Proposed Development and lead to an increase in noise. This could disturb qualifying bird species, but the Northumbria Coast SPA and Ramsar lie approximately 13.5km north of the Proposed Development, so are outside the likely range for significant impact on bird populations. Furthermore, the Northumbria Coast SPA and Ramsar are designated for arctic tern, little tern, turnstone and purple sandpiper. These species breed (where applicable) and forage in marine, intertidal and wetland habitats. These species have an expected impact risk zone of ~500m, so impacts of operational noise on qualifying bird species are likely insignificant.	No – pathway excluded
Visual disturbance (artificial lighting and loss of sightlines)	Construction	Artificial lighting used in construction	Disturbance to birds through artificial changes to lighting levels	Northumbria Coast SPA and Ramsar and qualifying bird species	Artificial lighting used during construction would be focused on works areas or those used by personnel working on the Proposed Development within the Proposed Development boundary. There is the potential that light spill from artificial lighting could impact the surrounding land. Artificial lighting can cause birds to avoid certain habitats, affecting their foraging, commuting, breeding or other activities. Alternatively, lighting may illuminate nests making them more prone to predation. The Northumbria Coast SPA and Ramsar lie approximately 13.5km north of the Site, so is outside the likely range for significant impact on bird populations. Furthermore, the Northumbria Coast SPA and Ramsar are designated for arctic tern, little tern, turnstone and purple sandpiper. These species breed (where applicable) and forage in marine, intertidal and wetland habitats. These species have an expected impact risk zone of ~500m, so impacts of visual disturbance on qualifying bird species are likely insignificant.	No – pathway excluded
	Operation	Proposed Development resulting in operational artificial lighting and loss of sightlines	Visual disturbance to birds	Northumbria Coast SPA and Ramsar and qualifying bird species	External lighting will be used in operation and there is the potential that light spill from artificial lighting could impact the surrounding land. Artificial lighting can cause birds to avoid certain habitats, affecting their foraging, commuting, breeding or other activities. Alternatively, lighting may illuminate nests making them more prone to predation. The structures constructed as a part of the Proposed Development could cause visual disturbance and a loss of sightlines for bird species utilising the Northumbria Coast SPA and Ramsar. However, Northumbria Coast SPA and Ramsar lie approximately 13.5km north of the Site, so is outside the likely range for significant impact on bird populations. Furthermore, the Northumbria Coast SPA and Ramsar are designated for arctic tern, little tern, turnstone and purple sandpiper. These species breed (where applicable) and forage in marine, intertidal and wetland habitats. These species have an expected impact risk zone of ~500m, so impacts of visual disturbance on qualifying bird species are likely insignificant.	No – pathway excluded

Impact Pathway	Phase	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
Habitat Fragmentation or Connectivity Loss (Functionally Linked Land)	Construction	Construction of Proposed Development within a designated site and adjacent functionally linked land	Loss of functionally linked habitat	Northumbria Coast SPA and Ramsar and qualifying bird species	Northumbria Coast SPA and Ramsar lie approximately 13.5km north of the Site. Between the European designated sites and Site there is a mix of arable, urban and industrial land. During construction, functionally linked land may be permanently or temporarily lost due to habitat loss, loss of sightlines, noise pollution or water pollution. However, qualifying bird species of the Northumbria Coast SPA and Ramsar have an expected impact risk zone of ~500m, so impacts to FLL on qualifying bird species is likely insignificant. Furthermore, these species breed (where applicable) and forage in marine, intertidal and wetland habitats. As the Site does not support the habitat requirements of these species and there were no records of these species on Site during the bird surveys (**Appendix 10C: Breeding Birds Survey Report and Appendix 10D: Wintering Birds Survey Report (ES Volume III, Application Document Ref. 6.3)**), the Site is not deemed to be FLL, pathway excluded.	No – pathway excluded
Introduction or Spread of Non-Native / Invasive Species	Construction	Construction involving contaminated soil or plant material	Transport of propagules or organisms considered to be non-native/invasive	Northumbria Coast SPA	There is evidence of terrestrial non-native/invasive species on the Site. There will be an invasive species management plan implemented during construction to prevent the introduction of spread of these species. The existing aquatic/marine INNS present within the vicinity of the Proposed Development are limited and none appear to be detrimental to native species habitats, diversity or ecosystem functioning. Therefore, it cannot be excluded that the impact pathway may result in a LSE and the pathway is taken forward to Appropriate Assessment.	Yes – AA required
	Operation	Ballast water exchange and biofouling from vessels	Transport of propagules or organisms considered to be non-native/invasive	Northumbria Coast SPA	The existing aquatic/marine INNS present within the vicinity of the Proposed Development are limited and none appear to be detrimental to native species habitats, diversity or ecosystem functioning. Therefore, it cannot be excluded that the impact pathway may result in a LSE and the pathway is taken forward to Appropriate Assessment.	Yes – AA required

Durham Coast SAC

7.2.11 The potential impact pathways to Durham Coast SAC have been considered for the Proposed Development and the outcome of the source-pathway-receptor analysis is discussed below. Where a complete linkage between source, pathway and receptor (Durham Coast SAC) could not be established, the pathway has been excluded from further assessment.

7.2.12 Durham Coast SAC is located 13.5km north of the Site. The introduction and spread of non-native/invasive species could be facilitated by construction involving contaminated soil or plant material and operational processes including ballast water exchange and biofouling. There is evidence of terrestrial non-native/invasive species on the Site. There will be an invasive species management plan implemented during construction to prevent the introduction of spread of these species. The existing aquatic/marine INNS present within the vicinity of the Proposed Development are limited and none appear to be detrimental to native species habitats, diversity or ecosystem functioning. Without mitigation, there is a potential pathway to the designated site for the introduction of terrestrial/aquatic/marine INNS in construction and operation.

7.2.13 The Durham Coast SAC is out of the ZoI related to air pollution for construction dust and construction traffic. Therefore, no air quality pathways are expected for this site during construction. The Durham Coast SAC is also out of the ZoI related to air pollution for operational traffic and shipping and therefore no impact pathways are expected from operational traffic. The designated site is however within the ZoI for operational plant emissions as outlined by the EA [Ref 33], but this is assessed to have expected negligible impacts on air quality.

7.2.14 Operational emission concentrations have been based on the BAT-AELs for the relevant processes being carried out, or where lower emission concentrations are required to ensure impacts are acceptable, these have been modelled.

7.2.15 Due to the early stage of plant design, conservative assumptions on emission parameters and concentration have been taken, and therefore it is anticipated that actual impacts from the operation of the Proposed Development be lower than those presented in the assessment. Therefore, it cannot be excluded that the impact pathway may result in a LSE and the pathway is taken forward to Appropriate Assessment.

7.2.16 Table 7.5 shows the APIS Critical Nitrogen Levels for the qualifying habitats of the Durham Coast SAC.

Table 7.5 APIS Critical Nitrogen Levels for Durham Coast SAC

Habitat type	Is the feature sensitive to nitrogen?	Minimum critical load for nitrogen (kg/N/ha/yr)	Maximum critical load for nitrogen (kg/N/ha/yr)	Ammonia critical level (µg/m^3)	NOx critical level (µg/m^3)	SO2 critical level (µg/m^3)
Fixed coastal dunes with herbaceous vegetation (grey dunes)	Yes	5	15	1 or 3[1]	30	10-20
Vegetated sea cliffs of the Atlantic and Baltic Coasts	Yes	2	20	1 or 3[1]	30	10-20

[1] Where Critical Levels of ammonia are indicated as "1 or 3 µg/m^3" the decision must be made on a site specific basis.
[2] No value given

Castle Eden Dene SAC

7.2.17 The potential impact pathways to Castle Eden Dene SAC have been considered for the Proposed Development and the outcome of the source-pathway-receptor analysis is discussed below. Where a complete linkage between source, pathway and receptor (Castle Eden Dene SAC) could not be established, the pathway has been excluded from further assessment.

7.2.18 Castle Eden Dene SAC is located 16.85km north-west of the Site and therefore is out of the ZoI related to air pollution for construction dust and construction traffic. Therefore, no air quality pathways are expected for this site in construction. However, Castle Eden Dene SAC is potentially within the ZoI for operational air pollution pathways. The impacts of air pollution on Castle Eden Dene SAC have not been assessed, so as a precaution, the operational impact pathways for air pollution are considered likely significant and require further assessment.

7.2.19 Table 7.6 shows the APIS Critical Nitrogen Levels for the qualifying habitats of the Castle Eden Dene SAC.

Table 7.6 APIS Critical Nitrogen Levels for Castle Eden Dene SAC

Habitat type	Is the feature sensitive to nitrogen?	Minimum critical load for nitrogen (kg/N/ha/yr)	Maximum critical load for nitrogen (kg/N/ha/yr)	Ammonia critical level (µg/m^3)	NOx critical level (µg/m^3)	SO2 critical level (µg/m^3)
Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*)	Yes	10	20	1	30	10
Taxus baccata woods of the British Isles	Yes	10	15	3	30	20

8 Screening Conclusion

8.1 In-combination Assessment

8.1.1 For each relevant pathway, the Proposed Development's contribution to any potential cumulative pressure was examined, and summarised in Table 8.1. The applications in the short-list scoped in for in-combination assessment are outlined in **Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1)**. The long-list of applications considered are outlined in **Appendix 22A: Long List of Other Developments (ES Volume III, Application Document Ref. 6.3)**.

8.1.2 The identifiers used in Table 8.1 below correlate to the identifiers used in **Appendix 22A: Long List of Other Developments (ES Volume III, Application Document Ref. 6.3)** where a full description of each project can also be found. Appendix 22A is reproduced in Annex B of this Report to Inform HRA for ease of reference.

Table 8.1 Summary of In-Combination Assessment

Pathway	Relevant European Sites	Other Plans / Projects Considered	Summary of Assessment	Potential In-Combination Effect?
Direct Habitat Loss	Teesmouth and Cleveland Coast SPA (Marine Component GB)	NSIP1, NSIP3 (see also RCBC41), NSIP8, NSIP9, RCBC24, RCBC40, RCBC41 (see also NSIP3), MMO10 / HBC2	There is the potential for direct loss of habitat within the Teesmouth and Cleveland Coast SPA (Marine Component GB) as NSIP1, NSIP3 (see also RCBC41) , NSIP8, NSIP9, RCBC24, RCBC40, RCBC41 (see also NSIP3) and MMO10 / HBC2 partly lie within the designated site. Without mitigation, this could produce in-combination effects on direct habitat loss with the Proposed Development.	Yes
Indirect Habitat Degradation (Edge Effects)	Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar	NSIP1 NSIP3 (see also RCBC41), NSIP8, NSIP9, RCBC24, RCBC40, RCBC41 (see also NSIP3),, MMO10 / HBC2	NSIP1, NSIP3 (see also RCBC41), NSIP8, NSIP9, RCBC24, RCBC40, RCBC41 (see also NSIP3) and MMO10 / HBC2 partly lie within or directly adjacent to Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar. Therefore, the European designated sites are within the zone of influence for construction dust and NRMM set by the Institute of Air Quality Management (IAQM) [Ref 30]. Dust may settle on habitats within the European designated sites, smothering vegetation and potentially polluting the soil/vegetation if the dust is contaminated. This may lead to a temporary or permanent impact on habitats within the European designated sites, causing habitat degradation. Without mitigation, this could produce in-combination effects on indirect habitat degradation with the Proposed Development.	Yes
Hydrological Change and Water-Quality	Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar	NSIP1	NSIP1 operates within the River Tees channel and is partially located within the Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar. There could be an increase in the amount and/or concentration of pollution entering the water bodies. For example, from mobilised sediment-laden runoff, spillage of fuels or other harmful substances that may enter surface water and/or groundwater receptors. However it is understood that NSIP1 only interacts with the River Tees via a proposed underground pipeline using either a micro-bored tunnel or horizontal direct drilling from Seal Sands to the NSIP1 site or Dabholm Gut and therefore is unlikely to result in direct impacts upon on the watercourse. It is also due to be completed in 2027 so impacts are not considered to occur concurrently to the Proposed Development.	No
		NSIP3 (see also RCBC41)	NSIP3 (see also RCBC41) is located within the River Tees channel and partially within or directly adjacent to the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar. NSIP3 will involve the installation of wharf/jetty facilities in the River Tees with two ship loaders capable of loading bulk dry material at a rate of 12m tons per annum (dry weight). There will also be associated dredging operations to create berth and associated storage building with conveyor to wharf/jetty. This will include a materials handling facility (if not located at Wilton International) served by a pipeline (the subject of a separate application) and conveyor to storage building and jetty. Dredging and dredge spoil disposal for both NSIP3 and the Proposed Development will interact with each other if construction runs in parallel as expected. Water quality will be diminished by dredging activities. Therefore, the work could increase turbidity and water quality could also be affected through the release of pre-existing potentially contaminated materials from dredging and increased wave wash from associated works such as navigation. There could be an increase in the amount and/or concentration of pollution entering the water bodies. For example, from mobilised sediment-laden runoff, spillage of fuels or other harmful substances that may enter surface water and/or groundwater receptors. Without mitigation, this could produce in-combination effects on water quality with the Proposed Development.	Yes
		NSIP8	NSIP8 is located within the River Tees channel and partially within or directly adjacent to the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar. NSIP8 will involve effluent discharge to Greatham Creek. Therefore, without mitigation, this could produce in-combination effects on water quality with the Proposed Development.	Yes

Pathway	Relevant European Sites	Other Plans / Projects Considered	Summary of Assessment	Potential In-Combination Effect?
		NSIP9	NSIP9 located within the River Tees channel and partially within or directly adjacent to the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar. Works will operate within the River Tees itself, including pipeline connections under the River Tees. There could be an increase in the amount and/or concentration of pollution entering the water bodies. For example, from mobilised sediment-laden runoff, spillage of fuels or other harmful substances that may enter surface water and/or groundwater receptors. Without mitigation, this could produce in-combination effects on water quality with the Proposed Development.	
		RCBC24	RCBC24 is located within the River Tees channel and partially within or directly adjacent to the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar. Works will operate within the River Tees itself. There could be an increase in the amount and/or concentration of pollution entering the water bodies. For example, from mobilised sediment-laden runoff, spillage of fuels or other harmful substances that may enter surface water and/or groundwater receptors. Without mitigation, this could produce in-combination effects on water quality with the Proposed Development.	Yes
		RCBC40	RCBC40 is located partially within the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar. Works will operate on the seabed extending over 4km into the North Sea. There could be an increase in the amount and/or concentration of pollution entering the water bodies. For example, from mobilised sediment-laden runoff, spillage of fuels or other harmful substances that may enter surface water and/or groundwater receptors. Without mitigation, this could produce in-combination effects on water quality with the Proposed Development.	Yes
		MMO10/HBC2	MMO10/HBC2 is located within watercourses which are hydrologically connected to the River Tees and partially within or directly adjacent to the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar. The application involves the repair of an existing flood embankment north of Greatham Creek and the realignment of the adjoining flood embankment, to create approximately 23 hectares (ha) of additional high value intertidal habitat. MMO10/HBC2 will involve capital dredging. Therefore, the work could increase turbidity and water quality could also be affected through the release of pre-existing potentially contaminated materials from dredging. There could be an increase in the amount and/or concentration of pollution entering the water bodies. For example, from mobilised sediment-laden runoff, spillage of fuels or other harmful substances that may enter surface water and/or groundwater receptors. Without mitigation, this could produce in-combination effects on water quality with the Proposed Development.	Yes
		HBC6	HBC6 is located approximately 1.9km from the Teesmouth and Cleveland Coast SPA and 2.1km from the Teesmouth and Cleveland Coast Ramsar. There is the potential that HCB6 could result in wastewater discharge. Without mitigation, this could produce in-combination effects on water quality with the Proposed Development.	Yes
Hydrodynamic changes	Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar	NSIP3 (see also RCBC41)	NSIP3 (see also RCBC41) is located within the River Tees channel and partially within or directly adjacent to the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar. NSIP3 will involve the installation of wharf/jetty facilities with two ship loaders capable of loading bulk dry material at a rate of 12m tons per annum (dry weight). There will also be associated dredging operations to create berth and associated storage building with conveyor to wharf/jetty. This will include a materials handling facility (if not located at Wilton) served by a pipeline (the subject of a separate application) and conveyor to storage building and jetty. Following works within or near water features there is the potential for permanent impact on the hydro-morphological qualities of these features. There is also the potential for changes to surface water and/or groundwater connectivity which could also cause permanent impacts to catchment hydrology. There is also a potential to affect flood conveyance as well as channel	Yes

Pathway	Relevant European Sites	Other Plans / Projects Considered	Summary of Assessment	Potential In-Combination Effect?
			capacity. Under a precautionary approach, it is identified that there is a potential for in-combination hydrodynamic changes.	
		MMO10/HBC2	MMO10/HBC2 is located partially within or directly adjacent to the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar. The application involves the repair of an existing flood embankment north of Greatham Creek and the realignment of the adjoining flood embankment, to create approximately 23 ha of additional high value intertidal habitat. Following works within or near water features there is the potential for permanent impact on the hydro-morphological qualities of these features. There is also the potential for changes to surface water and/or groundwater connectivity which could also cause permanent impacts to catchment hydrology. There is also a potential to affect flood conveyance and create floodplains. Under a precautionary approach, it is identified that there is a potential for in-combination hydrodynamic changes.	Yes
Air Quality and Atmospheric Deposition	Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar; North York Moors SPA and SAC; Northumbria Coast SPA and Ramsar; Durham Coast SAC; and Castle Eden Dene SAC	NSIP1	NSIP1 is not within 250m of the Proposed Development, which is the IAQM guidance buffer zone for reviewing potential impacts from construction dust. Much of the Proposed Development site is located on the other side of the River Tees, indicating much of the operational traffic would operate on a different local road network. Although the development boundaries of NSIP1 and the Proposed Development overlap, the operational aspects of each development (and therefore point source emissions) are a considerable distance apart, over 3.5km. The NSIP1 emission source is situated on the south of the River Tees, on the coast to the east of the Proposed Development. The predominant wind direction is south-westerly, therefore emissions from the NSIP1 site would be dispersed directly out to sea and away from sensitive receptors. It is considered that the distance between the two sites' emission sources is sufficient to allow the plumes to disperse fully without prior interacting. It is considered that no cumulative effects would result. An assessment of operational traffic was screened out from the DCO NSIP1 assessment. Given that operational traffic is screened out, this indicates the potential impacts would be negligible. The operational traffic flows for both schemes are expected to be low and much of the Proposed Development site is located on the other side of the River Tees, indicating much of the operational traffic would operate on a different local road network. Furthermore, the traffic flows associated with NSIP1 are included as committed development traffic in the traffic data used in the assessment of the Proposed Development. The assessment is therefore inherently cumulative with regards to NSIP1 operational traffic. However, further mitigation would likely be required to fully eliminate all uncertainty. Therefore, as a precaution in-combination effects are considered further.	Yes
		NSIP3 (see also RCBC41)	There is potential for cumulative impacts from NSIP3 (see also RCBC41) and the Proposed Development, however the Proposed Development will use high risk mitigation measures in line with the IAQM industry good practice guidance. The transport consultants from the Proposed Development have advised that the construction traffic network would not overlap with this site. As such, there would be no cumulative effects from construction traffic. Construction shipping emissions were possible from NSIP3 but were discounted from the assessment due to distance. As such, it is considered unlikely that the emissions would interact with those of the Proposed Development. Furthermore, the emissions associated with the Proposed Development are extremely minimal, indicating that cumulative impacts are very unlikely to change the conclusions of the assessment. The NSIP3 scheme could result in fugitive dust emissions, however, the Proposed Development is not anticipated to create any fugitive dust emissions. As such, no cumulative effects are anticipated.	Yes

Pathway	Relevant European Sites	Other Plans / Projects Considered	Summary of Assessment	Potential In-Combination Effect?
			The transport consultants from the Proposed Development have advised that the operational traffic network would not overlap with this site. As such, there would be no cumulative effects from operational traffic. There would be 191 operational shipping movements per year, which is less than 2 movements per day. It is considered that this low number of ships would not change the conclusions or results of the ES air quality assessment for the Proposed Development. No cumulative effects are anticipated. However, further mitigation would likely be required to fully eliminate all uncertainty. Therefore, as a precaution in-combination effects are considered further.	
		NSIP8	As the NSIP8 project is at scoping stage, no assessment of construction dust or construction traffic is provided to review against for this cumulative assessment. The operation of NSIP8 will include emissions from an auxiliary boiler and potentially flaring emissions (although these will be avoided where possible). No emissions from the carbon capture process are expected, as this is a closed system. As the NSIP8 project is at scoping stage, no assessment of operational plant has taken place yet. As the NSIP8 project is at scoping stage, no assessment of operational traffic has taken place yet. Mitigation would likely be required to fully eliminate all uncertainty of impacts on air quality and atmospheric deposition. Therefore, as a precaution in-combination effects are considered further.	Yes
		NSIP9	NSIP9 is in close proximity to the Proposed Development, but as the NSIP9 project is at scoping stage, no assessment of construction dust, construction traffic, operational plant and operational traffic is provided. The operation of NSIP9 could potentially include flaring emissions (although these will be avoided where possible). No emissions from the pipeline are expected, as this is a closed system. Mitigation would likely be required to fully eliminate all uncertainty of impacts on air quality and atmospheric deposition. Therefore, as a precaution in-combination effects are considered further.	Yes
		RCBC3	The more recent application for use of the site as a data centre development (R/2025/0382/ESM) does not contain an air quality assessment to determine potential cumulative effects. Mitigation would likely be required to fully eliminate all uncertainty of impacts on air quality and atmospheric deposition. Therefore, as a precaution in-combination effects are considered further.	Yes
		RCBC4	No construction dust assessment was carried out for RCRB4 site given the lack of sensitive receptors. However, the site is more than 250m from the Proposed Development, which is the IAQM buffer zone. The construction traffic volumes associated with the RCBC4 site are very small, and given the site is over 2km from the Proposed Development, it is not considered that the two construction road networks would overlap. For the RCBC4 site, none of the vented releases (oxygen, hydrogen and very small amounts of nitrogen) are harmful to human health nor the environment in the quantities emitted, no assessment of air quality impacts was provided. An emergency diesel generator is proposed; however this will be small in size (approximately 1 MWth) and will only be routinely operated for testing purposes (less than 50 hours per year). The operational traffic volumes associated with the RCBC4 site are very small, and given the site is over 2km from the Proposed Development, it is not considered that the two operational road networks would overlap. Mitigation would likely be required to fully eliminate all uncertainty of impacts on air quality and atmospheric deposition. Therefore, as a precaution in-combination effects are considered further.	Yes

Pathway	Relevant European Sites	Other Plans / Projects Considered	Summary of Assessment	Potential In-Combination Effect?
		RCBC12	As the RCBC12 site is located over 800m from the Proposed Development, no cumulative construction dust impacts are expected to occur, as this is beyond the IAQM buffer zone of 250m. The outline planning assessment (R/2020/0357/OOM) did not contain information about construction (R/2025/0607/RMM) traffic emissions. The reserved matters application contains no further information about construction traffic emissions. The outline planning assessment did not contain information about operational plant emissions. The reserved matters application contains no further information about operational plant emissions. The modelled road network for operational traffic from the RCBC12 site is south of the River Tees, whereas the operational road network for the Proposed Development is north of the River Tees. As such, there is no overlap in the assessment areas. Mitigation would likely be required to fully eliminate all uncertainty of impacts on air quality and atmospheric deposition. Therefore, as a precaution in-combination effects are considered further.	Yes
		RCBC14	As the RCBC14 site is located over 1.2km from the Proposed Development, no cumulative construction dust impacts are expected to occur, as this is beyond the IAQM buffer zone of 250m. The assessment for the RCBC14 site notes that construction traffic is screened out. This indicates any potential impacts would be negligible and effects would be not significant. Only a scoping report is available for information at this time, however given the nature of the RCBC14 site operations, it is not considered that cumulative operational plant effects would occur. Vented releases from such plants as RCBC14 are typically oxygen, hydrogen and nitrogen, which are not considered harmful to human health or the environment in the quantities likely to be vented. The only corresponding emissions would be combustion emissions from the testing on an emergency diesel generator, if one is included in the scheme, however this would likely be small in size and only operated routinely for testing purposes (less than 50 hours per year) and therefore given the infrequent emissions and distance from the Proposed Development, no cumulative effects are anticipated to occur. The assessment for the RCBC14 site notes that operational traffic is screened out. This indicates any potential impacts would be negligible and effects would be not significant. The operational traffic flows described in the RCBC14 report are very low. Mitigation would likely be required to fully eliminate all uncertainty of impacts on air quality and atmospheric deposition. Therefore, as a precaution in-combination effects are considered further.	Yes
		RCBC24	The Scoping Report for RCBC24 indicates there is potential for significant effects from operational process emissions and operational traffic movements. Limited information is available for the development in the scoping report and it does not outline any specific mitigation measures. The development is situated further south than the Proposed Development and it is unlikely that the Affected Road Networks (ARN) for the two projects would overlap. Given the distance between the RCB24 site and the Proposed Development (2.6km) no construction dust cumulative effects are expected, given this is greater than the IAQM buffer zone of 250m. Only six construction shipping movements are anticipated for the RCBC24 site and only two two-way operational shipping movements per day are anticipated for the RCBC24 site. Mitigation would likely be required to fully eliminate all uncertainty of impacts on air quality and atmospheric deposition. Therefore, as a precaution in-combination effects are considered further.	Yes
		RCBC40	RCBC40 is in close proximity to the Proposed Development, but as the RCBC40 project is at scoping stage, no assessment of construction dust, construction traffic and operational traffic is provided. As RCBC40 is a wastewater treatment plant, there would be no operational plant emissions and therefore no cumulative effects with the Proposed Development.	Yes

Pathway	Relevant European Sites	Other Plans / Projects Considered	Summary of Assessment	Potential In-Combination Effect?
			Mitigation would likely be required to fully eliminate all uncertainty of impacts on air quality and atmospheric deposition. Therefore, as a precaution in-combination effects are considered further.	
		MMO10 / HBC2	Given the distance between MMO10/HBC2 site and the Proposed Development (1.9km), no construction dust cumulative effects are expected, given this is greater than the IAQM buffer zone of 250m. The construction phase and the construction traffic associated with the MMO10/HBC2 site are expected to be small, and few sensitive receptors are located on the limited construction network for that site. No operational effects would occur as a result of the MMO10/HBC2 site as it is a managed realignment flood wall scheme.	No
		HBC6	Given that the HBC6 site is over 5km from the Proposed Development, no cumulative effects would occur in terms of construction dust, as this is beyond the IAQM 250m buffer zone. The HBC6 site air quality assessment includes the modelled road network, which does not overlap with that of the Proposed Development. Given the nature of the HBC6 site, no operational plant is expected to be present. The HBC6 site air quality assessment includes the modelled road network, which does not overlap with that of the Proposed Development. Mitigation would likely be required to fully eliminate all uncertainty of impacts on air quality and atmospheric deposition. Therefore, as a precaution in-combination effects are considered further.	Yes
Disturbance (Noise, Vibration, Human Activity)	Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar	NSIP1	Given that the NSIP1 site is over 1km away from the Proposed Development, no construction noise cumulative effects are expected, given this is further than the construction noise buffer of 300m. The traffic flows associated with NSIP1 are included as committed development traffic in the traffic data used in the assessment of the Proposed Development. The assessment is therefore inherently cumulative with regards to NSIP1 construction traffic. Much of the Proposed Development site is located on the other side of the River Tees, indicating much of the construction traffic would operate on a different local road network. No cumulative effects are anticipated as a result. An assessment was undertaken as part of the DCO for operational plant noise, which concluded that effects are minor adverse or less. Although the development boundaries of NSIP1 and the Proposed Development overlap, the operational aspects of each development (and therefore point sources) are a considerable distance apart, over 3.5km. The NSIP1 operational noise source is situated on the south of the River Tees, on the coast to the east of the Proposed Development. It is considered that the distance between the two sites' operational noise sources is sufficient such that no cumulative effects would result. An assessment of operational traffic noise was scoped out from the DCO NSIP1 assessment. Given that operational traffic is scoped out, this indicates the potential impacts would be negligible. The operational traffic flows for both schemes are expected to be low and much of the Proposed Development site is located on the other side of the River Tees, indicating much of the operational traffic would operate on a different local road network. Furthermore, the traffic flows associated with NSIP1 are included as committed development traffic in the traffic data used in the assessment of the Proposed Development. The assessment is therefore inherently cumulative with regards to NSIP1 operational traffic. Without mitigation, there is potential that noise breakout from construction and operational areas and laydown areas spill into adjacent habitats and affect qualifying species which may then avoid certain habitats, affecting their foraging, commuting, roosting or other activities in-combination with the Proposed Development.	Yes
		NSIP3 (see also RCBC41)	There is potential for cumulative impacts from NSIP3 (see also RCBC41) and the Proposed Development for disturbance, however the Proposed Development will use mitigation measures in line with industry good practice guidance. The transport consultants from the Proposed Development have advised that the construction traffic network would not overlap with this site.	Yes

Pathway	Relevant European Sites	Other Plans / Projects Considered	Summary of Assessment	Potential In-Combination Effect?
			Construction marine traffic noise was possible from NSIP3 but were discounted from the assessment due to distance. As such, it is considered unlikely that the noise would interact with those of the Proposed Development. The NSIP3 scheme could result in operational noise impacts. The transport consultants from the Proposed Development have advised that the operational traffic network would not overlap with this site. The annual number of anticipated marine transits during operation of the Proposed Development is 0.5% of the baseline traffic movements on the Tees. Without mitigation, there is potential that noise breakout from construction and operational areas and laydown areas spill into adjacent habitats and affect qualifying species which may then avoid certain habitats, affecting their foraging, commuting, roosting or other activities in-combination with the Proposed Development.	
		NSIP8	NSIP8 is in close proximity to the Proposed Development but as the application is at scoping stage there is no assessment of construction noise, construction traffic noise and operational noise to review against for this cumulative assessment. The NSIP8 scheme could result in noise impacts. Without mitigation, there is potential that noise breakout from construction and operational areas and laydown areas spill into adjacent habitats and affect qualifying species which may then avoid certain habitats, affecting their foraging, commuting, roosting or other activities in-combination with the Proposed Development.	Yes
		NSIP9	NSIP9 is in close proximity to the Proposed Development but as the application is at scoping stage there is no assessment of construction noise, construction traffic noise, operational noise and operational traffic noise to review against for this cumulative assessment. NSIP9 could result in temporary adverse impacts on noise in construction and/or operation. Without mitigation, there is potential that noise breakout from construction and operational areas and laydown areas spill into adjacent habitats and affect qualifying species which may then avoid certain habitats, affecting their foraging, commuting, roosting or other activities in-combination with the Proposed Development.	Yes
		RCBC3	The more recent application for use of the site as a data centre development (R/2025/0382/ESM) does not contain a noise and vibration assessment to determine potential cumulative effects. As part of the reserved matters application, a Transport Impact Assessment (TIA) was completed and indicated that there would be reduced movements and minimal impact on the local highway network. On this basis, it is unlikely that there will be any cumulative operational traffic noise effects. Without mitigation, there is potential that noise breakout from construction and operational areas and laydown areas spill into adjacent habitats and affect qualifying species which may then avoid certain habitats, affecting their foraging, commuting, roosting or other activities in-combination with the Proposed Development.	Yes
		RCBC4	No construction noise assessment was carried out for the RCBC4 site. However, the site is more than 300m from the Proposed Development, which is outside the construction noise study area. The construction traffic volumes associated with the RCBC4 site are very small, and given the site is over 2km from the Proposed Development, it is not considered that the two construction road networks would overlap. The operational noise impact assessment carried out for RCBC4 predicts that significant effects are unlikely. The RCBC4 site is also over 1km away from the operational plant of the Proposed Development, which is outside the operational noise study area. The operational traffic volumes associated with the RCBC4 site are very small, and given the site is over 2km from the Proposed Development, it is not considered that the two operational road networks would overlap and there would be no cumulative effects from operational traffic noise. Without mitigation, there is potential that noise breakout from construction and operational areas and laydown areas spill into adjacent habitats and affect qualifying species which may then avoid	Yes

Pathway	Relevant European Sites	Other Plans / Projects Considered	Summary of Assessment	Potential In-Combination Effect?
			certain habitats, affecting their foraging, commuting, roosting or other activities in-combination with the Proposed Development.	
		RCBC12	No construction noise assessment was carried out for the RCBC12 site. However, the site is more than 300m from the Proposed Development, which is outside the construction noise study area. The outline planning assessment did not contain information about construction traffic noise or operational noise. The reserved matters application contains no further information about construction traffic noise or operational noise, and no cumulative assessment can be carried out. The modelled road network for operational traffic from the RCBC12 site is south of the River Tees, whereas the operational road network for the Proposed Development is north of the River Tees. As such, there is no overlap in the assessment areas. Without mitigation, there is potential that noise breakout from construction and operational areas and laydown areas spill into adjacent habitats and affect qualifying species which may then avoid certain habitats, affecting their foraging, commuting, roosting or other activities in-combination with the Proposed Development.	Yes
		RCBC14	No construction noise assessment was carried out for the RCBC14 site. However, the site is more than 300m from the Proposed Development, which is outside the construction noise study area. The assessment for the RCBC14 site notes that construction traffic is screened out. This indicates any potential impacts would be negligible and effects would be not significant. Given the scale of vehicle movements and the distance between the two sites, no cumulative effects for construction traffic is anticipated. The scoping report predicts that operational noise from RCBC14 is likely to have negligible to low impact. The RCBC14 site is also over 1km away from the operational plant of the Proposed Development, which is outside the operational noise study area. The operational traffic flows described in the RCBC14 report are very low and impacts from operational traffic noise are anticipated to be negligible. Without mitigation, there is potential that noise breakout from construction and operational areas and laydown areas spill into adjacent habitats and affect qualifying species which may then avoid certain habitats, affecting their foraging, commuting, roosting or other activities in-combination with the Proposed Development.	Yes
		RCBC24	The Scoping Report for RCBC24 indicates there is potential for significant effects from construction noise and operational noise. Limited information is available for the development in the scoping report. The development is situated 2.5km away from the Proposed Development and it is unlikely that the Affected Road Networks (ARN) for the two projects would overlap. The RCBC24 scoping report indicates that construction traffic and operational traffic noise is unlikely to be significant. Only six construction shipping movements across the entire construction period and only two two-way operational shipping movements per day in operation are anticipated for the RCBC24 site. It is considered that this low number of ships would not produce cumulative effects. Without mitigation, there is potential that noise breakout from construction and operational areas and laydown areas spill into adjacent habitats and affect qualifying species which may then avoid certain habitats, affecting their foraging, commuting, roosting or other activities in-combination with the Proposed Development.	Yes
		RCBC40	The RCBC40 scoping report indicates that noise and vibration have been scoped out of the EIA, however a Noise Impact Assessment for construction and operational phases will be included. The RCBC40 scoping report indicates that construction and operational noise is considered to be "not significant" and scoped out. However, given the locations of the two sites overlap to the south of Bran Sands WwTW, the RCBC40 site should review the potential noise impacts associated with their construction and operation phase and that of the Proposed Development in the Noise Impact Assessment, to ensure the mitigation measures they recommend are adequate to remove any cumulative effects.	Yes

Pathway	Relevant European Sites	Other Plans / Projects Considered	Summary of Assessment	Potential In-Combination Effect?
			Without mitigation, there is potential that noise breakout from construction and operational areas and laydown areas spill into adjacent habitats and affect qualifying species which may then avoid certain habitats, affecting their foraging, commuting, roosting or other activities in-combination with the Proposed Development.	
		MMO10/HBC2	Given the distance between MMO10/HBC2 site and the Proposed Development (1.9km), no construction noise cumulative effects are expected, as the distance is greater than the construction noise study area of 300m. The construction traffic associated with the MMO10/HBC2 site are expected to be small, and few sensitive receptors are located on the limited construction network for that site. As such, it is considered highly unlikely that construction traffic noise impacts from the MMO10/HBC2 site and the Proposed Development would cause cumulative effects. No operational noise or operational traffic noise effects would occur as a result of the MMO10/HBC2 site as it is a managed realignment flood wall scheme. Without mitigation, there is potential that noise breakout from construction areas spill into adjacent habitats and affect qualifying species which may then avoid certain habitats, affecting their foraging, commuting, roosting or other activities in-combination with the Proposed Development.	Yes
		HBC6	Given that the HBC6 site is over 5km from the Proposed Development, no cumulative effects would occur in terms of construction noise, as this is beyond the construction noise study area of 300m. The HBC6 site traffic assessment includes the modelled road network, which does not overlap with that of the Proposed Development. Given the nature of the HBC6 site, no operational plant is expected to be present and no cumulative effects would occur. The HBC6 site traffic assessment includes the modelled road network, which does not overlap with that of the Proposed Development. Without mitigation, there is potential that noise breakout from construction areas spill into adjacent habitats and affect qualifying species which may then avoid certain habitats, affecting their foraging, commuting, roosting or other activities in-combination with the Proposed Development.	Yes
Visual disturbance (Artificial lighting and loss of sightlines)	Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar	NSIP1, NSIP3 (see also RCBC41), NSIP8, NSIP9, RCBC3, RCBC12, RCBC24, RCBC40, RCBC41 (see also NSIP3),, MMO10/HBC2	NSIP1, NSIP3 (see also RCBC41), NSIP8, NSIP9, RCBC3, RCBC12, RCBC24, RCBC40, RCBC41 (see also NSIP3) and MMO10/HBC2 lie partially within or within 600m of the Teesmouth and Cleveland Coast SPA (Marine Component GB) and/or Ramsar. There is the potential that artificial lighting is used during construction and/or operation. There is the potential that light spill from artificial lighting could impact the land within and functionally linked to the European designated sites and consequently the qualifying bird species found there. Artificial lighting can cause birds to avoid certain habitats, affecting their foraging, commuting, breeding or other activities. Alternatively, lighting may illuminate nests making them more prone to predation. The structures constructed as a part of applications could also cause visual disturbance and a loss of sightlines for qualifying bird species utilising the Teesmouth and Cleveland Coast SPA and Ramsar. Disturbing and/or removing existing sightlines could affect qualifying bird species within and adjacent to the Main Site as they may then avoid certain habitats, affecting their foraging, commuting, breeding or other activities. As a precaution, the in-combination effects from visual disturbance require further assessment.	Yes
Habitat Fragmentation or Connectivity Loss (Functionally Linked Land)	Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar	NSIP1, NSIP3 (see also RCBC41), NSIP8, NSIP9, RCBC3, RCBC4, RCBC12, RCBC14, RCBC24, RCBC40, RCBC41 (see also NSIP3), MMO10/HBC2, HBC6	NSIP1, NSIP3 (see also RCBC41), NSIP8, NSIP9, RCBC24, RCBC40, RCBC41 (see also NSIP3)and MMO10/HBC2 lie partially within or directly adjacent to Teesmouth and Cleveland Coast SPA (Marine Components GB) and Ramsar. RCBC3, RCBC4, RCBC12, RCBC14 and HBC6 lie approximately within 0.3km-3.5km of the Teesmouth and Cleveland Coast SPA (Marine Components GB). During construction, functionally linked land may be permanently or temporarily lost due to impacts including habitat loss, loss of sightlines, noise pollution or water pollution. Therefore, there is a LSE relating to the loss of functionally linked land of the European designated sites.	Yes

Pathway	Relevant European Sites	Other Plans / Projects Considered	Summary of Assessment	Potential In-Combination Effect?
Introduction or Spread of Non-Native/Invasive Species	Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar; Northumbria Coast SPA and Ramsar; and Durham Coast SAC	NSIP1, NSIP3 (see also RCBC41), NSIP8, NSIP9, RCBC3, RCBC4, RCBC12, RCBC14, RCBC24, RCBC40, RCBC41 (see also NSIP3), MMO10/HBC2, HBC6	There is evidence of terrestrial INNS within the Proposed Development. The existing aquatic/marine INNS present within the vicinity of the Proposed Development are limited and none appear to be detrimental to native species habitats, diversity or ecosystem functioning. Without mitigation there is a potential impact pathway in-combination for the introduction or spread of INNS through construction involving contaminated plant or materials and/or ballast water exchange and biofouling from vessels.	Yes

8.2 Summary of Findings

8.2.1 The screening assessment has considered the potential for the Proposed Development to have a LSE on European sites, either alone or in-combination with other plans or projects, in accordance with Regulation 63 of the Habitats Regulations.

8.2.2 All relevant pathways were reviewed, including direct habitat loss, indirect habitat degradation, hydrological change, hydrodynamic change, air quality, disturbance from noise and vibration, visual disturbance, functional land-take and introduction or spread of invasive species. The assessment concluded that for each pathway, either:

- no credible source–pathway–receptor linkage exists; or
- the pathway can be objectively excluded on the basis of available information and without reliance on mitigation measures; or
- a credible source–pathway–receptor linkage exists and therefore a LSE cannot be excluded.

8.2.3 LSE cannot be excluded for one or more pathways affecting multiple European sites.

8.3 Conclusion of the Screening Stage

8.3.1 The screening assessment has identified a credible source–pathway–receptor linkage between the Proposed Development and qualifying features of the following European site(s):

- Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar via direct habitat loss (SPA (Marine Component GB) only), indirect habitat degradation, hydrological change, hydrodynamic change, air pollution, disturbance from noise and vibration, visual disturbance, loss of functionally linked land and introduction or spread of INNS;
- North York Moors SPA via air pollution;
- North York Moors SAC via air pollution;
- Northumbria Coast SPA and Ramsar via air pollution and introduction or spread of INNS;
- Durham Coast SAC via air pollution and introduction or spread of INNS; and
- Castle Eden Dene SAC via air pollution.

8.3.2 On the basis of the available evidence, and applying the precautionary principle in accordance with *Waddenzee* (C-127/02), it cannot be excluded that the Proposed Development, either alone or in-combination with other plans or projects, would have an LSE on Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar, North York Moors SPA and SAC, Northumbria Coast SPA and Ramsar, Durham Coast SAC and Castle Eden Dene SAC, in view of the site's conservation objectives.

8.3.3 In accordance with Regulation 63 of the Habitats Regulations, the competent authority is responsible for carrying out the statutory assessment , including determining whether the Proposed Development is likely to have a significant effect on any European site and, where necessary, undertaking an AA before deciding whether to grant consent and to identify any necessary mitigation or alternatives.

8.3.4 This conclusion is based on the best available information at the time of writing and should be revisited if the project design, construction methods or programme change, or if additional information on site sensitivities becomes available prior to determination.

8.3.5 This conclusion has been prepared in accordance with the Habitats Regulations, relevant Government guidance, and applicable case law including *Waddenzee* (C-127/02) and *People Over Wind* (C-323/17).

8.3.6 The findings of this report provide technical advice to inform the competent authority's determination under Regulation 63; the final screening decision rests with the competent authority.

8.3.7 The Stage 2 AA is set out in Section 9.

9 Stage 2 - Appropriate Assessment (AA)

9.1 Overview

9.1.1 The purpose of the AA is to determine whether the Proposed Development, either alone or in-combination with other plans or projects, would adversely affect the integrity of any European site in view of its conservation objectives.

9.1.2 The following European sites and pathways have been taken forward to Appropriate Assessment:

- Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar via direct habitat loss (SPA only), indirect habitat degradation, hydrological change, hydrodynamic change, air pollution, disturbance from noise and vibration, visual disturbance, loss of functionally linked land and the introduction or spread of INNS;
- North York Moors SPA via air pollution;
- North York Moors SAC via air pollution;
- Northumbria Coast SPA and Ramsar via air pollution and the introduction or spread of INNS;
- Durham Coast SAC via air pollution and the introduction or spread of INNS; and
- Castle Eden Dene SAC via air pollution.

9.1.3 The following sections consider the implications of these pathways for the conservation objectives and integrity of the affected European sites and assess whether adverse effects on site integrity can be excluded.

9.2 Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar

Introduction or Spread of INNS

Construction

9.2.1 The Teesmouth and Cleveland Coast SPA (Marine Component GB) and Teesmouth and Cleveland Coast Ramsar site could be affected during construction through the introduction or spread of terrestrial, freshwater or marine INNS. Potential pathways include the movement of construction plant, materials and contaminated soils, as well as the use of construction vessels that may transport aquatic INNS on vessel hulls, equipment or within ballast water. The establishment or spread of INNS within habitats used by the qualifying features of the designated sites could alter habitat structure, resource availability or ecological function.

9.2.2 To avoid and minimise this risk, a range of embedded mitigation measures will be implemented throughout the construction phase. An INNS Management Plan, secured through the **fCEMP (Appendix 5A, ES Volume III, Application Document Ref. 6.3)**, will include measures to identify, control and prevent the introduction and spread of terrestrial and freshwater INNS associated with construction activities. In addition, all project vessels will comply with the IMO 2023 Guidelines for the Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species [Ref 36], including appropriate inspection, maintenance and cleaning procedures to reduce the risk of transporting marine INNS on vessel hulls and submerged equipment. All project vessels will also comply with the International Convention for the Control and Management of Ships' Ballast Water and Sediments (Ballast Water Management Convention) [Ref 37], which requires vessels to operate in accordance with a vessel-specific ballast water management plan and maintain the relevant certification and records, thereby reducing the risk of introducing marine INNS through ballast water discharge.

9.2.3 These measures represent established and internationally recognised mechanisms for preventing the transfer, introduction and establishment of INNS. Their implementation will substantially reduce the likelihood of terrestrial, freshwater or marine INNS being introduced to, or spreading within, habitats that support the qualifying features of the SPA and Ramsar site.

9.2.4 With the above mitigation secured and implemented, any residual risk of INNS introduction or spread would be negligible and would not adversely affect the habitats or ecological processes that support the qualifying features of the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar site. Accordingly, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site.

Operation

9.2.5 During operation, there is potential for marine and freshwater INNS to be introduced or spread through shipping activities associated with the Proposed Development. The primary pathway is the movement of operational vessels, which could facilitate the transfer of aquatic INNS through biofouling on vessel hulls and submerged structures, or through the uptake and discharge of ballast water. Should INNS become established within habitats used by the qualifying features of the Teesmouth and

Cleveland Coast SPA (Marine Component GB) and Ramsar site, there is potential for adverse effects on habitat quality and ecological function.

9.2.6 Mitigation will be implemented through adherence to recognised international standards governing vessel operations. All vessels associated with the Proposed Development will comply with the IMO 2023 Biofouling Guidelines, including inspection, maintenance and cleaning procedures designed to minimise the accumulation and transfer of aquatic organisms. In addition, vessels will comply with the Ballast Water Management Convention, ensuring ballast water and sediments are managed in accordance with approved vessel-specific management plans and associated certification requirements.

9.2.7 Compliance with these internationally established biosecurity measures will substantially reduce the likelihood of marine or freshwater INNS being transported, introduced or becoming established within the SPA and Ramsar site. The measures are specifically designed to prevent the primary mechanisms by which aquatic INNS are transferred between locations and are therefore considered effective in limiting the risk of onward colonisation within habitats supporting the qualifying features of the designated sites.

9.2.8 As a result, the residual risk of INNS introduction and spread during operation would be negligible and would not adversely affect the qualifying features of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site, nor undermine the achievement of their conservation objectives. Consequently, with mitigation in place, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site.

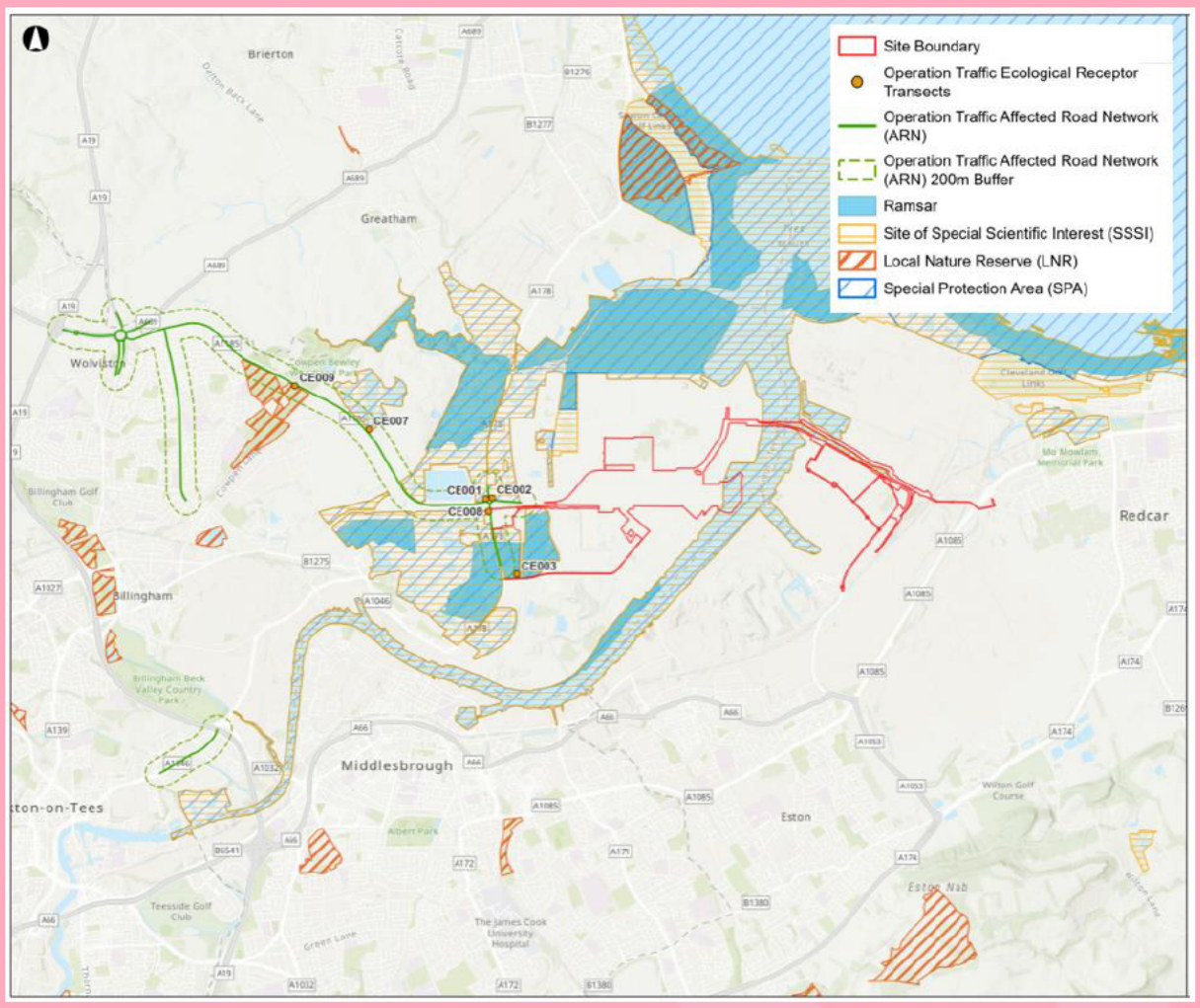
Air pollution

Construction

9.2.9 During the construction phase, the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar site could be affected by temporary increases in air pollutant emissions associated with construction traffic on the affected road network, NRMM, and road and sea movements required for the Proposed Development. These emissions have the potential to result in elevated concentrations of NO_2, NH_3, particulate matter and associated nitrogen/acid deposition, which could affect qualifying habitats within the designated site through habitat degradation.

9.2.10 The air quality assessment identified six ecological receptors within the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar (CE001 to CE005 and CE008, Inset 9.1) where changes in nitrogen

deposition exceeded the 1% screening threshold. However, the modelling demonstrated that deposition rates reduced below the relevant critical load within 60m of the affected road network at five receptor locations, and within 110m at the remaining receptor (CE002, Inset 9.1). Consequently, the area potentially affected is limited to approximately 0.12 ha of coastal and floodplain grazing marsh, reedbed, scrub and open-water habitats within the designated sites.



Inset 9.1 Location of ecological receptors used for the construction air quality assessment.

9.2.11 The qualifying habitats of the SPA and Ramsar support the ecological requirements of the site's bird assemblages and contribute to the achievement of the conservation objectives. The relevant conservation objectives of the Teesmouth and Cleveland Coast SPA (Marine Component GB) (and therefore, the Teesmouth and Cleveland Coast Ramsar) are:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- *The extent and distribution of the habitats of the qualifying features*
- *The structure and function of the habitats of the qualifying features*
- *The supporting processes on which the habitats of the qualifying features rely*

9.2.12 However, the predicted impacts are highly localised and associated with a short-term construction period. Importantly, changes in vegetation communities resulting from atmospheric nitrogen deposition typically occur over prolonged periods of exposure, often years or decades, rather than over the limited duration of construction activities. The assessment is also based on construction traffic data for 2030, representing the peak year of activity across the four-year construction programme and therefore a conservative worst-case scenario.

9.2.13 Taking account of the limited spatial extent of the predicted effects, the temporary nature of construction activities, the conservative assumptions applied within the assessment, and the fact that the qualifying habitats within the SPA and Ramsar would remain unaffected, the predicted changes in pollutant concentrations and deposition rates would not result in measurable changes to the extent, distribution, structure or function of qualifying habitats. Consequently, the ecological conditions necessary to support the qualifying bird species would be maintained, and the conservation objectives of the Teesmouth and Cleveland Coast SPA (Marine Component GB) (and therefore, the Teesmouth and Cleveland Coast Ramsar) would continue to be achieved. Therefore, the construction phase would not adversely affect the integrity of the designated sites.

Operation

9.2.14 During operation, emissions from the Proposed Development have the potential to contribute to increased concentrations of NO_x, NH_3, and associated nitrogen and acid deposition within the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar. Such pollutants could, in principle, affect the qualifying habitats that support the designated site's bird populations and ecological functions.

9.2.15 A detailed operation air quality assessment has been carried out as part of the ES (see **Appendix 8B: Air Quality Operation Assessment (ES Volume III)**), assessing the impact of nitrogen (via NO_x and NH_3 emissions), and acid deposition on the designated sites. This assessment was carried out on the basis that the Proposed Development must be designed to comply with either the IED or the Best Available Technique (BAT) Reference Documents (BREFs),. In order to meet these requirements, embedded mitigation will be required consisting of:

- Low-NOx burners.
- Secondary abatement controls such as SNCR/SCR.

9.2.16 Due to the use of SNCR/SCR resulting in an additional emission of NH3 slip, further abatement in the form of an additional SNCR/SCR to further reduce NOx and wet scrubbing to reduce NH3 may be required to reduce the impacts of nitrogen deposition from the Proposed Development. This would be required on the emissions from the CHP plant stack and the SAF Production Product Pretreatment stack.

9.2.17 An additional modelling scenario carried out at the lower NO_x and NH_3 emission concentrations, achievable with this additional mitigation, concluded that the annual mean NOx Predicted Environmental Concentration (PEC) predicted at the worst-case ecological feature (E001a) was 0.2µg/m^3, which represents 0.7% of the Air Quality Assessment Level (AQAL), deemed to be a negligible impact in line with the EPUK/IAQM descriptors [Ref 31]. Therefore, the overall effect of annual mean NOx concentrations in the additional modelling scenario could be screened out as insignificant at all sensitive ecological features.

9.2.18 A significant reduction in the nutrient nitrogen deposition PECs was predicted in the additional modelling scenario. At the lower NO_x and NH_3 emission concentrations, the PECs were below 1% of the relevant critical load at E001c to E001e. The nutrient nitrogen deposition PEC at the worst-case feature E001a was 1.16% of the relevant critical load. However, average nutrient nitrogen deposition at this feature over the five-year period (2020 to 2024) was 0.91% of the Critical Load (5kgNha/yr), with the potential for significant effects at the worst-case ecological feature deemed unlikely. This indicates that the residual contribution from the Proposed Development would be negligible and would not be sufficient to alter habitat condition, vegetation composition, nutrient status, or ecological functioning.

9.2.19 Importantly, the modelling results demonstrate that pollutant concentrations and deposition rates would remain at levels that would not result in measurable changes to the extent, distribution, structure or function of the qualifying habitats of the SPA and Ramsar, nor the habitats relied upon by qualifying bird species. As a result, the ecological processes and habitat conditions necessary to support the designated features would be maintained. The relevant conservation objectives of the Teesmouth and Cleveland Coast SPA (Marine Component GB) (and therefore, the Teesmouth and Cleveland Coast Ramsar) are:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- *The extent and distribution of the habitats of the qualifying features*
- *The structure and function of the habitats of the qualifying features*
- *The supporting processes on which the habitats of the qualifying features rely*

9.2.20 As the habitats of the qualifying features would not be degraded, these conservation objectives would be maintained.

9.2.21 Taking account of the embedded and additional mitigation measures secured through the Proposed Development, the assessment concludes that operational emissions would not undermine the ecological integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar. The conservation objectives of the designated sites would be maintained and no adverse effect on site integrity would occur.

Direct Habitat Loss

9.2.22 The Proposed Development will result in the permanent loss of approximately 12.20 ha of the Teesmouth and Cleveland Coast SPA (Marine Component GB), representing approximately 0.09% of the designated site, associated with construction of the new quay structure and removal of the existing revetment and gabion defences. Temporary habitat disturbance may also occur during construction; however, these effects will be spatially limited and short term.

9.2.23 The habitats affected comprise artificial and highly modified coastal infrastructure, including the existing revetment and gabion baskets. These habitats are not qualifying habitats of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site. Direct survey access to the revetment was not possible due to health and safety constraints; therefore, a proxy baseline was applied using ecological survey data collected for the nearby South Bank Quay project, located approximately 1.5km upstream. That baseline identified only tubificid worms and limited bivalve communities characteristic of a disturbed, low-diversity intertidal environment, with no species of conservation importance recorded. A review of photographs of the existing revetment during spring low tide similarly identified only sparse and isolated patches of fucoid algae, with no notable habitats or species present. These communities do not form part of the SPA or Ramsar qualifying interests and are not considered important in maintaining the ecological structure and function of the designated sites.

9.2.24 Wintering bird surveys undertaken during 2025/2026 (see **Appendix 10D: Wintering Birds Survey Report (ES Volume III, Application Document Ref. 6.3)**) recorded small numbers of herring gull using the existing jetties and adjacent land as occasional perching and roosting locations. Recorded numbers were well below the 1% population threshold and do not represent a significant proportion of the SPA or Ramsar waterbird assemblage. The habitats affected by the Proposed Development do not support significant numbers of qualifying bird species and are not considered important supporting habitat. Furthermore, suitable alternative roosting and perching opportunities are available within the wider estuarine environment, including within the Proposed Development once construction is complete. The affected habitats are therefore not considered FLL supporting the qualifying bird populations.

9.2.25 Consequently, the loss of the revetment, gabions and associated species assemblages will not affect the extent, distribution, structure or function of any qualifying habitats of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site. Similarly, it will not materially affect the abundance, distribution or supporting habitat availability for qualifying bird species or the waterbird assemblage for which the sites are designated. The conservation objectives of maintaining the extent and distribution of qualifying features, supporting habitats and ecological processes will therefore remain unaffected.

9.2.26 Taking account of the limited extent of habitat loss, the non-qualifying nature of the habitats affected, the absence of qualifying species reliance on these habitats, and the availability of alternative habitat within the wider estuary, the Proposed Development will not undermine the ecological integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site. Accordingly, direct habitat loss is not predicted to result in an adverse effect on site integrity.

Indirect Habitat Degradation

Construction

9.2.27 The Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar site fall within the Zol for construction-related dust emissions and emissions associated with NRMM. Dust deposition has the potential to affect habitats within the designated sites through the smothering of vegetation, contamination of soils and plant surfaces, and reductions in habitat quality. Such effects could, in turn, affect habitats that support the qualifying bird species of the SPA and Ramsar site by reducing habitat condition, food availability or the suitability of areas used for roosting, foraging and shelter.

9.2.28 The **fCEMP (Appendix 5A, ES Volume III, Application Document Ref. 6.3)** includes measures to control and minimise dust generation and dispersion during construction, including the preparation and implementation of a Dust Management Plan (DMP), dust suppression through the use of water sprays, covering of spoil stockpiles and the covering of vehicles transporting loose materials on and off site. These measures will be secured through the construction environmental management process and implemented throughout the construction phase.

9.2.29 With these controls in place, dust emissions arising from construction activities are expected to be limited, localised and temporary in nature. Consequently, dust deposition within habitats that support the qualifying bird assemblages of the SPA and Ramsar site would not be sufficient to result in measurable changes to habitat extent, structure, function or condition. The habitats within the designated sites would therefore continue to provide suitable supporting habitat for qualifying bird species, and the conservation objectives relating to the maintenance of habitat extent, distribution, structure, function and supporting ecological processes would continue to be achieved.

9.2.30 Accordingly, construction-phase dust emissions would not result in indirect habitat degradation capable of undermining the conservation objectives of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site. Accordingly, indirect habitat degradation is not predicted to result in an adverse effect on site integrity.

Operation

Dust Emissions

9.2.31 During operation, vehicle movements, loading activities and feedstock handling have the potential to generate dust which could be transported to habitats within the SPA and Ramsar site. As during construction, dust deposition could theoretically affect vegetation and habitat condition through smothering or contamination, potentially reducing the quality of habitats used by qualifying bird species.

9.2.32 Operational controls will include implementation of a DMP (to be prepared by the construction contractor and secured by a requirement of the Development Consent Order **(draft DCO, Application Document Ref. 3.1)**, dust suppression measures within loading and storage areas, and the covering of vehicles transporting materials to and from the Proposed Development. These measures will minimise the generation and dispersal of dust from operational activities.

9.2.33 Following implementation of these controls, any residual dust deposition would be negligible and would not result in measurable changes to the condition or function of habitats supporting qualifying species. Habitat availability and suitability for qualifying bird populations would therefore be maintained, and the conservation objectives relating to habitat extent, structure, function and supporting processes would continue to be met. Operational dust emissions would not result in indirect habitat degradation that could affect the integrity of the SPA or Ramsar site.

Shading

9.2.34 The final dimensions and layout of the Proposed Development are yet to be confirmed; however, the tallest structures are anticipated to comprise flares and stacks with a maximum height of 140m secured in the **draft DCO (Application Document Ref. 3.1)**. The Proposed Development is located within an established industrial landscape that already contains numerous large-scale industrial structures of a similar size and scale. Consequently, habitats within the adjacent areas of the SPA and Ramsar site are already subject to the influence of existing built infrastructure and associated shading effects.

9.2.35 Any additional shading arising from the Proposed Development would represent a minor incremental change within this existing industrial context. The habitats located adjacent to the Proposed Development would continue to provide their existing ecological functions, including supporting qualifying bird species through the provision of roosting, perching and other supporting habitat opportunities. There is no evidence to indicate that the anticipated increase in shading would result in a meaningful reduction in habitat availability, habitat quality or ecological function for qualifying species.

9.2.36 As such, the conservation objectives relating to the maintenance of habitat extent, structure, function and supporting ecological processes would continue to be met, and the integrity of the designated sites would not be affected.

9.2.37 Taking into account the embedded mitigation detailed above; the residual effects of construction dust, operational dust emissions and shading would not result in degradation of habitats supporting the qualifying features of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site. The designated habitats would continue to function as supporting habitat for the qualifying bird assemblages, and the conservation objectives relating to habitat extent, distribution, structure, function and supporting processes would remain unaffected. Therefore, indirect habitat degradation arising from the Proposed Development would not undermine the

conservation objectives of the designated sites and would not result in an adverse effect on site integrity.

Visual Disturbance

Artificial Lighting

9.2.38 Artificial lighting during construction has the potential to affect qualifying bird species of the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar site through changes in behaviour associated with increased light levels. Such effects could include avoidance of illuminated areas, displacement from suitable habitat, disruption to foraging, roosting and commuting behaviour, and an increased perception of predation risk. These effects may reduce the suitability of habitat used by qualifying species and, if sufficiently extensive, could affect the distribution of birds within designated and supporting habitats.

9.2.39 The areas of the SPA and Ramsar site closest to the Proposed Development include habitats associated with the River Tees and adjacent supporting habitat. Whilst these areas have been identified as potentially suitable for wintering birds, the 2025/2026 wintering bird surveys (**Appendix 10D: Wintering Birds Survey Report (ES Volume III, Application Document Ref. 6.3)**) indicate that habitats in closest proximity to the Proposed Development, including the northern parcel, support only non-significant numbers of SPA/Ramsar assemblage species, with counts below the relevant 1% designation thresholds.

9.2.40 Embedded mitigation will be implemented through the **Framework Lighting Strategy (Appendix 13C, ES Volume III, Application Document Ref. 6.3)**, which requires all construction lighting to comply with the recommended limits for Environmental Zone E3. As a result, light spill and increases in ambient lighting will be controlled and minimised. Following implementation of these measures, residual increases in lighting would be limited to a localised area and would not materially alter the suitability of habitats relied upon by qualifying bird species. The available evidence indicates that construction lighting would not result in the displacement of significant numbers of SPA or Ramsar birds from designated or supporting habitat.

9.2.41 Accordingly, qualifying species would remain able to use the SPA, Ramsar site and associated supporting habitats for feeding, roosting and commuting, and the conservation objectives relating to the population, distribution and supporting habitat of qualifying species would continue to be met. Construction-phase artificial lighting would therefore not adversely

affect the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site.

Loss of Sightlines

9.2.42 The construction of buildings and structures associated with the Proposed Development has the potential to alter existing sightlines and introduce visual disturbance. Qualifying bird species may respond to the presence of large structures by avoiding affected areas if habitat suitability is perceived to be reduced. Potential effects could include changes to foraging, roosting, resting or commuting behaviour.

9.2.43 The sightline requirements of qualifying wading birds are known to vary according to species, behaviour and habitat context. Evidence derived from alert distances and flight initiation distances indicates that sightline requirements are typically between 100m and 300m for foraging birds in open habitats, increasing to approximately 150m to 600m during more sensitive behaviours such as roosting. Similarly, waterfowl species that form part of the SPA and Ramsar assemblage generally exhibit sightline requirements of approximately 100m to 300m, depending on species and habitat context.

9.2.44 The 2025/2026 wintering bird surveys (**Appendix 10D: Wintering Birds Survey Report (ES Volume III, Application Document Ref. 6.3)**) demonstrate that habitats located closest to the Proposed Development, including the northern parcel, support only low numbers of SPA/Ramsar assemblage species, with counts below the 1% threshold relevant to designation. In contrast, habitats supporting significant numbers of qualifying species, including RSPB Back Saltholme and Port Clarence Pool, RSPB Saltholme East Pool, Saltholme West Pool and Dormans Pool, are located approximately 300m to 1.6km from the Proposed Development.

9.2.45 These habitats are beyond, or at the upper limit of, the established sightline distances at which qualifying waders and waterfowl are likely to respond to visual disturbance. The survey evidence therefore indicates that the areas supporting significant numbers of qualifying species would not experience a meaningful reduction in habitat suitability as a result of changes in sightlines associated with construction activities. Consequently, the presence of construction structures would not result in the displacement of significant numbers of SPA or Ramsar birds from designated or supporting habitats.

9.2.46 The evidence indicates that qualifying species would continue to utilise the SPA, Ramsar site and associated supporting habitats throughout the construction phase. The habitats supporting the qualifying bird assemblages would remain capable of fulfilling their ecological function, and

the conservation objectives relating to species populations, distribution and supporting habitat would continue to be achieved.

9.2.47 Therefore, visual disturbance, including the temporary loss of sightlines associated with construction of the Proposed Development, would not adversely affect the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site.

Loss of Functionally Linked Land

9.2.48 Sections of the Proposed Development are located adjacent to, or within close proximity of, the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar Site, including the Main Site, proposed quay and utility corridors along Dabholm Gut/Cut. Construction activities will result in the permanent loss of some habitats within the development footprint and may also lead to temporary disturbance through noise, visual intrusion and, where relevant, changes to water quality. The potential effect on the SPA and Ramsar therefore depends on whether the habitats affected function as important FLL for qualifying species.

9.2.49 Breeding bird surveys undertaken in 2025 (**Appendix 10C: Breeding Birds Survey Report (ES Volume III, Application Document Ref. 6.3)**), supplemented by incidental records collected by the Ecological Clerk of Works (ECoW) during ground investigations, recorded no breeding populations of SPA or Ramsar qualifying bird species within the habitats to be lost or disturbed. The survey evidence indicates that these habitats do not provide significant breeding habitat for qualifying features of the designated sites and therefore do not function as important breeding FLL.

9.2.50 Wintering bird surveys undertaken during 2025/2026 (**Appendix 10D: Wintering Birds Survey Report (ES Volume III, Application Document Ref. 6.3)**) identified limited use of the Main Site by qualifying overwintering species. Herring gull, a qualifying feature of the Teesmouth and Cleveland Coast SPA (Marine Component GB) waterbird assemblage, was recorded at a peak count of 12 individuals. This represents a very small proportion of the SPA population and is well below the 1% threshold typically used to identify sites of importance for qualifying waterbirds. The low numbers recorded indicate that the habitats affected by the Proposed Development do not support significant concentrations of herring gull or other qualifying wintering species. In addition, extensive areas of suitable foraging and roosting habitat are present within the surrounding landscape and are available to support any birds that currently utilise the site.

9.2.51 Taken together, the breeding and wintering bird survey evidence (**Appendix 10C: Breeding Birds Survey Report and Appendix 10D: Wintering**

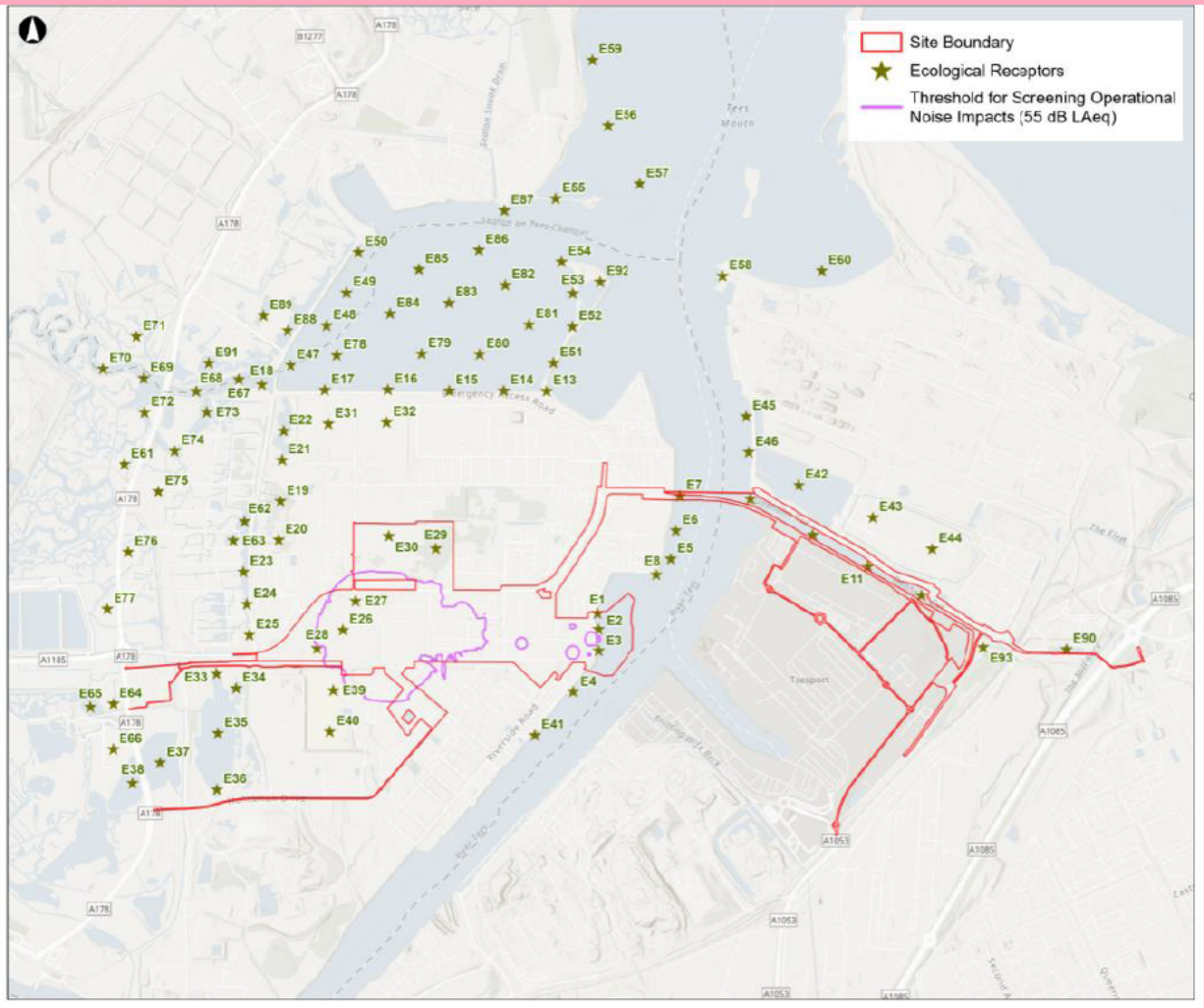
Birds Survey Report (ES Volume III, Application Document Ref. 6.3)) demonstrates that the habitats affected by the Proposed Development are not used by significant numbers of qualifying SPA or Ramsar species and do not constitute important FLL. Consequently, habitat loss and disturbance associated with construction would not affect the population, distribution or supporting habitat of qualifying species at a scale relevant to the conservation objectives of the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar site. The conservation objectives of the designated sites would therefore continue to be met, and no adverse effect on site integrity would occur as a result of the loss of FLL during construction.

Disturbance from Noise and Vibration

Construction

9.2.52 Construction activities, including piling, drilling and the movement of plant and machinery, have the potential to increase noise and vibration levels within and adjacent to the Proposed Development. This could result in temporary disturbance to qualifying bird species of the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar site through avoidance of feeding, roosting or commuting habitats.

9.2.53 The construction noise assessment identified three ecological receptors where predicted noise levels would exceed ecological assessment thresholds (i.e. 55dB or an increase of more than 3dB above baseline levels): LGF Quayside, Dabholm Gut and Bran Sands Lagoon (Ecological Receptors E2 and E42; **Figure 10.6: Locations of Ecological Receptors (ES Volume II, Application Document Ref. 6.2** and reproduced in Annex A). Inset 9.2 below shows the location of ecological receptors used for the noise assessment.



Inset 9.2 Location of ecological receptors used for the noise assessment.

9.2.54 Wintering bird surveys undertaken during 2025/2026 (**Appendix 10D: Wintering Birds Survey Report (ES Volume III, Application Document Ref. 6.3)**) and supporting desk study information confirm that Dabholm Gut and Bran Sands Lagoon support qualifying SPA and Ramsar species in ecologically important numbers, including black-headed gull, common redshank, gadwall, herring gull and lapwing. At these locations, disturbance has the potential to affect habitats used for foraging and roosting by qualifying features.

9.2.55 To avoid significant disturbance effects, acoustic and visual screening will be installed as required, along the north and south of the access track on the north bank of Dabholm Gut in accordance with industry good practice construction noise management measures, see **Figure 10.7 (ES Volume II, Application Document Ref. 6.2)**. These measures are secured in the CEMP. The screening will provide up to a 10dB reduction in noise levels

while also removing direct lines of sight between construction activities and sensitive ecological receptors. Visual screening is particularly important for reducing behavioural disturbance because waterbirds often respond to a combination of visual and acoustic stimuli.

9.2.56 With the implementation of these mitigation measures, predicted noise levels at Dabholm Gut and Bran Sands Lagoon fall below the ecological assessment threshold of 55dB. At LGF Quayside, residual noise levels remain above 55dB but represent less than a 3dB increase over existing baseline conditions. Consequently, residual changes in the acoustic environment are limited and are not predicted to result in significant displacement of qualifying species from important supporting habitat.

9.2.57 The survey evidence demonstrates that the wider SPA and Ramsar complex contains extensive areas of suitable habitat, including intertidal habitats, lagoons, ponds and coastal waterbodies, that support qualifying species across a broad geographical area. The temporary and localised nature of construction disturbance, combined with the reduction in noise levels achieved through mitigation, means that qualifying species would continue to have access to sufficient supporting habitat for feeding, roosting and other key ecological functions throughout the construction phase.

9.2.58 Construction noise and vibration would therefore not result in a reduction in the population or distribution of qualifying species, nor would it undermine the extent, availability or function of supporting habitats relied upon by the qualifying features. Accordingly, the conservation objectives of the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar site would continue to be met, and no adverse effect on site integrity would occur during construction.

Operation

9.2.59 During operation, activities associated with the Proposed Development have the potential to increase noise levels within parts of the Main Site and adjacent habitats. Elevated noise levels could result in disturbance to birds using nearby habitats for foraging, roosting or breeding.

9.2.60 Operational noise modelling (see **Chapter 9: Noise and Vibration, ES Volume I, Application Document Ref. 6.1**) identified areas where ecological assessment thresholds could potentially be exceeded prior to mitigation, principally within the Main Site, proposed quay area and parts of the Reclamation Pond. However, the assessment incorporates embedded mitigation measures, including noise emission limits for fixed plant, stacks and quayside loading operations. Following implementation of these measures, operational noise levels do not exceed the ecological

assessment threshold of 55dB and significant disturbance effects are not predicted.

9.2.61 The ecological baseline and 2025/2026 wintering bird surveys (**see Appendix 10D: Wintering Birds Survey Report (ES Volume III, Application Document Ref. 6.3)**) indicate that use of the Main Site by SPA and Ramsar qualifying species is limited. Whilst herring gull, a qualifying feature of the SPA waterbird assemblage, was recorded within the Main Site, the maximum count was 12 individuals, well below the threshold for the site to be considered FLL supporting a significant proportion of the designated population. The Main Site is situated within a heavily industrialised environment and birds using the area are considered likely to be habituated to existing levels of anthropogenic activity and noise. Consequently, the small number of qualifying species recorded within the Main Site would not represent an ecologically significant component of the SPA or Ramsar populations.

9.2.62 Similarly, small numbers of herring gull were recorded using existing jetties and adjacent land that coincide with the proposed quay location. These records were substantially below the relevant population thresholds and do not indicate that the area functions as important supporting habitat for SPA or Ramsar qualifying features. Following construction, operational infrastructure may continue to provide opportunities for perching and loafing, meaning the overall ecological function of the area is unlikely to be materially altered.

9.2.63 Baseline records identified several notable bird species at the Reclamation Pond, including black-tailed godwit, greenshank, green sandpiper, kingfisher, little gull and long-tailed duck. However, wintering bird surveys undertaken during 2022/2023 (**Appendix 10D: Wintering Birds Survey Report (ES Volume III, Application Document Ref. 6.3)**) recorded no SPA or Ramsar qualifying species, nor assemblage species, using the pond. This indicates that the Reclamation Pond is of negligible importance to the qualifying winter bird interest of the SPA and Ramsar. Furthermore, the pond extends across approximately 13.5 ha and operational noise modelling indicates that large areas, particularly towards the southern part of the waterbody, remain outside the predicted ZoI. Any birds using the pond would therefore retain access to suitable undisturbed habitat within the waterbody itself and the wider designated site network.

9.2.64 Breeding bird surveys undertaken in 2025 (**Appendix 10C: Breeding Birds Survey Report (ES Volume III, Application Document Ref. 6.3)**) recorded a range of notable breeding and foraging bird species associated with the Main Site and quayside. Whilst some displacement of these species may

occur as a result of development, the majority comprise widespread, adaptable species associated with industrial and brownfield habitats rather than SPA or Ramsar qualifying features. Suitable habitats would remain available in adjacent areas, and operation of the Proposed Development would not affect the integrity of habitats supporting the designated site's qualifying interests.

9.2.65 Overall, the operational noise assessment demonstrates that, following embedded mitigation, qualifying species of the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar site would continue to be supported within the designated sites and surrounding habitats. The availability, distribution and ecological function of supporting habitats would be maintained, and there would be no reduction in the abundance or distribution of qualifying species attributable to operational noise or vibration disturbance.

9.2.66 Therefore, operational noise and vibration from the Proposed Development would not adversely affect the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site with respect to their conservation objectives relating to qualifying species, supporting habitats and ecological processes.

Hydrological change

Construction

9.2.67 Construction activities associated with the Proposed Development have the potential to affect water quality and hydrological processes within the River Tees through temporary increases in suspended sediment concentrations and turbidity, remobilisation of sediment-bound contaminants, and accidental release of pollutants. The principal activities with the potential to affect water quality include demolition of existing marine infrastructure, revetment removal, construction of the temporary bund, capital dredging, piling activities, vessel anchoring and increased marine traffic.

Suspended Sediment and Turbidity

9.2.68 Capital dredging, demolition works, anchoring and other seabed-disturbing activities have the potential to increase suspended sediment concentrations and turbidity within the water column. These activities may also result in the temporary remobilisation of contaminants associated with estuarine sediments.

9.2.69 The material to be dredged comprises fluvial and marine mud, fine sand and silty sand and the underlying bedrock formed of Mercia mudstone. Approximately, 60 % of the dredged material will be ‘clean’ underlying

geological units and 40% the recent sediment deposits. Baseline sediment sampling from the proposed capital dredging area indicates the presence of elevated contaminant concentrations similar to those from the wider Tees Estuary, with most values exceeding Cefas Action Level 1 but remaining below Action Level 2. Concentrations of mercury and cadmium exceed Cefas Action Level 2 at a single station therefore, dredged material from this area is unsuitable for disposal at sea and alternative management measures will be required. Material with concentrations between Action Levels 1 and 2 is subject to further assessment and regulatory control prior to disposal.

9.2.70 The sediment plume from the dredging activities has been modelled with sediment anticipated to travel 2.1km down estuary and 4km up estuary with deposition thicknesses between 1-2mm under the worst-case scenario. The modelling does not consider the resuspension of sediment; therefore it is anticipated that some of this sediment will be removed from the seabed/intertidal habitats through normal coastal processes. Suspended sediment concentrations were also shown to decline rapidly following cessation of dredging activities.

9.2.71 The primary receptor potentially affected by increased turbidity is saltmarsh habitat, which supports the ecological functioning of the SPA and Ramsar through its role in providing feeding, roosting and refuge habitat for qualifying bird species. Increased turbidity and the associated remobilisation of contaminants could theoretically affect saltmarsh habitats if suspended sediments were transported to these areas in sufficient concentrations.

9.2.72 However, the nearest downstream saltmarsh habitat is located approximately 2.2km from the Proposed Development via the shortest potential overtopping pathway and approximately 3.6km via the hydrological pathway. Consequently, suspended sediment concentrations capable of causing ecological change are not expected to reach saltmarsh habitats supporting qualifying species.

9.2.73 As a result, the temporary and localised increases in turbidity and suspended sediment concentrations would not adversely affect the extent, distribution or function of qualifying habitats, nor the ecological processes that support the qualifying bird assemblages of the SPA and Ramsar. Water quality conditions would remain sufficient to support the conservation objectives of the designated sites.

Chemical Contamination and Water Quality

9.2.74 Construction activities also have the potential to affect water quality through accidental releases of fuels, oils or other contaminants, commissioning of pipelines, and contaminated surface water runoff.

9.2.75 An accidental fuel spill from marine vessels or construction plant could introduce hydrocarbons into the aquatic environment. Whilst waterbirds are potentially sensitive to oil contamination, the likelihood of a significant pollution event occurring is very low due to the embedded mitigation measures that will be implemented throughout construction.

9.2.76 These measures include:

- immediate reporting and response to any accidental spillage in accordance with the Shipboard Oil Pollution Emergency Plan (SOPEP), Harbour Authority requirements and Environment Agency procedures;
- storage of fuels and hazardous substances within appropriately designed bunded areas located away from watercourses and drainage pathways;
- use of drip trays and contained refuelling areas; and
- implementation of pollution prevention and emergency response procedures through the **fCEMP (Appendix 5A, ES Volume III, Application Document Ref. 6.3)**.

9.2.77 **The fCEMP (Appendix 5A, ES Volume III, Application Document Ref. 6.3)** secures these measures throughout construction, ensuring that risks associated with fuel, oil and chemical spills are reduced as far as reasonably practicable.

9.2.78 Pipeline commissioning will involve pressure testing. Any water contaminated with treatment chemicals will be collected and transported to a permitted treatment facility for appropriate disposal. Only water meeting relevant quality standards will be discharged to the surface water drainage system and ultimately the Tees Estuary.

9.2.79 To manage surface water runoff, the construction phase will incorporate embedded pollution prevention measures including impermeable surfacing in appropriate areas, bunded storage of hazardous substances and preventative maintenance procedures. These measures will be implemented through the final CEMP and will minimise the potential for contaminants to enter the estuarine environment.

9.2.80 Given the regulatory controls governing dredging and disposal activities, together with the embedded pollution prevention measures secured through

the **fCEMP (Appendix 5A, ES Volume III, Application Document Ref. 6.3)** the residual risk of contamination affecting designated habitats or qualifying species is negligible. Any effects would be highly localised, temporary and rapidly managed through established emergency response procedures.

Operation

9.2.81 During operation, activities associated with the Proposed Development have the potential to affect water quality and hydrological processes within the River Tees through temporary increases in suspended sediment concentrations and turbidity, remobilisation of sediment-bound contaminants, increases in nitrogen loading and release of contaminated wastewater. Wastewater will be produced as a result of SAF process, domestic/sanitary processes, run-off from surface water drainage and outflows from the chemical and hydrocarbon drains.

9.2.82 Contaminated runoff and domestic/sanitary wastewater will be stored and then transported offsite for processing. As these wastewater streams are transported for treatment and disposal outside the nutrient neutrality catchment, they do not contribute to nitrogen loading within the catchment.

9.2.83 Wastewater produced as a result of SAF process and treated outflows from the chemical and hydrocarbon drains would be discharged via the LSO into the North Sea. As such, no potentially contaminated discharges will be made directly into the designated sites and the discharges via the LSO are expected to have negligible impacts on the designated sites due to dispersion, dilution and tidal exchange within the coastal system.

9.2.84 Although construction and operational activities have the potential to cause temporary changes in water quality through increased turbidity, suspended sediment concentrations, nitrogen loading and contamination, the assessment demonstrates that any effects would be localised, temporary and subject to effective mitigation. Water quality and associated hydrological processes would remain capable of supporting the extent, distribution, structure and function of qualifying habitats and the populations of qualifying SPA and Ramsar species that depend upon them. The conservation objectives would therefore continue to be met, and no adverse effect on the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar would occur.

Hydrodynamic change

9.2.85 During construction, there is the potential for the Proposed Development to affect the hydrodynamic processes within the designated sites due to the new quay and capital dredging works.

9.2.86 Detailed coastal process modelling has been undertaken to assess the impacts on the Proposed Development on the designated sites. The model has indicated that the new quay will have minimal impacts on flow rates within the River Tees, which will in turn have minimal impacts on sediment transportation within the designated sites and these impacts are limited to areas within 500m of the Proposed Development. Within the Navigator Berths, sediment deposition is anticipated to increase by 2-3cm per year with siltation increasing by 13cm per year. These depositions will be removed by regular dredging activities and as such will not have an adverse effect on the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar.

9.2.87 Dredging works are already carried out across the Tees and the effects of dredging from the Proposed Development are expected to have a negligible impact. Industry good practice will be required to minimise impacts to fish and habitats, for example through use of low turbidity dredging techniques, preventing accidental extraction of fish and scheduling major dredging works to avoid key ecological periods.

9.2.88 The resultant sediment plume from the dredging activities has also been modelled with sediment anticipated to travel 2.1km down estuary and 4km up estuary with deposition thicknesses between 1-2mm under the worst-case scenario. The modelling does not consider the resuspension of sediment; therefore, it is anticipated that some of this sediment will be removed from the seabed/intertidal habitats through normal coastal processes. However, the nearest downstream saltmarsh habitat is located approximately 2.2km from the Proposed Development via the shortest potential overtopping pathway and approximately 3.6km via the hydrological pathway. Consequently, suspended sediment concentrations capable of causing ecological change are not expected to reach saltmarsh habitats supporting qualifying species.

Operation

9.2.89 Detailed coastal process modelling has been undertaken to assess the impacts on the Proposed Development on the designated sites **(Appendix 12A: Coastal and Estuary Processes (ES Volume III, Application Document Ref. 6.3))**. The model has indicated that the new quays will have minimal impacts on flow rates within the River Tees, which will in turn have minimal impacts on sediment transportation within the designated sites and these impacts are limited to areas within 500m of the Proposed Development. Within the Navigator Berths, sediment deposition is anticipated to increase by 2-3cm per year with siltation increasing by 13cm per year. These depositions will be removed by regular dredging activities

and as such will not have an adverse effect on the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar.

9.2.90 Dredging works are already carried out across the Tees and the effects of dredging from the Proposed Development are expected to have a negligible impact. Industry good practice will be required to minimise impacts to fish and habitats, for example through use of low turbidity dredging techniques, preventing accidental extraction of fish and scheduling major dredging works to avoid key ecological periods.

9.2.91 Overall, the hydrodynamic changes that will occur as a result of the Proposed Development would not impact the extent, distribution, structure and function of qualifying habitats and the populations of qualifying SPA and Ramsar species that depend upon them. The conservation objectives would therefore continue to be met, and no adverse effect on the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar would occur.

Site Integrity Conclusion

9.2.92 This AA has considered the potential effects of the Proposed Development on the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Teesmouth and Cleveland Coast Ramsar site through the following impact pathways: introduction and spread of INNS, air pollution, direct habitat loss, indirect habitat degradation, visual disturbance (including artificial lighting and loss of sightlines), loss of FLL, disturbance from noise and vibration, hydrological change and hydrodynamic change. Each pathway has been assessed individually, taking account of the embedded and additional mitigation measures secured through the Proposed Development.

9.2.93 The assessment concludes that the residual effects associated with all impact pathways would be negligible or not ecologically significant. Measures secured through the fCEMP, INNS Management Plan, Framework Lighting Strategy, Dust Management Plan, pollution prevention controls, vessel biosecurity requirements and operational emission controls ensure that the risk of effects on qualifying habitats and species is reduced to a level at which the conservation objectives of the designated sites would not be undermined. Air quality modelling demonstrates that residual pollutant concentrations and deposition rates would not result in measurable changes to habitat condition or ecological functioning. Hydrological and hydrodynamic assessments indicate that water quality, sediment transport and estuarine processes would remain capable of supporting habitats used by qualifying species. Construction and operational noise, vibration, lighting and visual disturbance would not result in the displacement of significant numbers of qualifying birds from important

supporting habitats. The assessment has also demonstrated that habitats affected by the Proposed Development do not comprise qualifying habitats, do not constitute important FLL, and do not support qualifying species in numbers relevant to the SPA or Ramsar designation. Similarly, the introduction or spread of INNS would be effectively controlled through internationally recognised biosecurity measures, resulting in a negligible residual risk.

9.2.94 When considered collectively, the residual effects arising from the Proposed Development would not result in changes to the extent, distribution, structure or function of qualifying habitats within the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site. The supporting ecological processes on which those habitats rely, including water quality, sediment processes and habitat condition, would remain intact. Furthermore, the assessment demonstrates that the populations, distribution and supporting habitats of the qualifying bird species and waterbird assemblages would be maintained throughout both construction and operation. Qualifying species would continue to have access to sufficient feeding, roosting, nesting and commuting habitat within the designated sites and the wider estuarine environment.

9.2.95 Accordingly, the conservation objectives of the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar site would continue to be achieved. The Proposed Development would not undermine the ability of the designated sites to maintain or restore the extent and distribution of qualifying habitats, the structure and function of those habitats, the supporting processes on which they depend, or the populations and distribution of qualifying species.

9.2.96 Having considered the effects of the Proposed Development on the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar site, both alone and taking account of the mitigation measures secured through the Proposed Development, it can be concluded that the conservation objectives of the designated sites would continue to be met. The extent, distribution, structure and function of qualifying habitats, together with the supporting ecological processes, populations and distribution of qualifying species, would be maintained. Therefore, the Proposed Development would not adversely affect the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Teesmouth and Cleveland Coast Ramsar site.

9.3 North York Moors SPA

Air Pollution

9.3.1 During operation, there is the potential for air pollution from the Proposed Development to degrade qualifying habitats of the designated site as a result of emissions from operational plant and machinery. These pollutants include NO_x, NH_3, nitrogen deposition and acid deposition.

9.3.2 A detailed operation air quality assessment has been carried out as part of the ES (**Appendix 8B: Air Quality Operational Assessment, ES Volume III, Application Document Ref. 6.3**), assessing the impact of NO_x, NH_3, nitrogen and acid deposition on the designated site. This assessment was carried out with the assumption that the Proposed Development will be designed to comply with either the IED or the BREFs, whichever is more prescriptive. In order to meet these requirements, embedded mitigation will be required consisting of:

- Low-NOx burners.
- Secondary abatement controls such as SNCR/SCR.

9.3.2.1 Due to the use of SNCR/SCR resulting in an additional emission of NH3 slip, further abatement in the form of an additional SNCR/SCR to further reduce NOx and wet scrubbing to reduce NH3 may be required to reduce the impacts of nitrogen deposition from the Proposed Development. This would be required on the emissions from the CHP plant stack and the SAF Production Product Pretreatment stack.

9.3.3 Once this embedded mitigation is taken into account, all air pollutants are predicted to be below the critical load at the designated site. Critical loads are defined as '*a quantitative estimate of an exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge*'[Ref 42]. As the emissions from the Proposed Development will not cause the pollutant levels to increase above the critical load, it can therefore be assessed that the habitats that support the qualifying features of the designated site (merlin and golden plover) will not be degraded and will continue to function. The relevant conservation objectives of the North York Moors SPA are:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- *The extent and distribution of the habitats of the qualifying features*
- *The structure and function of the habitats of the qualifying features*

- *The supporting processes on which the habitats of the qualifying features rely*

9.3.4 As the predicted emissions will be below the critical load and the habitats being unaffected by the Proposed Development, these conservation objectives will continue to be achieved.

9.3.5 In summary, the predicted air quality impacts would not affect the habitats supporting merlin and golden plover, that the conservation objectives of the North York Moors SPA would continue to be met, and that the Proposed Development would not adversely affect the integrity of the site.

Site Integrity Conclusion

9.3.6 The detailed air quality assessment carried out as part of the ES has assessed that all pollutants produced by the Proposed Development will be below the critical load of all habitats within the North York Moors SPA. The conservation objectives of the designated site will continue to be met as the designated site will continue to support the qualifying bird species and their supporting habitats.

9.3.7 Having regard to the conservation objectives of the North York Moors SPA and taking account of the mitigation incorporated within the Proposed Development, air quality effects would not adversely affect the integrity of the site.

9.4 North York Moors SAC

Air Pollution

9.4.1 During operation, there is potential for air pollution arising from the Proposed Development to affect the qualifying habitats of the North York Moors SAC through emissions from operational plant and machinery. Relevant pollutants include NO_x, NH_3, nitrogen deposition and acid deposition, all of which have the potential to adversely affect sensitive heathland and bog habitats.

9.4.2 A detailed operational air quality assessment has been undertaken as part of the ES (**Appendix 8B: Air Quality Operational Assessment, ES Volume III, Application Document Ref. 6.3**) to assess the effects of NO_x, NH_3, nitrogen deposition and acid deposition on the North York Moors SAC. The assessment was carried out on the basis that the Proposed Development will be designed to comply with either the IED or the BREFs, whichever is more stringent. To achieve compliance, embedded mitigation measures will be incorporated into the design of the Proposed Development, including:

- Low-NOx burners.

- Secondary abatement controls such as SNCR/SCR.

9.4.3 Due to the use of SNCR/SCR resulting in an additional emission of NH3 slip, further abatement in the form of an additional SNCR/SCR to further reduce NOx and wet scrubbing to reduce NH3 may be required to reduce the impacts of nitrogen deposition from the Proposed Development. This would be required on the emissions from the CHP plant stack and the SAF Production Product Pretreatment stack.

9.4.4 Taking these embedded mitigation measures into account, all predicted pollutant concentrations and deposition rates at the North York Moors SAC are below the relevant critical levels and critical loads. Critical loads are defined as "*a quantitative estimate of an exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge*" [Ref 42].

9.4.5 As emissions from the Proposed Development would not cause pollutant levels or deposition rates to exceed the relevant critical loads or critical levels, the qualifying habitats of the North York Moors SAC would not be degraded. The ecological structure, function and supporting processes of the SAC's qualifying habitats, namely active blanket bog, European dry heath and Northern Atlantic wet heath, would therefore be maintained.

9.4.6 The relevant conservation objectives of the North York Moors SAC are:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- *The extent and distribution of the habitats of the qualifying features*
- *The structure and function of the habitats of the qualifying features*
- *The supporting processes on which the habitats of the qualifying features rely*

9.4.7 As the predicted pollutant concentrations and deposition rates would remain below the relevant critical levels and loads, and the qualifying habitats would not be adversely affected by the Proposed Development, these conservation objectives would continue to be achieved.

9.4.8 In summary, the predicted operational air quality impacts would not adversely affect the qualifying habitats of the North York Moors SAC, including active blanket bog, European dry heath and Northern Atlantic wet heath. The conservation objectives of the SAC would continue to be met and, therefore, the Proposed Development would not result in an adverse effect on the integrity of the North York Moors SAC, either alone or in combination with other plans or projects.

Site Integrity Conclusion

9.4.9 The detailed air quality assessment carried out as part of the ES (**Chapter 8: Air Quality (ES Volume I, Application Document Ref. 6.1)**) has assessed that all pollutants produced by the Proposed Development will be below the critical load of all habitats within the North York Moors SAC. The conservation objectives of the designated site will continue to be met as the designated site will continue to support the qualifying bird species and their supporting habitats.

9.4.10 Having regard to the conservation objectives of the North York Moors SAC and taking account of the mitigation incorporated within the Proposed Development, air quality effects would not adversely affect the integrity of the site.

9.5 Northumbria Coast SPA and Ramsar

Introduction or Spread of INNS

Construction

9.5.1 The Northumbria Coast SPA and Ramsar site could be affected during construction through the introduction or spread of terrestrial, freshwater or marine INNS. Potential pathways include the movement of construction plant, materials and contaminated soils, as well as the use of construction vessels that may transport aquatic INNS on vessel hulls, equipment or within ballast water. The establishment or spread of INNS within habitats used by the qualifying features of the designated sites could alter habitat structure, resource availability or ecological function.

9.5.2 To avoid and minimise this risk, a range of embedded mitigation measures will be implemented throughout the construction phase. An INNS Management Plan, secured through the **fCEMP (Appendix 5A, ES Volume III, Application Document Ref. 6.3)**, will include measures to identify, control and prevent the introduction and spread of terrestrial and freshwater INNS associated with construction activities. In addition, all project vessels will comply with the IMO 2023 Guidelines for the Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species [Ref 36], including appropriate inspection, maintenance and cleaning procedures to reduce the risk of transporting marine INNS on vessel hulls and submerged equipment. All project vessels will also comply with the International Convention for the Control and Management of Ships' Ballast Water and Sediments (Ballast Water Management Convention) [Ref 37], which requires vessels to operate in accordance with a vessel-specific ballast water management plan and maintain the relevant certification and

records, thereby reducing the risk of introducing marine INNS through ballast water discharge.

9.5.3 These measures represent established and internationally recognised mechanisms for preventing the transfer, introduction and establishment of INNS. Their implementation will substantially reduce the likelihood of terrestrial, freshwater or marine INNS being introduced to, or spreading within, habitats that support the qualifying features of the SPA and Ramsar site.

9.5.4 With the above mitigation secured and implemented, any residual risk of INNS introduction or spread would be negligible and would not adversely affect the habitats or ecological processes that support the qualifying features of the Northumbria Coast SPA and Ramsar site. Accordingly, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Northumbria Coast SPA and Ramsar site.

Operation

9.5.5 During operation, there is potential for marine and freshwater INNS to be introduced or spread through shipping activities associated with the Proposed Development. The primary pathway is the movement of operational vessels, which could facilitate the transfer of aquatic INNS through biofouling on vessel hulls and submerged structures, or through the uptake and discharge of ballast water. Should INNS become established within habitats used by the qualifying features of the Northumbria Coast SPA and Ramsar site, there is potential for adverse effects on habitat quality and ecological function.

9.5.6 Mitigation will be implemented through adherence to recognised international standards governing vessel operations. All vessels associated with the Proposed Development will comply with the IMO 2023 Biofouling Guidelines, including inspection, maintenance and cleaning procedures designed to minimise the accumulation and transfer of aquatic organisms. In addition, vessels will comply with the Ballast Water Management Convention, ensuring ballast water and sediments are managed in accordance with approved vessel-specific management plans and associated certification requirements.

9.5.7 Compliance with these internationally established biosecurity measures will substantially reduce the likelihood of marine or freshwater INNS being transported, introduced or becoming established within the SPA and Ramsar site. The measures are specifically designed to prevent the primary mechanisms by which aquatic INNS are transferred between locations and

are therefore considered effective in limiting the risk of onward colonisation within habitats supporting the qualifying features of the designated sites.

9.5.8 As a result, the residual risk of INNS introduction and spread during operation would be negligible and would not adversely affect the qualifying features of the Northumbria Coast SPA and Ramsar site, nor undermine the achievement of their conservation objectives. Consequently, with mitigation in place, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Northumbria Coast SPA and Ramsar site.

Air Pollution

9.5.9 During operation, there is the potential for air pollution from the Proposed Development to degrade qualifying habitats of the designated sites as a result of emissions from operational plant and machinery. These pollutants include NOx, NH3, nitrogen deposition and acid deposition.

9.5.10 A detailed operation air quality assessment has been carried out as part of the ES (**Appendix 8B: Air Quality Operational Assessment, ES Volume III, Application Document Ref. 6.3**), assessing the impact of NO_x, NH_3, nitrogen and acid deposition on the designated sites. This assessment was carried out with the assumption that the Proposed Development will be designed to comply with either the IED or the BREFs, whichever is more prescriptive. In order to meet these requirements, embedded mitigation will be required consisting of:

- Low-NOx burners.
- Secondary abatement controls such as SNCR/SCR.

9.5.11 Due to the use of SNCR/SCR resulting in an additional emission of NH3 slip, further abatement in the form of an additional SNCR/SCR to further reduce NOx and wet scrubbing to reduce NH3 may be required to reduce the impacts of nitrogen deposition from the Proposed Development. This would be required on the emissions from the CHP plant stack and the SAF Production Product Pretreatment stack.

9.5.12 Once this embedded mitigation is taken into account, all air pollutants are predicted to be below the critical load at the designated sites. Critical loads are defined as '*a quantitative estimate of an exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge*'[Ref 42]. As the emissions from the Proposed Development will not cause the pollutant levels to increase above the critical load, it can therefore be assessed that the habitats that support the qualifying features of the designated sites will not be degraded and will continue to function.

The relevant conservation objectives of the Northumbria Coast SPA (and therefore, the Northumbria Coast Ramsar) are:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- *The extent and distribution of the habitats of the qualifying features*
- *The structure and function of the habitats of the qualifying features*
- *The supporting processes on which the habitats of the qualifying features rely*

9.5.13 As the predicted emissions will be below the critical load and the habitats being unaffected by the Proposed Development, these conservation objectives will continue to be achieved.

9.5.14 In summary, the predicted air quality impacts would not affect the habitats supporting the qualifying bird populations of both the Northumbria Coast SPA and Ramsar, that the conservation objectives of the Northumbria Coast SPA/Ramsar would continue to be met, and that the Proposed Development would not adversely affect the integrity of the site.

Site Integrity Conclusion

9.5.15 Having regard to the conservation objectives of the Northumbria Coast SPA and Ramsar site, and taking account of the embedded and secured mitigation measures incorporated into the Proposed Development, it can be concluded that the Proposed Development will not result in an adverse effect on the integrity of the site, either alone or in combination with other plans or projects.

9.5.16 In relation to INNS, the implementation of an INNS Management Plan during construction, together with compliance with the IMO 2023 Biofouling Guidelines and the Ballast Water Management Convention throughout construction and operation, will minimise the risk of terrestrial, freshwater and marine INNS being introduced or spread. These established biosecurity measures are specifically designed to prevent the transfer and establishment of INNS and will ensure that habitats supporting the qualifying features of the SPA and Ramsar site are not adversely affected. Any residual risk is therefore considered negligible.

9.5.17 In relation to air quality, the Proposed Development will incorporate embedded mitigation through the use of low-NOx burners and secondary abatement technologies (e.g. SNCR/SCR), ensuring compliance with the IED and/or relevant Best Available Technique requirements. The air quality assessment demonstrates that concentrations and deposition rates of NOx,

NH_3, nitrogen and acid deposition at the designated sites will remain below the relevant critical levels and critical loads. Consequently, there will be no degradation of habitats supporting the qualifying bird species and no disruption of the ecological processes upon which those habitats depend.

9.5.18 The assessment has demonstrated that the extent and distribution of supporting habitats, their structure and function, and the ecological processes upon which the qualifying features rely will be maintained. Accordingly, the conservation objectives of the Northumbria Coast SPA and Ramsar site will continue to be achieved.

9.6 Durham Coast SAC

Introduction or spread of INNS

Construction

9.6.1 The Durham Coast SAC site could be affected during construction through the introduction or spread of terrestrial, freshwater or marine INNS. Potential pathways include the movement of construction plant, materials and contaminated soils, as well as the use of construction vessels that may transport aquatic INNS on vessel hulls, equipment or within ballast water. The establishment or spread of INNS within habitats used by the qualifying features of the designated sites could alter habitat structure, resource availability or ecological function.

9.6.2 To avoid and minimise this risk, a range of embedded mitigation measures will be implemented throughout the construction phase. An INNS Management Plan, secured through the **fCEMP (Appendix 5A, ES Volume III, Application Document Ref. 6.3)**, will include measures to identify, control and prevent the introduction and spread of terrestrial and freshwater INNS associated with construction activities. In addition, all project vessels will comply with the IMO 2023 Guidelines for the Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species [Ref 36], including appropriate inspection, maintenance and cleaning procedures to reduce the risk of transporting marine INNS on vessel hulls and submerged equipment. All project vessels will also comply with the International Convention for the Control and Management of Ships' Ballast Water and Sediments (Ballast Water Management Convention) [Ref 37], which requires vessels to operate in accordance with a vessel-specific ballast water management plan and maintain the relevant certification and records, thereby reducing the risk of introducing marine INNS through ballast water discharge.

9.6.3 These measures represent established and internationally recognised mechanisms for preventing the transfer, introduction and establishment of

INNS. Their implementation will substantially reduce the likelihood of terrestrial, freshwater or marine INNS being introduced to, or spreading within, habitats that support the qualifying features of the SAC site.

9.6.4 With the above mitigation secured and implemented, any residual risk of INNS introduction or spread would be negligible and would not adversely affect the habitats or ecological processes that support the qualifying features of the Durham Coast SAC site. Accordingly, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Durham Coast SAC site.

Operation

9.6.5 During operation, there is potential for marine and freshwater INNS to be introduced or spread through shipping activities associated with the Proposed Development. The primary pathway is the movement of operational vessels, which could facilitate the transfer of aquatic INNS through biofouling on vessel hulls and submerged structures, or through the uptake and discharge of ballast water. Should INNS become established within habitats used by the qualifying features of the Durham Coast SAC site, there is potential for adverse effects on habitat quality and ecological function.

9.6.6 Mitigation will be implemented through adherence to recognised international standards governing vessel operations. All vessels associated with the Proposed Development will comply with the IMO 2023 Biofouling Guidelines [Ref 36], including inspection, maintenance and cleaning procedures designed to minimise the accumulation and transfer of aquatic organisms. In addition, vessels will comply with the Ballast Water Management Convention, ensuring ballast water and sediments are managed in accordance with approved vessel-specific management plans and associated certification requirements.

9.6.7 Compliance with these internationally established biosecurity measures will substantially reduce the likelihood of marine or freshwater INNS being transported, introduced or becoming established within the SAC site. The measures are specifically designed to prevent the primary mechanisms by which aquatic INNS are transferred between locations and are therefore considered effective in limiting the risk of onward colonisation within habitats supporting the qualifying features of the designated sites.

9.6.8 As a result, the residual risk of INNS introduction and spread during operation would be negligible and would not adversely affect the qualifying features of the Durham Coast SAC site, nor undermine the achievement of their conservation objectives. Consequently, with mitigation in place, the

conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Durham Coast SAC Ramsar site.

Air Pollution

9.6.9 During operation, there is potential for air pollutant emissions from the Proposed Development to affect the qualifying habitats of the Durham Coast SAC through the deposition of atmospheric pollutants, including nitrogen oxides (NO_x), ammonia (NH_3), nitrogen deposition and acid deposition. Elevated concentrations of these pollutants can adversely affect vegetation communities by altering soil chemistry, nutrient availability and species composition, potentially affecting the structure and function of the SAC's qualifying habitat of vegetated sea cliffs of the Atlantic and Baltic coasts.

9.6.10 A detailed operational air quality assessment has been undertaken as part of the ES (**Appendix 8B: Air Quality Operational Assessment, ES Volume III, Application Document Ref. 6.3**) to assess the potential effects of NOx, NH_3, nitrogen deposition and acid deposition on the Durham Coast SAC. The assessment assumes that the Proposed Development will be designed and operated in accordance with the requirements of either the IED or the applicable BREFs, whichever is more stringent. To achieve compliance with these requirements, embedded mitigation measures will be incorporated into the design, including:

- Low-NOx burners.
- Secondary abatement controls such as SNCR/SCR.

9.6.11 Due to the use of SNCR/SCR resulting in an additional emission of NH3 slip, further abatement in the form of an additional SNCR/SCR to further reduce NOx and wet scrubbing to reduce NH3 may be required to reduce the impacts of nitrogen deposition from the Proposed Development. This would be required on the emissions from the CHP plant stack and the SAF Production Product Pretreatment stack

9.6.12 Taking account of these embedded mitigation measures, the assessment predicts that pollutant concentrations and deposition rates attributable to the Proposed Development will remain below the relevant critical levels and critical loads at the Durham Coast SAC. Critical loads are defined as a quantitative estimate of exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge.

9.6.13 As pollutant concentrations and deposition rates would remain below the relevant critical thresholds, the Proposed Development would not adversely

affect the extent, distribution, structure or function of the qualifying vegetated sea cliff habitat. The ecological processes supporting this habitat, including vegetation community composition and soil conditions, would therefore continue to operate effectively.

9.6.14 The conservation objectives for the Durham Coast SAC are *to ensure that the integrity of the site is maintained or restored, as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features by maintaining or restoring:*

- *The extent and distribution of the qualifying natural habitats;*
- *The structure and function (including typical species) of the qualifying natural habitats;*
- *The supporting processes on which the qualifying natural habitats rely.*

9.6.15 As the air quality assessment demonstrates that pollutant concentrations and deposition rates would remain below the relevant critical levels and critical loads, the qualifying habitat of the Durham Coast SAC would not be subject to degradation as a result of the Proposed Development. Consequently, the conservation objectives would continue to be achieved.

9.6.16 In summary, the predicted operational air quality effects would not adversely affect the vegetated sea cliff habitat which forms the qualifying feature of the Durham Coast SAC. The structure, function and supporting ecological processes of this habitat would be maintained, the SAC's conservation objectives would continue to be met, and the Proposed Development would not have an adverse effect on the integrity of the Durham Coast SAC.

Site integrity conclusion

9.6.17 The AA has concluded that, with mitigation in place, the Proposed Development would not adversely affect the integrity of the Durham Coast SAC.

9.6.18 Potential effects from the introduction or spread of terrestrial, freshwater and marine INNS during construction and operation will be controlled through implementation of an INNS Management Plan, compliance with the IMO Biofouling Guidelines and adherence to the Ballast Water Management Convention. These measures will minimise the risk of INNS introduction and establishment, ensuring the extent, structure, function and supporting processes of the SAC's qualifying vegetated sea cliff habitat remain unaffected.

9.6.19 Operational air quality modelling demonstrates that concentrations of NO_x, NH_3, nitrogen deposition and acid deposition attributable to the Proposed

Development would remain below the relevant critical levels and critical loads of qualifying habitats within the SAC. As a result, no measurable changes to habitat condition, vegetation communities, soil chemistry or ecological function are anticipated, and the qualifying habitats will continue to maintain its extent, distribution, structure and function.

9.6.20 The Proposed Development would therefore not undermine the conservation objectives of the Durham Coast SAC, including the maintenance or restoration of the extent and distribution of qualifying habitats, their structure and function, and the supporting processes on which they depend. Accordingly, the competent authority can conclude that the Proposed Development would not result in an adverse effect on the integrity of the Durham Coast SAC.

9.7 Castle Eden Dene SAC

Air Pollution

9.7.1 During operation, emissions from the Proposed Development have the potential to contribute to atmospheric concentrations of nitrogen oxides (NO_x), ammonia (NH_3), nitrogen deposition and acid deposition. These pollutants can adversely affect sensitive habitats through nutrient enrichment and acidification, potentially altering species composition, vegetation structure and ecological functioning where levels are sufficiently elevated.

9.7.2 A detailed operational air quality assessment has been undertaken as part of the ES (**Appendix 8B: Air Quality Operational Assessment, ES Volume III, Application Document Ref. 6.3**) to evaluate the potential effects of these pollutants on designated ecological sites, including Castle Eden Dene SAC. The assessment assumed that the Proposed Development would be designed and operated in accordance with the requirements of either the IED or the applicable BREFs, whichever is more stringent. Accordingly, embedded mitigation measures would be incorporated into the design, including low-NOx burners and secondary abatement systems such as SNCR/SCR.

9.7.3 Due to the use of SNCR/SCR resulting in an additional emission of NH3 slip, further abatement in the form of an additional SNCR/SCR to further reduce NOx and wet scrubbing to reduce NH3 may be required to reduce the impacts of nitrogen deposition from the Proposed Development. This would be required on the emissions from the CHP plant stack and the SAF Production Product Pretreatment stack

9.7.4 Dispersion modelling (**Appendix 8B: Air Quality Operational Assessment, ES Volume III, Application Document Ref. 6.3**)

demonstrated that, with these measures in place, predicted increases in pollutant concentrations and deposition rates at Castle Eden Dene SAC are below the relevant critical levels and critical loads identified for the protection of the site's qualifying habitats. These results indicate that the Proposed Development would not result in atmospheric pollutant inputs of a magnitude capable of causing measurable ecological change within the SAC.

9.7.5 Therefore, the predicted pollutant contributions are insufficient to affect the extent, distribution, structure or function of the qualifying habitats, including the Taxus baccata woodland and associated habitat features for which the SAC is designated. The modelling indicates that there would be no material changes in soil chemistry, nutrient status, vegetation communities or habitat condition that could affect the ability of these habitats to support their characteristic species or maintain their ecological functions.

9.7.6 Although Castle Eden Dene SAC was included within the assessment as a precautionary receptor following consultation with Natural England at the Preliminary Environmental Information Report (PEIR) stage, the air quality modelling demonstrates that the SAC would remain protected from significant effects. The predicted concentrations and deposition rates are not of a level that would undermine habitat resilience, alter ecological processes or hinder the achievement of the SAC's conservation objectives. The conservation objectives of Castle Eden Dene SAC are detailed below:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- *The extent and distribution of qualifying natural habitats*
- *The structure and function (including typical species) of qualifying natural habitats, and*
- *The supporting processes on which qualifying natural habitats rely*

9.7.7 Consequently, the qualifying habitats of Castle Eden Dene SAC would continue to be maintained in favourable condition, with their extent, distribution, structure and ecological function preserved. The site would remain capable of supporting the conservation objectives for which it is designated. Therefore, taking account of the embedded mitigation measures and the outcomes of the operational air quality assessment, the Proposed Development would not adversely affect the integrity of Castle Eden Dene SAC, either alone or in combination with other plans or projects.

Site integrity conclusion

9.7.8 The assessment has considered the potential for operational emissions from the Proposed Development to affect Castle Eden Dene SAC through increased concentrations of NO_x, NH_3, nitrogen deposition and acid deposition. Atmospheric dispersion modelling, undertaken on the basis that the Proposed Development would be designed and operated in accordance with the requirements of the IED and/or applicable BAT Reference Documents, including the implementation of embedded mitigation measures such as low-NO_x burners and SCR/SNCR abatement systems, demonstrates that predicted pollutant concentrations and deposition rates at the SAC remain below the relevant critical levels and critical loads.

9.7.9 As a result, the Proposed Development would not give rise to atmospheric pollutant inputs of a magnitude capable of causing measurable changes to habitat extent, distribution, structure, function or supporting ecological processes within the SAC. There would be no material effects on soil chemistry, nutrient status, vegetation communities or habitat condition, and the qualifying *Taxus baccata* woodland and associated habitats would continue to support their characteristic species and ecological functions.

9.7.10 The assessment therefore concludes that the conservation objectives of Castle Eden Dene SAC would be maintained, including maintaining the extent and distribution of qualifying habitats, their structure and function, and the supporting processes upon which they depend. Therefore, and taking account of embedded mitigation measures, the Proposed Development would not undermine the integrity of Castle Eden Dene SAC. It can be concluded that the Proposed Development would not result in an adverse effect on the integrity of Castle Eden Dene SAC.

10 Appropriate Assessment of In-Combination Effects

10.1 Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar

Introduction or spread of INNS

10.1.1 Through the use of good industry practice embedded mitigation (secured through CEMPs as part of DCO or third party planning applications), including measures to reduce biofouling from vessels and ballast water management plans, across all in-combination projects listed in Section 8.1; the likelihood of in-combination impacts is reduced to negligible in relation to the introduction or spread of INNS.

10.1.2 Accordingly, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site.

Air Pollution

10.1.3 Each development listed in Section 8.1 has secured (or will secure) embedded mitigation via a CEMP to mitigate construction air quality emissions using IAQM industry good practice guidance. For projects NSIP8, NSIP9 and RCBC40; the schemes will be designed such that process emissions to air comply with the Emissions Limit Value (ELV) requirements specified in the Industrial Emissions Directive (IED), and the relevant BAT Reference Documents (BREF). This will be regulated by the Environment Agency through the Environmental Permit. For projects NSIP1, RCBC3 and RCBC24; the emissions to atmosphere associated with the operational plant will be controlled through BAT in line with the Environmental Permit.

10.1.4 Through the use of the embedded and additional mitigation detailed above for each in-combination project, the likelihood of in-combination impacts is reduced to negligible in relation to air pollution. Accordingly, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site.

Direct Habitat Loss

10.1.5 As no direct habitat loss that will affect the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site will occur as a result of the Proposed Development, there is no likelihood of in-combination impacts.

Indirect Habitat Degradation

10.1.6 Each development listed in Section 8.1 has secured (or will secure) embedded mitigation via a CEMP to mitigate construction dust emissions using IAQM Construction Dust Guidance. Embedded measures will include (but is not limited to) proposals for good site practice to reduce dust, trackout and emissions from NRMM, use of sheeting to cover spoil heaps and use of water sprayers to reduce dust clouds. Through the use of the embedded and additional mitigation detailed above for each in-combination project, the likelihood of in-combination impacts is reduced to negligible in relation to indirect habitat degradation.

10.1.7 Accordingly, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site.

Visual Disturbance

10.1.8 Each development listed in Section 8.1 has secured (or will secure) embedded mitigation via a CEMP to mitigate visual disturbance from artificial lighting. Embedded measures will include similar measures to those set out in the **Framework Lighting Strategy (Appendix 13C, ES Volume III, Application Document Ref. 6.3)**. Through the use of the embedded and additional mitigation detailed above for each in-combination project, the likelihood of in-combination impacts is reduced to negligible in relation to visual disturbance from artificial lighting.

10.1.9 Accordingly, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site.

10.1.10 No visual disturbance will occur that will affect the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site as a result of the Proposed Development. Therefore, there is no likelihood of in-combination impacts.

Loss of Functionally Linked Land

10.1.11 No loss of functionally linked land that will affect the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site will occur as a result of the Proposed Development, there is no likelihood on in-combination impacts.

Disturbance from noise and vibration

10.1.12 Each development listed in Section 8.1 has secured (or will secure) embedded mitigation via a CEMP to mitigate noise impacts during contruction, taking into account industry good practice guidance, based on BS 5228-1:2009+A1:2014. Where relevant (i.e. for NSIP1, RCBC3, RCBC24, RCBC 40 and RCBC41), operational plant noise will be controlled through BAT in line with the Environmental Permit. Through the use of the embedded and additional mitigation detailed above for each in-combination project, the likelihood of in-combination impacts is reduced to negligible in relation to noise and vibration.

10.1.13 Accordingly, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) or Ramsar site. Therefore, there is no likelihood of in-combination impacts.

Hydrological change

10.1.14 Each development listed in Section 8.1 has secured (or will secure) embedded mitigation via a CEMP to mitigate emissions to water during construction. For NSIP3/RCBC41, there is the potential for dredging and dredge spoil disposal from this development to interact in the unlikely event the dredging runs in parallel with the Proposed Development's capital dredging activities. If construction dredging operations happen in parallel the effect could be magnified despite the embedded mitigation, leading to a moderate impact on the designated site as a result of in-combination effects.

Hydrodynamic change

10.1.15 For NSIP3 and RCBC41, there is the potential for dredging and dredge spoil disposal for all three developments to interact with each other if construction runs in parallel as expected. If construction dredging operations happen in parallel the effect could be magnified despite the embedded mitigation, leading to a moderate impact on the designated site as a result of in-combination effects.

10.2 North York Moors SPA

Air Pollution

10.2.1 Each development listed in Section 8.1 has secured (or will secure) embedded mitigation via a CEMP to mitigate construction air quality emissions using IAQM industry good practice guidance. For projects NSIP8, NSIP9 and RCBC40; the schemes will be designed such that process emissions to air comply with the ELV requirements specified in the

IED, and the relevant BREF. This will be regulated by the Environment Agency through the Environmental Permit. For projects NSIP1, RCBC3 and RCBC24; the emissions to atmosphere associated with the operational plant will be controlled through BAT in line with the Environmental Permit.

10.2.2 Through the use of the embedded and additional mitigation detailed above for each in-combination project, the likelihood of in-combination impacts is reduced to negligible in relation to air pollution. Accordingly, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the North York Moors SPA.

10.3 North York Moors SAC

Air Pollution

10.3.1 Each development listed in Section 8.1 has secured (or will secure) embedded mitigation via a CEMP to mitigate construction air quality emissions using IAQM industry good practice guidance. For projects NSIP8, NSIP9 and RCBC40; the schemes will be designed such that process emissions to air comply with the ELV requirements specified in the IED, and the relevant BREF. This will be regulated by the Environment Agency through the Environmental Permit. For projects NSIP1, RCBC3 and RCBC24; the emissions to atmosphere associated with the operational plant will be controlled through BAT in line with the Environmental Permit.

10.3.2 Through the use of the embedded and additional mitigation detailed above for each in-combination project, the likelihood of in-combination impacts is reduced to negligible in relation to air pollution. Accordingly, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the North York Moors SAC.

10.4 Northumbria Coast SPA and Ramsar

Introduction or spread of INNS

10.4.1 Through the use of industry good practice embedded mitigation (secured through CEMPs as part of DCO or planning applications), including measures to reduce biofouling from vessels and ballastwater management plans, across all in-combination projects listed in Section 8.1; the likelihood of in-combination impacts is reduced to negligible in relation to the introduction or spread of INNS.

10.4.2 Accordingly, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Northumbria Coast SPA and Ramsar.

Air Pollution

10.4.3 Each development listed in Section 8.1 has secured (or will secure) embedded mitigation via a CEMP to mitigate construction air quality emissions using IAQM industry good practice guidance. For projects NSIP8, NSIP9 and RCBC40; the schemes will be designed such that process emissions to air comply with the ELV requirements specified in the IED, and the relevant BREF. This will be regulated by the Environment Agency through the Environmental Permit. For projects NSIP1, RCBC3 and RCBC24; that the emissions to atmosphere associated with the operational plant will be controlled through BAT in line with the Environmental Permit.

10.4.4 Through the use of the embedded and additional mitigation detailed above for each in-combination project, the likelihood of in-combination impacts is reduced to negligible in relation to air pollution. Accordingly, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Northumbria Coast SPA and Ramsar.

10.5 Durham Coast SAC

Introduction or spread of INNS

10.5.1 Through the use of industry good practice embedded mitigation (secured through CEMPs as part of DCO or planning applications), including measures to reduce biofouling from vessels and ballastwater management plans, across all in-combination projects listed in Section 8.1; the likelihood of in-combination impacts is reduced to negligible in relation to the introduction or spread of INNS.

10.5.2 Accordingly, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Durham Coast SAC.

Air Pollution

10.5.3 Each development listed in Section 8.1 has secured (or will secure) embedded mitigation via a CEMP to mitigate construction air quality emissions using IAQM industry good practice guidance. For projects NSIP8, NSIP9 and RCBC40; the schemes will be designed such that process emissions to air comply with the ELV requirements specified in the IED, and the relevant BREF. This will be regulated by the Environment Agency through the Environmental Permit. For projects NSIP1, RCBC3 and RCBC24; the emissions to atmosphere associated with the operational plant will be controlled through BAT in line with the Environmental Permit.

10.5.4 Through the use of the embedded and additional mitigation detailed above for each in-combination project, the likelihood of in-combination impacts is reduced to negligible in relation to air pollution. Accordingly, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Durham Coast SAC.

10.6 Castle Eden Dene SAC

Air Pollution

10.6.1 Each development listed in Section 8.1 has secured (or will secure) embedded mitigation via a CEMP to mitigate construction air quality emissions using IAQM industry good practice guidance. For projects NSIP8, NSIP9 and RCBC40; the schemes will be designed such that process emissions to air comply with the ELV requirements specified in the IED, and the relevant BREF. This will be regulated by the Environment Agency through the Environmental Permit. For projects NSIP1, RCBC3 and RCBC24; the emissions to atmosphere associated with the operational plant will be controlled through BAT in line with the Environmental Permit.

10.6.2 Through the use of the embedded and additional mitigation detailed above for each in-combination project, the likelihood of in-combination impacts is reduced to negligible in relation to air pollution. Accordingly, the conservation objectives of the designated sites would be maintained and there would be no adverse effect on the integrity of the Castle Eden Dene SAC.

11 Overall Conclusions

11.1 Screening Conclusions

11.1.1 The screening assessment identified credible source–pathway–receptor linkages between the Proposed Development and qualifying features of the following European sites. LSEs could not be excluded and these pathways were therefore taken forward to Appropriate Assessment:

- Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar via direct habitat loss (SPA (Marine Component GB) only), indirect habitat degradation, hydrological change, hydrodynamic change, air pollution, disturbance from noise and vibration, visual disturbance, loss of functionally linked land and introduction or spread of INNS;
- North York Moors SPA via air pollution;
- North York Moors SAC via air pollution;
- Northumbria Coast SPA and Ramsar via air pollution and introduction or spread of INNS;
- Durham Coast SAC via air pollution and introduction or spread of INNS; and
- Castle Eden Dene SAC via air pollution.

11.2 Appropriate Assessment Conclusions

Effects of the Proposed Development

11.2.1 This AA has considered the implications of the Proposed Development for the conservation objectives of the European sites taken forward from the screening stage. The assessment has considered the residual effects of the Proposed Development following the incorporation of embedded and secured mitigation measures, including those relating to habitat protection, air quality control, water quality management, drainage design, noise and lighting control, INNS management and environmental management plans. The assessment has addressed the relevant pathways identified for each site, including direct habitat loss, indirect habitat degradation, hydrological and hydrodynamic change, air pollution, disturbance from noise and vibration, visual disturbance, loss of FLL and the introduction or spread of INNS, where relevant.

11.2.2 In reaching its conclusions, the AA has considered whether the Proposed Development would affect the extent, distribution, structure and function of qualifying habitats, the supporting ecological processes on which those

habitats rely, and the populations, distribution and supporting habitats of qualifying species. The assessment has been undertaken with reference to the conservation objectives of each European site and has considered whether the conservation objectives would continue to be achieved following implementation of the Proposed Development.

11.2.3 The AA concludes that:

- Teesmouth and Cleveland Coast SPA (Marine Component GB): Taking account of the mitigation measures incorporated into and secured through the Proposed Development, the assessment concludes that the conservation objectives of the SPA would continue to be met and the Proposed Development would not adversely affect the integrity of the site.
- Teesmouth and Cleveland Coast Ramsar: Taking account of the mitigation measures incorporated into and secured through the Proposed Development, the assessment concludes that the conservation objectives of the Ramsar site would continue to be met and the Proposed Development would not adversely affect the integrity of the site.
- North York Moors SPA: The assessment concludes that the conservation objectives relating to the qualifying bird species and their supporting habitats would continue to be achieved and that the Proposed Development would not adversely affect the integrity of the SPA.
- North York Moors SAC: The assessment concludes that the extent, distribution, structure, function and supporting processes of the qualifying habitats would be maintained and that the Proposed Development would not adversely affect the integrity of the SAC.
- Northumbria Coast SPA: The assessment concludes that the qualifying bird populations, their supporting habitats and associated ecological processes would remain unaffected and that the Proposed Development would not adversely affect the integrity of the SPA.
- Northumbria Coast Ramsar: The assessment concludes that the habitats and ecological processes supporting the qualifying features would continue to function as required to meet the conservation objectives and that the Proposed Development would not adversely affect the integrity of the Ramsar site.
- Durham Coast SAC: The assessment concludes that the qualifying habitat, its structure and function, and the supporting ecological

processes on which it depends would be maintained and that the Proposed Development would not adversely affect the integrity of the SAC.

- Castle Eden Dene SAC: The assessment concludes that the qualifying habitats and supporting ecological processes would continue to meet the conservation objectives of the site and that the Proposed Development would not adversely affect the integrity of the SAC.

11.2.4 Accordingly, having regard to the conservation objectives of the relevant European sites, and taking account of the mitigation measures incorporated into and secured through the Proposed Development, it can be concluded beyond reasonable scientific doubt that the Proposed Development would not adversely affect the integrity of Teesmouth and Cleveland Coast SPA (Marine Component GB), Teesmouth and Cleveland Coast Ramsar, North York Moors SPA, North York Moors SAC, Northumbria Coast SPA, Northumbria Coast Ramsar, Durham Coast SAC or Castle Eden Dene SAC, when considered alone, and that the conservation objectives of those sites would continue to be achieved.

In-combination effects

11.2.5 The in-combination assessment considered the Proposed Development alongside the projects identified in Section 8.1. For the majority of impact pathways embedded mitigation secured through project-specific CEMPs, together with regulatory controls such as Environmental Permits and the application of Best Available Techniques (BAT), reduces the potential for cumulative effects to a negligible level. Accordingly, the conservation objectives of the relevant European sites would be maintained and no adverse effect on site integrity would occur.

11.2.6 No potential for in-combination effects was identified in relation to direct habitat loss or loss of functionally linked land, as the Proposed Development would not result in impacts that could affect the integrity of the designated sites through these pathways.

11.2.7 For the North York Moors SPA and SAC, Northumbria Coast SPA and Ramsar, Durham Coast SAC, and Castle Eden Dene SAC, the assessment concluded that embedded mitigation and regulatory controls would ensure that cumulative air quality and INNS effects remain negligible, with no adverse effect on site integrity.

11.2.8 The only pathway identified as having the potential for a meaningful in-combination effect relates to hydrological and hydrodynamic change within the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar site. In particular, there is potential for dredging and dredge spoil

disposal activities associated with NSIP3 and RCBC41 to interact if construction programmes overlap. Concurrent dredging operations could increase the magnitude of effects despite the implementation of embedded mitigation measures, resulting in a moderate in-combination impact on the designated site.

11.2.9 Overall, with the exception of the identified potential cumulative effects associated with overlapping dredging activities, the assessment concludes that in-combination effects would be negligible and would not result in an adverse effect on the integrity of the assessed European sites.

Overall Appropriate Assessment Conclusion

11.2.10 Taking account of the mitigation measures incorporated into and secured through the Proposed Development, the AA concludes that the Proposed Development would not adversely affect the integrity of Teesmouth and Cleveland Coast SPA (Marine Component GB), Teesmouth and Cleveland Coast Ramsar, North York Moors SPA, North York Moors SAC, Northumbria Coast SPA, Northumbria Coast Ramsar, Durham Coast SAC or Castle Eden Dene SAC when considered alone.

11.2.11 The in-combination assessment has also concluded that no adverse effect on site integrity would arise in relation to any of the assessed European sites, with the exception of a potential cumulative effect associated with overlapping dredging and dredge spoil disposal activities within the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Ramsar site. In the unlikely event of these activities occurring concurrently, there is potential for a moderate in-combination effect to arise through hydrological and hydrodynamic pathways.

11.2.12 Consequently, on the basis of the information available at this stage, it **cannot** be concluded beyond reasonable scientific doubt that the Proposed Development, in combination with other plans and projects, would not adversely affect the integrity of the Teesmouth and Cleveland Coast SPA (Marine Component GB) and Teesmouth and Cleveland Coast Ramsar site. Further measures, controls or assessment would therefore be required to rule out adverse effects on site integrity arising from overlapping capital dredging activities. This could require agreement and co-ordination with nearby projects to ensure a temporal disconnect between dredging activities. This would only be required should the construction programme progress so that capital dredging activities overlap, which is currently considered unlikely. For all other European sites and impact pathways, the AA concludes beyond reasonable scientific doubt that the conservation objectives would continue to be achieved and that no adverse effect on site

integrity would occur, either alone or in combination with other plans and projects.

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Annex A

Reproductions of Figures from **ES Volume II (Application Document Ref. 6.2):**

ES Figure 1.1: Site Location

ES Figure 4.1: Indicative Proposed Development Layout

ES Figure 10.2: International Statutory Designated Sites within 20km

ES Figure 10.6: Locations of Ecological Receptors

A3

Site Boundary

Area excluded from Site Boundary

Coordinate System: British National Grid

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P01	01/09/26	ACAR	CESL	ICAM	KCOB

ARUP

Lighthouse GREEN FUELS

Drawing Title

Figure 1.1
Site Location

Client

LGF Projects Ltd.

Project Name

Lighthouse Green Fuels

Scale at A3

1:50,000

Project Number

306732-00

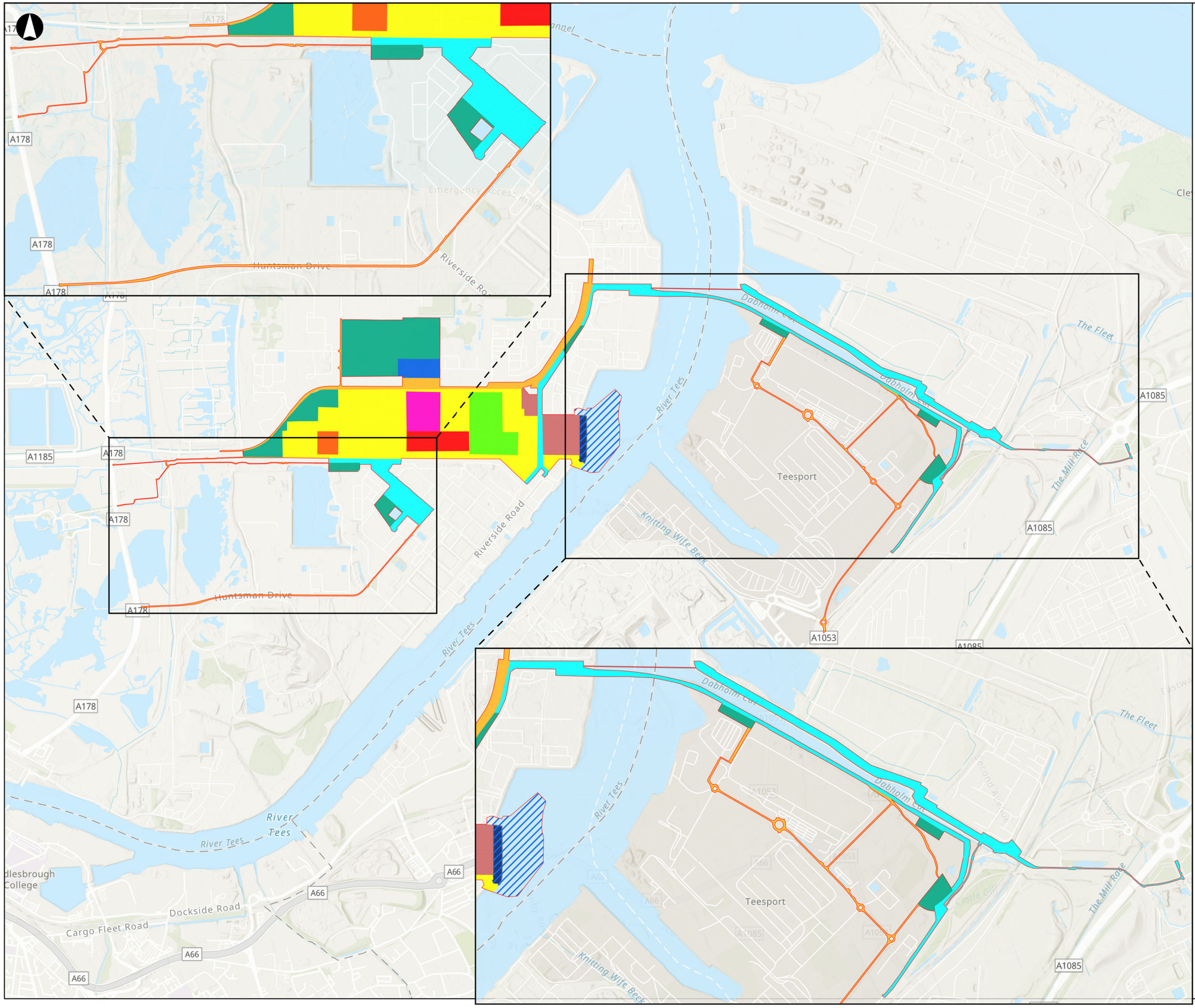
Rev

P01

Drawing Number

EN0110025/6.2.1
APFP Reg. 5(2)(a) and EIA Reg. 14

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A3

Site Boundary

Site Layout

- Air Supply Unit
- Access Roads
- Combined Heat & Power Plant
- Construction Laydown
- Feedstock Storage & Handling
- Flare Structures
- Quay Construction Works
- Pipeline & Utility Area
- Product Storage & Export
- SAF Processing
- SAF Pre-Treatment
- Quay

Coordinate System: British National Grid

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ARUP

Lighthouse GREEN FUELS

Drawing Title

Figure 4.1
Indicative Proposed Development Layout

Client

LGF Projects Ltd.

Project Name

Lighthouse Green Fuels

Scale at A3

1:25,000

Project Number

306732-00

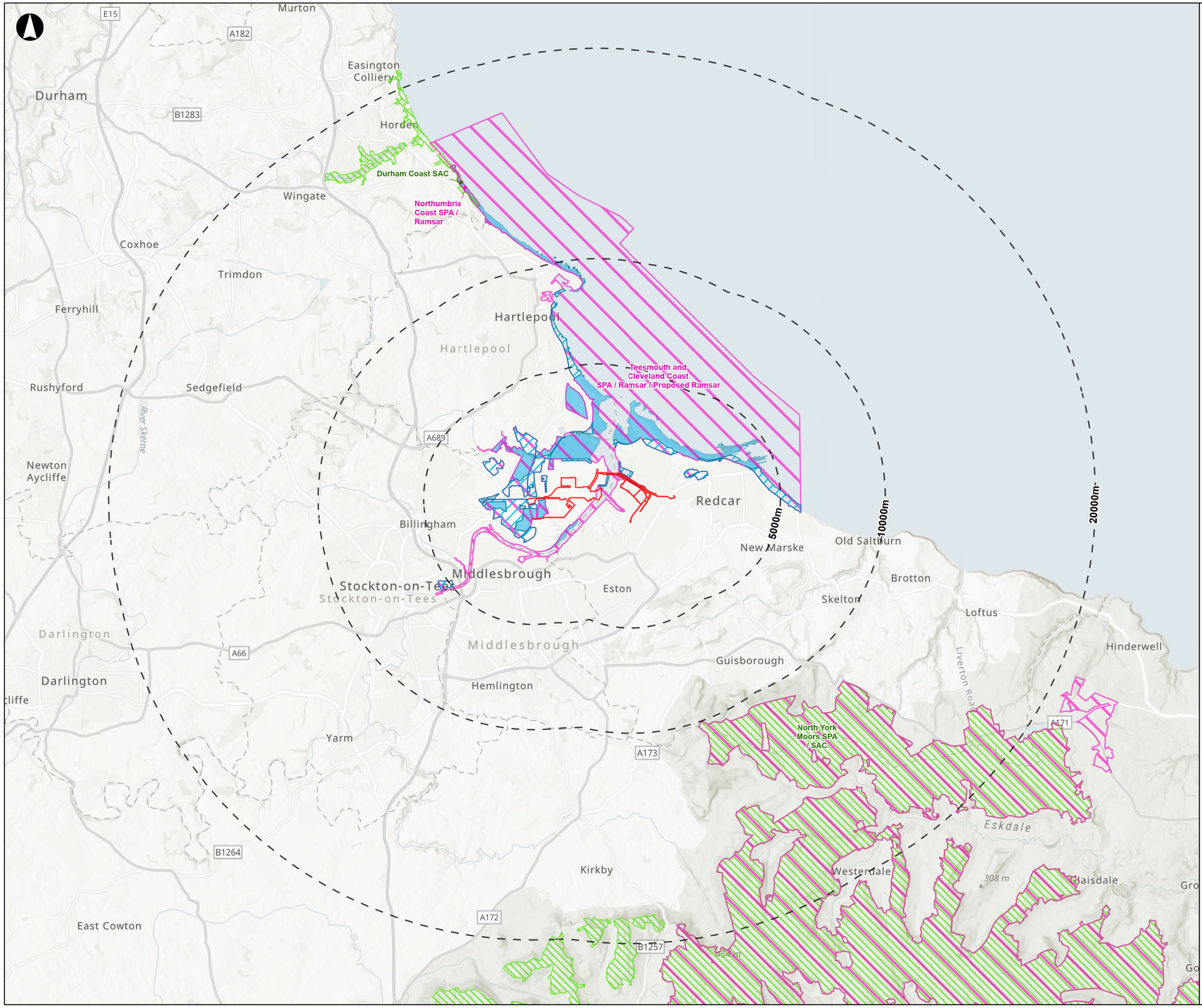
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Drawing Number

EN0110025/6.2.5
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A3

- Site Boundary
- Buffer of Site Boundary (5km, 10km, 20km)
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)
- Ramsar
- Proposed Ramsar

Coordinate System: British National Grid

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ARUP

Lighthouse GREEN FUELS

Drawing Title
Figure 10.2
International Statutory Designated Sites within 20km

Client
LGF Projects Ltd.

Project Name
Lighthouse Green Fuels

Scale at A3
1:175,000

Project Number
306732-00

Rev
P01

Drawing Number
EN0110025/6.2.32
APFP Reg. 5(2)(a) and EIA Reg. 14

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A3

Site Boundary
Ecological Receptors

Coordinate System: British National Grid

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P01	03/09/26	ACAR	CESL	MSAN	KCOB

ARUP Lighthouse GREEN FUELS

Drawing Title
Figure 10.6
Locations of Terrestrial Ecological Receptors

Client
LGF Projects Ltd.

Project Name
Lighthouse Green Fuels

Scale at A3
1:25,000

Project Number
306732-00

Rev
P01

Drawing Number
EN0110025/6.2.36
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Annex B

Reproduction of **Appendix 22A: Long List of Other Developments (ES Volume III, Application Document Ref 6.3)**

Lighthouse GREEN FUELS

The Lighthouse Green Fuels Order

Application Reference: EN0110025

Applicant: LGF Projects Limited

Environmental Statement Volume III Appendix 22A: Long List of Other Developments

Document Reference: 6.3.30

Revision: 00

APFP Reg. 5(2)(a) and EIA Reg. 14

Document Information

Author	Arup
Document Title	Chapter 22: Cumulative and Combined Effects
Document Ref	6.3.30

Revision record

00	Purpose	DCO Application Submission
	Date	July 2026

Reason for issue record

Information Classification	Date	Reason for Issue
Internal use only	12.06.26	Document first draft. Internal use only.

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Abbreviations

Abbreviations	In Full / Term
ASU	Air Separation Unit
CHP	Combined Heat and Power
CO_2	Carbon dioxide
DCO	Development Consent Order
ES	Environmental Statement
km	kilometre
LGF	Lighthouse Green Fuels
MW	Megawatts
MWe	Megawatts electrical
PINS	Planning Inspectorate
RCBC	Redcar and Cleveland Borough Council
SAF	Sustainable Aviation Fuel
SoS	Secretary of State
STBC	Stockton-on-Tees Borough Council

1 Long List of Other Developments

1.1 Introduction

1.1.1 This appendix supports the cumulative effects assessment presented in **Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1)** and provides the long list of developments identified and reviewed as part of the four-stage cumulative assessment process based on the Planning Inspectorate's (PINS) guidance on cumulative effects assessment for Nationally Significant Infrastructure Projects (NSIP) [Ref 1].

1.2 Stage 1: Establishing the long list of other developments

1.2.1 The long list was compiled through a review of publicly available planning and infrastructure information within a 15km search area of the Proposed Development, reflecting the maximum Zone of Influence (ZoI) identified by each technical assessment. The following search criteria were applied:

- Local authority planning applications that represent 'major developments', the definitions and thresholds for which are set out in The Town and Country Planning (Development Management Procedure) (England) Order 2015 [Ref 2];
- Development Consent Order (DCO) applications for Nationally Significant Infrastructure Projects (NSIPs) in England, contained in the Register of Applications on the National Infrastructure Planning website [Ref 3];
- any major development projects being progressed through other statutory procedures;
- allocations identified in the adopted and emerging development plans of the local planning authorities; and
- other relevant development plans and projects.

1.3 Stage 2: Screening

1.3.1 Following the establishment of the long list, each development was reviewed to determine whether sufficient information was available to enable meaningful consideration within cumulative effects assessment. To satisfy the Stage 2 screening criteria, a development was generally required to:

- Lie within the relevant ZoI for one or more environmental topics;

- Have a reasonable potential to overlap spatially and/or temporally with the Proposed Development; and
- Have sufficient publicly available information to enable understanding of its nature, scale, location and potential environmental effects, typically through the availability of a Scoping Report, Environmental Statement, Environmental Impact Assessment Report or equivalent environmental information.

1.3.2 Developments already operational, expected to be fully operational before construction of the Proposed Development, withdrawn schemes, policy allocations without project information, or developments with insufficient environmental information were not progressed beyond Stage 2. Where relevant, these developments were instead considered part of the environmental baseline.

1.4 Stage 3 and Stage 4 Screening

1.4.1 Developments that satisfied Stage 2 criteria were taken forward to Stage 3, where information on programme, location, environmental effects and potential interaction pathways was reviewed. This included consideration of construction and operational timescales, ZoIs, identified receptors and reported environmental effects.

1.4.2 A development was taken forward to Stage 4 where available information indicated a realistic potential for cumulative effects to occur because of:

- Spatial overlap with the Proposed Development;
- Overlap in construction and/or operational periods;
- A shared environmental receptor; and/or
- A credible pathway for environmental effects to interact with those of the Proposed Development.

1.4.3 The results of this screening process are presented in Table 1.1. The columns “Stage 2 Criteria Met” and “Stage 3/4 Criteria Met” indicate whether a development progressed through the respective stage of the cumulative assessment process. Further details of the methodology screening process and assessment approach are provided in Section 22.3 of **Chapter 22: Cumulative and Combined Effects (ES Volume I, Application Document Ref. 6.1)**.

Table 1.1 Long list of developments for consideration within the cumulative effects assessment

ID	Project Name	Application Reference	Application Status	Does the project intersect the Proposed Development Site?	Stage 2 criteria met	Distance to Site boundary (m)	Stage 3/4 criteria met	Justification
						Grey shading = Not applicable. Indicates either (i) developments progressed to Stage 3/4 screening, such that no screening-out justification is required, or (ii) developments screened out prior to detailed assessment, for which a distance to the Site boundary has not been determined.		
Nationally Significant Infrastructure Projects								
NSIP1	The Net Zero Teesside Project	EN010103	Consent granted 16/02/2024	Yes	Yes	0	Yes	
NSIP2	Tees Combined Cycle Power Plant	EN010082	Consent granted 05/04/2019	No	No			Project on indefinite pause therefore there is insufficient information on construction timescales to determine overlap with the Proposed Development, if the Project were to proceed.
NSIP3	York Potash Harbour Facilities Order	TR030002	Consent granted 20/07/2016	Yes	Yes	0	Yes	
NSIP4	H2 Teesside	EN070009	Withdrawn	Yes	No			Application withdrawn
NSIP5	Byers Gill Solar	EN010139	Consent granted 23/07/2025	No	Yes	16,756	N/A	Distance is greater than maximum Zone of Interest (15km)
NSIP6	Lighthouse Green Fuels Project	EN010150	Withdrawn	Yes	No			Application withdrawn
NSIP8	H2NorthEast	EN0710005	Pre-application	Yes	Yes	426.3	Yes	
NSIP9	East Coast Hydrogen Teesside Pipeline	EN0710010	Scoping report submitted 29.05.26	Yes	Yes	0	Yes	
Major Planning Applications								
RCBC1	Skippers Lane Industrial Estate Extension	R/2025/0086/F3M	Approved with conditions 14/05/2025	No	Yes	2677.7	No	Non-EIA. Insufficient environmental information for assessment.
RCBC2	Ormesby Hall – Multi-User Trail providing access for all	R/2025/0180/CAM	Approved with conditions 23/06/2025	No	Yes	5956.4	No	Non-EIA. Insufficient environmental information for assessment.
RCBC3	Foundry Data Centre	R/2025/0382/ESM	Approved with conditions 01/08/2025	No	Yes	1042.7	Yes	
RCBC4	Teesside Green Hydrogen	R/2025/0712/FFM	Approved with conditions 24/10/2025	No	Yes	2477	Yes	
RCBC5	Change of use of former nursing home to a 22 bed hotel units including ground floor extension (Part Retrospective)	R/2025/0675/FFM	Approved with conditions 15/01/2026	No	No			Insufficient information for assessment

ID	Project Name	Application Reference	Application Status	Does the project intersect the Proposed Development Site?	Stage 2 criteria met	Distance to Site boundary (m)	Stage 3/4 criteria met	Justification
						Grey shading = Not applicable. Indicates either (i) developments progressed to Stage 3/4 screening, such that no screening-out justification is required, or (ii) developments screened out prior to detailed assessment, for which a distance to the Site boundary has not been determined.		
RCBC6	Erection of a Battery Storage Facility over two land parcels of land (A & B) comprising battery storage infrastructure, access arrangements, habitat creation, landscaping and associated works	R/2025/0500/FFM	Awaiting decision	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
RCBC7	Eston Precinct	R/2025/0218/FFM	Approved with conditions 25/06/2025	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
RCBC8	Supergrid Electricity Substation, Lackenby, Teesworks	R/2025/0221/FFM	Awaiting decision	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
RCBC9	Outline planning application (layout and landscaping reserved) for addition of two storeys above existing building including four storey rear extension with parking provision at ground level to create 40(no) self-contained apartments	R/2025/0437/OOM	Awaiting decision	No	Yes	3028.6	N/A	Non-EIA. Insufficient environmental information for assessment.
RCBC11	South Bank Infill	R/2025/0050/OOM	Approved with conditions 27/11/2025	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
RCBC12	Orsted, South Bank, Teesworks	R/2025/0607/RMM	Approved with conditions 05/11/2025	No	Yes	815.5	Yes	
RCBC13	Upper Oxford Street, South Bank	R/2025/0108/RMM	Approved 23/12/2025	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
RCBC14	Tees Green Phase 2	R/2025/0616/SCP	Scoping Response Sent 31/10/2025	No	Yes	1150	Yes	
RCBC15	Net Zero Teesside Return Pipeline and AGI	R/2025/0485/SCP	Scoping Response Sent 27/08/2025	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
RCBC16	MorGen Hydrogen Production Facility	R/2025/0547/SC	EIA not required 16/09/2025	No	Yes	2486.2	No	Non-EIA. Insufficient environmental information for assessment.
RCBC17	South Gare Breakwater Remedials	R/2025/0425/SC	EIA not required 09/07/2025	No	Yes	3683.2	No	Non-EIA. Insufficient environmental information for assessment.
RCBC20	Change of use of former social club including first floor extension at front and addition of second floor inset extension to provide 10no. apartments	R/2025/0806/FFM	Approved with conditions 14/07/2026	No	Yes	3778.4	No	Non-EIA. Insufficient environmental information for assessment.
RCBC21	Extension and construction of access road (part retrospective)	R/2025/0792/FFM	Approved with conditions 20/05/2026	No	Yes	1706.9	No	Non-EIA. Insufficient environmental information for assessment.

ID	Project Name	Application Reference	Application Status	Does the project intersect the Proposed Development Site?	Stage 2 criteria met	Distance to Site boundary (m)	Stage 3/4 criteria met	Justification
						Grey shading = Not applicable. Indicates either (i) developments progressed to Stage 3/4 screening, such that no screening-out justification is required, or (ii) developments screened out prior to detailed assessment, for which a distance to the Site boundary has not been determined.		
RCBC22	Request for Screening Opinion for construction and use of a data centre and ancillary infrastructure	R/2026/0183/SC	EIA Not Required 01/04/2026	No	Yes	1647.6	No	Non-EIA. Insufficient environmental information for assessment.
RCBC23	Scoping opinion in respect to the Woodsmith Project under Regulation 15 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended)	R/2025/0763/SCP	Scoping Opinion Provided 23/12/2025	No	No			Insufficient information for assessment
RCBC24	Scoping opinion in respect to Project Speedbird under Regulation 15 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended)	R/2025/0850/SCP	Scoping Opinion Provided 18/02/2026	No	Yes	2627	Yes	
RCBC25	Construction of an above and below ground natural gas pipeline	R/2026/0155/ESM	Awaiting decision	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
RCBC26	Application for Hazardous Substance Consent for variation of condition to increase moveable container size for hydrogen from 0.5 tonnes to 1.2 tonnes (Granted on L/1992/0916/HD)	R/2026/0066/HD	Awaiting decision	No	Yes	61.9	No	Non-EIA. Insufficient environmental information for assessment.
RCBC27	Application for reserved matters approval (access, appearance, landscaping, layout and scale) following Outline Planning Permission R/2014/0372/OOM for 165 dwellings with associated landscaping, bund and ancillary works	R/2026/0213/RMM	Awaiting decision	No	Yes	2531.8	No	Non-EIA. Insufficient environmental information for assessment.
RCBC40	Bran Sands Long Sea Outfall	R/2026/0419/SCP	Scoping report submitted 09.06.26	Yes	Yes	0	Yes	
RCBC41	Woodsmith Project	R/2024/0098/ESM	Planning permission granted 06.06.25	No (adjoins)	Yes	0	Yes	
RCBC42	Installation and operation of Synchronous Condenser Facilities with associated ancillary infrastructure, buildings, access, landscaping and associated works	R/2026/0381/FFM	Awaiting decision	No	No			Insufficient information for assessment
RCBC43	Proposed Expansion to existing Anaerobic Digester Plant (AVG Imperial), including a new treatment plant, new solid and liquid waste reception hall, digestate concentration process, new tank storage, biogas upgrading system, digestate offtake point, gas grid entry unit (propane mixing and metering), and new offices/control room and associated works	R/2026/0341/FFM	Awaiting decision	No	No			Insufficient information for assessment

ID	Project Name	Application Reference	Application Status	Does the project intersect the Proposed Development Site?	Stage 2 criteria met	Distance to Site boundary (m)	Stage 3/4 criteria met	Justification
						Grey shading = Not applicable. Indicates either (i) developments progressed to Stage 3/4 screening, such that no screening-out justification is required, or (ii) developments screened out prior to detailed assessment, for which a distance to the Site boundary has not been determined.		
RCBC44	Data centre campus (Use Class B8) comprising data centre buildings, communications and power buildings, security and support office buildings, backup generators, storage tanks and pump buildings, together with associated plant, infrastructure, access, parking, landscaping and ancillary works	R/2026/0337/FFM	Awaiting decision	No	No			Insufficient information for assessment
RCBC45	Request for Screening Opinion (Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) for Proposed e-methanol plant	R/2026/0291/SC	EIA Not Required 18/05/2026	No	No			Insufficient information for assessment
STBC1	Screening opinion for proposed development of a new SAF (Sustainable Aviation Fuel) storage terminal (SAFST) Comprising Ethanol and SAF storage tanks.	25/1753/SCO	EIA not required 12/09/2025	No (adjoins)	Yes	199.4	No	Non-EIA. Insufficient environmental information for assessment.
STBC2	Scoping opinion request for proposed development of a new SAF (Sustainable Aviation Fuel) storage terminal (SAFST) Comprising Ethanol and SAF storage tanks.	25/1754/SOR	Scoping Opinion Issued 12/09/2025	No	Yes	217.5	No	Non-EIA. Insufficient environmental information for assessment.
STBC3	Screening opinion for proposed new SAF (Sustainable Aviation Fuel) storage terminal (SAFTS) comprising of Ethanol storage tanks, a SAF and renewable diesel (R-DERN) reception facility, SAF and R-DERV storage facility and connecting pipelines.	25/0959/SCO	EIA required 19/06/2025	Yes	Yes	132.3	No	Non-EIA. Insufficient environmental information for assessment.
STBC4	Scoping opinion request for proposed new SAF (Sustainable Aviation Fuel) storage terminal (SAFTS) comprising of Ethanol storage tanks, a SAF and renewable diesel (R-DERN) reception facility, SAF and R-DERV storage facility and connecting pipelines.	25/1010/SOR	Scoping Opinion Issued 19/06/2025	Yes	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
STBC5	Ethane to Power	25/0579/FUL	Approved with conditions 26/09/2025	Yes	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
STBC6	Erection of an Air handling unit (AHU) and associated equipment (to replace 2 existing AHU)	25/0542/FUL	Approved with conditions 29/07/2025	No	Yes	4268.2	No	Non-EIA. Insufficient environmental information for assessment. for assessment.
STBC7	Screening opinion for proposed green hydrogen production facility.	25/0383/SCO	EIA not required 19/03/2025	No	Yes	1950.6	No	Non-EIA. Insufficient environmental information for assessment. for assessment.
STBC8	Dynamo Park, Cheltenham Road, Stockton	25/1586/FUL	Approved with conditions 21/10/2025	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
STBC10	Scoping opinion for the proposed construction of a lithium hydroxide monohydrate manufacturing plant	26/0326/SOR	Scoping Opinion Provided 23/03/2026	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development

ID	Project Name	Application Reference	Application Status	Does the project intersect the Proposed Development Site?	Stage 2 criteria met	Distance to Site boundary (m)	Stage 3/4 criteria met	Justification
						Grey shading = Not applicable. Indicates either (i) developments progressed to Stage 3/4 screening, such that no screening-out justification is required, or (ii) developments screened out prior to detailed assessment, for which a distance to the Site boundary has not been determined.		
STBC11	Screening opinion for the proposed construction of lithium hydroxide monohydrate manufacturing plant	26/0324/SCO	EIA Required 23/03/2026	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
STBC12	Screening opinion for proposed hazardous waste transfer and treatment facility	26/0753/SCO	Awaiting decision	No (adjoins)	Yes	174.9	No	Non-EIA. Insufficient environmental information for assessment. for assessment.
STBC13	Construction of a Hydrogen Production Facility	25/2373/FUL	Awaiting decision	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
STBC14	New SAF (sustainable aviation fuel) storage terminal	26/0664/FUL	Awaiting decision	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
STBC15	Application for a proposed Carbon Capture, Storage and Utilisation (CCSU) plant	24/0709/FUL	Approved 23/01/2026	No	Yes	62.4	No	Non-EIA. Insufficient environmental information for assessment. for assessment.
STBC16	Section 73 application to vary condition no2 (Approved Plans) of planning approval 23/1634/FUL - Siting of 75MW (2hr) Battery Energy Storage Facility with associated infrastructure, 2.4m palisade security fencing, security lighting and formation of a new vehicular access	26/0550/VARY	Approved with conditions 12/06/2026	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
STBC17	Application for the installation of 4no 20m high LED floodlights (removal of existing floodlights).	26/0719/FUL	Approved	No	No			Insufficient information for assessment
STBC26	Installation and operation of a Carbon Dioxide storage terminal at Navigator Terminals, Seal Sands Road	24/1208/FUL	Approved with conditions 18/12/2024	Yes	No			Non-EIA. Insufficient environmental information for assessment. for assessment.
STBC27	Development of Greenergy Renewable Fuels and Circular Products Facility comprising a Sustainable Aviation Fuel Plant and Tyre Plant and associated infrastructure. A temporary construction laydown area, proposed services corridor, pipe bridge, ancillary buildings and car parking	23/1019/EIS	Approved with conditions 06/11/2023	Yes	No			Project not expected to proceed. In the event it does, the planned construction timescales do not overlap with the Proposed Development and Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline.
STBC28	Erection of an energy recovery facility and associated infrastructure for fuel receipt and storage, power generation, power export, process emissions control, maintenance, offices and car parking together with associated operations.	22/1525/EIS	Approved with conditions 08/08/2024	No (adjoins)	No			Project will be operational when construction of the Proposed Development is planned to begin. Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
MBC1	Change of use of the land for open storage (Use Class B8)	25/0236/COU	Approved with conditions 01/09/2025	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development

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MBC2	Erection of 10no. bungalows including associated works and landscaping	25/0190/MAJ	Approved with conditions 10/10/2025	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
MBC3	Change of use from social club (Sui Generis) to 28 bed student accommodation (Sui Generis)	26/0048/MAJ	Awaiting decision	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
MBC4	Construction of 1no. block of 27no. flats	26/0093/MAJ	Awaiting decision	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
MBC5	Application for reserved matters approval (access, appearance, landscaping, layout and scale) following Outline Planning Permission R/2014/0372/OOM for 165 dwellings with associated landscaping, bund and ancillary works	26/0152/RCON	Approved with No Objections 30/04/2026	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
HBC1	Greatham Sewage Treatment Works	H/2025/0123	Awaiting decision	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
HBC3	Proposed Tofts Road West Wind Turbine	H/2025/0157	Awaiting decision	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
HBC4	Erection of 2no. industrial units including new site access	H/2025/0217	Awaiting decision	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
HBC5	Seaton Holiday Village	H/2025/0264	Awaiting decision	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
HBC6	Approval of all Reserved Matters for access, appearance, landscaping, layout and scale for the erection of 55no	H/2025/0415	Awaiting Decision	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
HBC7	Application for Approval of all reserved matters for the erection of 34no. dwellings	H/2025/0335	Awaiting decision	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
Marine Licencing Applications								
MMO1	Tees and Hartlepool Maintenance Dredge Disposal	MLA/2025/00263	Approved with conditions 05/11/2025	Yes	Yes	11000.4	No	Non-EIA. Insufficient environmental information for assessment.
MMO2	Tees Conservancy Facility Relocation	MLA/2025/00083/1	Approved with conditions 18/08/2025	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline

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MMO3	SABIC Jetty 2, East Safety Shower Replacement	MLA/2025/00462	Approved with conditions 16/09/2025	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
MMO4	Jetty 1A - Steelwork Reinforcement Work	MLA/2025/00407	Approved 13/08/2025	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
MMO5	Removal or redundant wooden landing point	MLA/2025/00352	Approved with conditions 14/07/2025	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
MMO6	SABIC, North Tees, Jetty 1A, Redundant MLA Removal	MLA/2025/00341	Approved with conditions 08/07/2025	No (adjoins)	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
MMO7	North Tees Jetty 4: Remove Damaged Fender Panel for Repair and Reinstate Overhauled Panel	MLA/2025/00307	Approved with conditions 23/06/2025	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
MMO8	Billingham Beck Bag Work Repair	MLA/2025/00173	Approved with conditions 17/06/2025	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
MMO9	SABIC, No.3 Jetty Fender repairs	MLA/2025/00087	Approved 27/02/2025	No (adjoins)	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
MMO10	Greatham North East Flood Alleviation Scheme	MLA/2025/00141 & H/2025/0131	Awaiting decision	No	Yes	1,900	Yes	
MMO11	Jetty 1A upgrade works	MLA/2025/00224	Withdrawn 18/07/2025	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
MMO12	South Gare Breakwater Works - Request for an EIA Screening Opinion	EIA/2025/00027/1	EIA not required 26/09/2025	No	Yes	3,300	No	Non-EIA. Insufficient environmental information for assessment.
MMO13	Able Seaton Port Capital and Maintenance Dredging	EIA/2025/00036	EIA not required 13/11/2025	No	Yes	1,570	No	Insufficient information on construction timescales to determine overlap with the Proposed Development
MMO14	Hartlepool Nuclear Power Station - Routine Maintenance Activities	MLA/2025/00031	Approved with conditions 24/06/2025	No	Yes	2,015	No	Non-EIA. Insufficient environmental information for assessment.
MMO15	Tees Container Terminal 2 (TCT2) Quay Extension	MLA/2026/00098	Awaiting decision	No	Yes	445	No	Non-EIA. Insufficient environmental information for assessment.

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MMO16	Exolum Revetment Repairs (Seal Sands)	MLA/2025/00631	Approved with conditions 26/03/2026	Yes	Yes	100	No	Non-EIA. Insufficient environmental information for assessment.
MMO17	A.V. Dawson Port of Middlesbrough Quays 3 and 4 Screening Request	EIA/2026/00040	Approved with conditions 26/03/2026	No	No			Insufficient information for assessment
MMO18	South Tees Inshore Reef (STIR)	MLA/2026/00263	Not EIA 21/07/2026	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
MMO19	Northern Gateway Container Terminal	L/2021/00354/1	Approved with conditions 02/03/2022	Yes	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
Minor Planning Applications								
RCBC18	Erection of 2 (no) electricity substations	R/2025/0175/FF	Approved with conditions 12/05/2025	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
RCBC19	Single storey extension to side and rear	R/2025/0301/FF	Approved with conditions 18/06/2025	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
STBC9	Erection of 2no industrial buildings.	25/0757/FUL	Approved with conditions 01/08/2025	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
RCBC46	Demolition and replacement of 2 rail mounted cranes and rails	R/2025/0726/FF	Approved with conditions 25/06/2026	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
RCBC47	Extension of the existing substation and the erection of 210m length of 2.5m high metal palisade security fence	R/2024/0565/FFM	Approved with conditions 18/02/2026	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
Adopted Local Plan Allocations								
RCBC20	Low Grange Farm Strategic Site (1,250 dwellings)	Policy H3.1	Under construction	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
RCBC21	Land at Former Eston Park School (100 dwellings)	Policy H3.9	Undeveloped	No	No			Policy allocation. No available environmental reports or construction information
RCBC22	Normanby High Farm (150 dwellings)	Policy H3.8	Undeveloped	No	No			Policy allocation. No available environmental reports or construction information
RCBC23	Spencerbeck Farm (61 dwellings)	Policy H3.6	Under construction	No	No			Policy allocation. No available environmental reports or construction information

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RCBC24	Normanby Hall (25 dwellings)	Policy H3.7	Undeveloped	No	No			Policy allocation. No available environmental reports or construction information
RCBC25	West of Kirkleatham Lane (550 dwellings)	Policy H3.15	Under construction	No	No			Policy allocation. No available environmental reports or construction information
RCBC26	St Hilda's Church (25 dwellings)	Policy H3.11	Constructed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
RCBC27	Grosmont Close (12 dwellings)	Policy H3.13	Constructed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
RCBC28	Land at Mickle Dales (100 dwellings)	Policy H3.14	Undeveloped	No	No			Policy allocation. No available environmental reports or construction information
RCBC29	Land adjacent Ryehills School (30 dwellings)	Policy H3.12	Constructed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
RCBC30	Corporation Road (86 dwellings)	Policy H3.10	Constructed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
RCBC31	Wilton International (221 ha)	Policy ED6.1	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
RCBC32	Land at South Tees (184 ha)	Policy ED6.2	Developed	Yes	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
RCBC33	South Tees Industrial Estates and Business Parks (3.5 ha)	Policy ED6.4	Developed	Unknown	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
RCBC34	Skippers Lane Industrial Estate (0.8 ha)	Policy ED6.5	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
RCBC35	Kirkleatham Business Park (22.2 ha)	Policy ED6.6	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to

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RCBC36	Warrenby Industrial Estate (0.3 ha)	Policy ED6.7	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
RCBC37	Trunk Road Industrial Estate (2.5 ha)	Policy ED6.8	Developed	Unknown	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
RCBC39	The Haven, South Bank (9 pitches)	Policy H 7	Undeveloped	No	No			Policy allocation. No available environmental reports or construction information
STBC18	Former Billingham Campus School Site (150 dwellings)	Policy H1 (5.2)	Undeveloped	No	No			Policy allocation. No available environmental reports or construction information
STBC19	Billingham Chemical Complex (45 ha)	Policy EG4	Unknown	No	No			Policy allocation. No available environmental reports or construction information
STBC20	North Tees (46 ha)	Policy EG4	Unknown	No	No			Policy allocation. No available environmental reports or construction information
STBC21	Seal Sands (144 ha)	Policy EG4	Undeveloped	Yes	No			Policy allocation. No available environmental reports or construction information
STBC22	Belasis (16 ha)	Policy EG1 (e)	Undeveloped	No	No			Policy allocation. No available environmental reports or construction information
STBC23	Portrack Lane (16 ha)	Policy EG1 (f)	Undeveloped	No	No			Policy allocation. No available environmental reports or construction information
STBC24	Teesside	Policy EG1 (h)	Unknown	Unknown	No			Policy allocation. No available environmental reports or construction information
STBC25	Cowpen (4 ha)	Policy EG1 (i)	n/a	No	No			Policy allocation. No available environmental reports or construction information
HBC6	The South West Extension Strategic Housing Site (1,260 dwellings)	Policy HSG4	Consented	No	Yes	5,200	Yes	
HBC7	Queen's Meadow Business Park (65 ha)	Policy EMP2	Partially developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
HBC8	Zinc Works Road (3 ha)	Policy EMP3i	Undeveloped	No	No			Policy allocation. No available environmental reports or construction information
HBC9	Graythorp Industrial Estate (13.1 ha)	Policy EMP3h	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to

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								begin and therefore is included in the current baseline within the ES.
HBC10	Tofts Farm West (34.1 ha)	Policy EMP3g	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
HBC11	Tofts Farm East/Hunter House (44.2 ha)	Policy EMP3f	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
HBC12	Brenda Road (3.6 ha)	Policy EMP3e	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
HBC13	Able Seaton Port (47.8 ha)	Policy EMP4g	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
HBC14	West of Seaton Channel (76.7 ha)	Policy EMP4b	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
HBC15	Phillips Tank Farm (150.4 ha)	Policy EMP4c	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
HBC16	Graythorp Waste Management (4.1 ha)	Policy EMP4f	Undeveloped	No	No			Permit refused.
HBC17	North Graythorp (27 ha)	Policy EMP4e	Undeveloped	No	No			Policy allocation. No available environmental reports or construction information
HBC18	South Works (131.2 ha)	Policy EMP4d	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC3	Middlehaven (822 dwellings)	Policy H31(1)	Undeveloped	No	Yes	3,100	No	Non-EIA. Insufficient environmental information for assessment.
MBC4	Grove Hill (608 dwellings)	Policy H31(2a)	Under construction	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline

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MBC5	Gresham (200 dwellings)	Policy H31(2b)	Under construction	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
MBC6	Acklam Green (327 dwellings)	Policy H31(2c)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC7	Scholars Rise (145 dwellings)	Policy H31(3a)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC8	Land south of James Cook University Hospital (64 dwellings)	Policy H31(3b)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC9	Tennis World (50 dwellings)	Policy H31(3c)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC10	Prissick Depot (80 dwellings)	Policy H31(3d)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC11	Land North of Marton Avenue (50 dwellings)	Policy H31(3e)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC12	Brackenhoe East (180 dwellings)	Policy H31(3f)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC13	Clairville (153 dwellings)	Policy H31(10) / Policy H32	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC14	Acklam Iron & Steelworks Club (30 dwellings)	Policy H31(11) / Policy H33	Under construction	No	No			Policy no longer allocated
MBC15	MTLC (30 dwellings)	Policy H31(12)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.

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MBC16	Land adjacent MTLC (180 dwellings)	Policy H31(14)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC17	Beresford Crescent (83 dwellings)	Policy H31(15)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC18	Former Erimus Training Centre (100 dwellings)	Policy H31(16)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC19	Cornforth Avenue (15 dwellings)	Policy H31(17)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC20	Fulbeck Road (26 dwellings)	Policy H31(18)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC21	Penrith Road (10 dwellings)	Policy H31(19)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC22	Acklam Hall (56 dwellings)	Policy H31(21)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC23	Beechwood (28 dwellings)	Policy H31(23) / Policy H35	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC24	Low Gill (140 dwellings)	Policy H31(24) / Policy H36	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC25	Longridge (79 dwellings)	Policy H31(25)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.

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MBC26	Metz Bridge Gypsy site	Policy H37	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC27	North Ormesby Travelling Showpeople yard	Policy H37	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC28	Riverside Park (including SW Ironmasters) (34.58 ha)	Policy Reg12(1)	Partially developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC29	East Middlesbrough Industrial Estate (4.88 ha)	Policy Reg12(2)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC30	Lawson Industrial Estate (0.33 ha)	Policy Reg12(3)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC31	Cargo Fleet (16.89 ha)	Policy Reg12(4)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC32	Letitia (0.16 ha)	Policy Reg12(4)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC33	Town Centre (8 ha)	Policy Reg12(8)	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC34	Middlehaven (excluding Cargo Fleet land – see above) (100 ha)	Policy Reg12(9)	Partially developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC35	Prissick (570 dwellings)	Policy H4 / Policy REG31	Undeveloped	No	No			Policy no longer allocated
MBC36	St Luke's Hospital	Policy REG32	Undeveloped	No	No			Policy no longer allocated

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TV1	Graythorp Industrial Estate (Hartlepool) (4 ha)	Policy MWP4	Undeveloped	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
TV2	Haverton Hill (Stockton-on-Tees) (6 ha)	Policy MWP5	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
TV3	New Road, Billingham (Stockton-on-Tees)	Policy MWP6	Undeveloped	No	No			Insufficient information on construction timescales to determine overlap with the Proposed Development
TV4	Port Clarence (Stockton-on-Tees) (16 ha)	Policy MWP7	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
TV5	South Tees Eco-Park (Redcar and Cleveland) (27 ha)	Policy MWP8	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
Emerging Local Plan Allocations								
MBC37	Grove Hill (296 dwellings)	Policy HO4c	Under construction	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
MBC38	Land West of Cavendish Road (15 dwellings)	Policy HO4n	Undeveloped	No	No			Policy allocation. No available environmental reports or construction information
MBC39	Riverside Park (Including TeesAMP)	Policy EC2.1	Partially developed	No	No			Policy allocation. No available environmental reports or construction information
MBC40	East Middlesbrough Industrial Estate	Policy EC2.2	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC41	Lawson Industrial Estate	Policy EC2.3	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC42	Cannon Park	Policy EC2.4	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC43	Letitia Industrial Estate	Policy EC2.5	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to

ID	Project Name	Application Reference	Application Status	Does the project intersect the Proposed Development Site?	Stage 2 criteria met	Distance to Site boundary (m)	Stage 3/4 criteria met	Justification
						Grey shading = Not applicable. Indicates either (i) developments progressed to Stage 3/4 screening, such that no screening-out justification is required, or (ii) developments screened out prior to detailed assessment, for which a distance to the Site boundary has not been determined.		
								begin and therefore is included in the current baseline within the ES.
MBC44	Newport South Business Park	Policy EC2.6	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC45	Whitestone Business Park	Policy EC2.7	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC46	Warelands Way	Policy EC2.8	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC47	Land at Metz Bridge	Policy HO6	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC48	Land at North Ormesby	Policy HO6	Developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin and therefore is included in the current baseline within the ES.
MBC34	Middlehaven (excluding Cargo Fleet land – see above) (100 ha)	Policy Reg12(9)	Partially developed	No	No			Project will be operational when construction of the Proposed Development is planned to begin. Will form part of the future baseline
MBC35	Prissick (570 dwellings)	Policy H4 / Policy REG31	Undeveloped	No	No			Policy no longer allocated
MBC36	St Luke's Hospital	Policy REG32	Undeveloped	No	No			Policy no longer allocated

References

Ref 1 Planning Inspectorate (2024) Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment. Available online: https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-cumulative-effects-assessment [Accessed June 2026].

Ref 2 UK Government (2015) The Town and Country Planning (Development Management Procedure) (England) Order 2015. Available online: https://www.legislation.gov.uk/uksi/2015/595/contents [Accessed June 2026].

Ref 3 Planning Inspectorate (2026) Register of applications. Available online: https://national-infrastructure-consenting.planninginspectorate.gov.uk/register-of-applications [Accessed June 2026].

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