Northumbrian Water Limited

Brans Sands Jetty Demolition

EIA Screening Request Report

Wood Group UK Limited –March 2022

Report for

Northumbrian Water Group

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Executive summary

Purpose of this report

This report has been prepared by Wood on behalf of Northumbrian Water Group (NWG) for the purpose of providing an Environmental Impact Assessment (EIA) Screening Request to Redcar and Cleveland Borough Council (RCBC) and the Marine Management Organisation (MMO). This report has been prepared to determine whether the demolition of a jetty and associated buildings at Brans Sands should be considered to constitute EIA development.

The EIA Screening assessment has identified that significant effects on the environment are considered unlikely and the effects that have been identified would not justify an EIA. It is concluded that the Proposed Development should not be considered to constitute EIA development as defined by the EIA and Marine Works EIA Regulations.

Contents

1. Introduction

1.1 Overview

1.1.1 Wood Group UK Limited (hereafter referred to as 'Wood') has been appointed by Northumbrian Water Group (NWG) ('the Applicant') who is proposing to demolish a jetty and associated buildings at Bran Sands, on the southern bank of the estuarine River Tees near Redcar (see **Figure 1** within **Appendix A**). The demolition and removal of the structures are hereafter referred to as the 'Proposed Development'.

1.1.2 In recognition of the type and nature of the Proposed Development, the Applicant is seeking to determine if the works would constitute an Environmental Impact Assessment (EIA) development, and therefore if an EIA is required to assess the potential for significant environmental effects to arise.

1.2 Need for the Proposed Development and Site Context

1.2.1 The jetty and associated onshore buildings identified on **Figure 2** within **Appendix A** have not been in use since 2010 and have been decommissioned by the Applicant. The jetty and associated buildings are now considered to be in a condition where they will, in time become unfit for purpose and the retention of the landing facility is not considered a viable option for the future. The land on which the structures are located is under lease to the Applicant and, as part of the lease agreement, the structures are required to be demolished and the Site reinstated within the lease period.

1.2.2 The jetty structure element of the Proposed Development also falls within the footprint of large-scale development proposals at Bran Sands comprising the York Potash Harbour Facilities Project, which is classified as Nationally Significant Infrastructure Project (NSIP). The harbour facilities will comprise of the following main elements:

- A conveyor system – linking a materials handling facility to the quay.
- Product storage facility – two surge bins, stationed at the quay.
- Quay structure – providing docking for up to two ships and space for ship loading equipment.

1.2.3 The harbour facilities project proposes the construction of a quay structure and the jetty falls within the footprint of the proposals. Demolition of the jetty structure will therefore prepare the site for the harbour development, for which a Development Consent Order[1] (DCO) was granted by the Secretary of State in 2016.

1.3 Purpose of this Report

1.3.1 This report serves as a formal request to Redcar and Cleveland Borough Council (RCBC) and the Marine Management Organisation (MMO) to provide EIA Screening Opinions in

[1] The York Potash Harbour Facilities Order 2016 [online]. Available at York Potash Harbour Facilities Order | National Infrastructure Planning (planninginspectorate.gov.uk) [Access January 2022].

accordance with the Town and County Planning (Environmental Impact Assessment) Regulations 2017[2] (the EIA Regulations) and the Marine Works (EIA) Regulations 2007 (the Marine Works EIA Regulations), as amended[3].

1.3.2 In accordance with Regulation 6(2) of the EIA Regulations and Schedule 23 of the Marine Works Regulations[4], the following information is contained within this report:

- A plan sufficient to identify the land (**Figure 1** within **Appendix A**).
- A chart and/or map sufficient to identify the location of the project and the regulated activity (**Figure 1** within **Appendix A**).
- An environmental constraints map (**Figure 2.1** within the Preliminary Ecological Appraisal provided at **Appendix B**).
- A description of the nature and purpose of the Proposed Development, including a description of the physical characteristics and, where relevant demolition works (**Section 3**).
- A description of the location of the Proposed Development, with particular regard to the environmental sensitivity of geographical areas likely to be affected (**Section 4**).
- Consideration of the likely significant effects on the environment arising from the Proposed Development, based on available information, on such effects resulting from
  - Expected residues and emissions and the production of waste where relevant.
  - The use of natural resources, in particular soil, land, water and biodiversity (**Sections 5 & 6**).
- A summary and conclusion as to whether the Proposed Development should be subject to an EIA (**Section 7**).

1.3.3 All of the information presented with this report has been collated from desk-based sources, accounting for the baseline conditions and the potential likely significant environmental effects of the Proposed Development.

1.4 Consent / Legislative Requirements

1.4.1 As the Proposed Development has components that are onshore and within the channel of the River Tees, consent for the works would be sought under the following regimes:

- Should a negative Screening Opinion be received, consent for demolition of the onshore elements of the Proposed Development is intended to be sought via an Application for Prior Notification of Proposed Demolition to RCBC under the terms of the Town and Country Planning (General Permitted Development) Order 2015 Schedule 2, Part 31. The requisite site notices would be erected upon submission of

[2] The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 [online]. Available at: https://www.legislation.gov.uk/uksi/2017/571/contents [Accessed January 2022].
[3] The Marine Works (Environmental Impact Assessment) (Amendment) Regulations 2017 [online]. Available at: https://www.legislation.gov.uk/uksi/2017/588/contents/made [Accessed January 2022].
[4] https://www.legislation.gov.uk/uksi/2017/588/schedule/2/made
https://www.legislation.gov.uk/uksi/2007/1518/schedule/3/2017-05- 16 [Accessed January 2022]

the application and a Demolition and Restoration Method Statement would be submitted with the application to assist RCBC with their determination of the application. If a positive Screening Opinion is received, then an application for full planning permission for the onshore works would be submitted which would be accompanied by an Environmental Statement.

- A Marine Licence would be sought for the works seaward of Mean High Water Springs (MHWS) and an application would be made to the MMO under Part X of the Marine and Coastal Access Act 2009[5].

1.5 The Applicant

1.5.1 Northumbrian Water Ltd (NWL) is a member of the Northumbrian Water Group Ltd (NWG). NWL supplies potable and raw water and the collection, treatment and disposal of sewage and sewage sludge, in the north-east of England. NWL also provides technical and consultancy services focusing on water and environmental issues.

1.6 The Agent

1.6.1 Wood Group UK Limited (hereafter referred to as 'Wood') has been commissioned to prepare this report. Wood is one of the UK's largest multidisciplinary environmental and engineering consultancies. Our business forms part of a global business supplying consultancy, engineering and project management services. From 11 office locations around the UK, our people contribute across the business cycle from policy setting through strategy into implementation, development and operational effectiveness. With skills ranging from development planning and design through an array of environmental and engineering disciplines, we have a comprehensive service portfolio and applied experience in a wide range of markets.

1.6.2 Wood carries out EIAs to quality standards that comply with those identified by the Institute of Environmental Management and Assessment (IEMA). Its EIA Quality Mark scheme was introduced in 2011 and Wood (through its previous entities Amec Foster Wheeler, Amec and Entec UK Ltd) was a founder member and has held continuous membership ever since. Each year, Wood is required to show that its meets seven commitments relating to EIA management, team capabilities, regulatory compliance, EIA context and influence, EIA content, and improving EIA practice. Wood's approach to these matters is examined by IEMA through a number of methods, including reviewing our EIA reports, interviewing staff and assessing case studies and presentations made by our personnel at conferences.

[5] Marine and Coastal Access Act 2009 [online]. Available at: https://www.legislation.gov.uk/ukpga/2009/23/contents [Accessed January 2022].

2. Review of EIA Screening Criteria

2.1 Introduction

2.1.1 This Section presents an overview of the EIA screening criteria that are considered applicable to the Proposed Development. It supports the request under Regulation 6 of the EIA Regulations and Schedule 2 of the Marine Works EIA Regulations for an EIA Screening Opinion.

2.2 Overview of the EIA Screening Criteria

2.2.1 The Proposed Development has been considered against the different types of development projects as set out in Schedules 1 and 2 of the EIA Regulations and Schedules A1 and A2 of the Marine EIA Regulations, see **Table 3.1** below.

Table 3.1 Schedules included in the EIA Regulations and Marine Works EIA Regulations

The EIA Regulations	The Marine Works EIA Regulations
"Schedule 1 development" for which an EIA is required in every case.	Schedule A1 development' for which an EIA is required in every case.
"Schedule 2 development" for which an EIA is required only if the particular project in question is "*likely to have significant effects on the environment by virtue of factors such as its nature, size or location*."	'Schedule A2 development' for which an EIA may be required depending on if the project in question is "*likely, because of its size, nature or location, to have to give rise to significant environmental effects*."

Schedule 1 and A1

2.2.2 Schedule 1 and A1 list types of projects for which an EIA is mandatory. These are generally industrial and infrastructure projects of a large scale, for which significant effects would be expected and comprise proposals such as new airports and power stations. The Proposed Development does not constitute a development of such scale and therefore an EIA is not considered to be a mandatory requirement.

Schedule 2 and A2

2.2.3 Schedule 2 and A2 list project descriptions for which an EIA may be required, if they would result in significant effects on the environment by virtue of factors such as nature, size or location. Criteria is provided within Schedule 2 and Schedule 3 of the EIA Regulations and Schedule 1 of the Marine Works EIA Regulations to assist in the consideration of significance. Schedule 2 contains thresholds, above which an EIA is more likely to be required.

The Proposed Development does not explicitly fall within the projects listed in Schedule 2 or A2, however the Schedules are not exhaustive, and they do list projects with similar

characteristics to the Project. Therefore, it is considered that the Proposed Development Project it most likely to fall under paragraph 10(g) of Schedule 2 and paragraph 63 of Schedule A2 both of which address the *'construction of harbours and port installations including fishing harbours'*. It is acknowledged that whilst the Proposed Development does not involve 'construction', instead proposing demolition works, it is acknowledged that effects arising from demolition works are not dissimilar to those arising from construction.

2.2.4 Under the EIA Regulations and the Marine Works EIA Regulations, a development described in Schedule 2 or A2 may be an EIA development if any part of it lies within, or partly within a 'sensitive area' or, in the case of Schedule 2, if it meets or exceeds the relevant threshold and criteria identified in the EIA Regulations for that category of development.

2.2.5 A 'sensitive area' includes the UK's National 'European Sites' Network (Special Protection Areas (SPAs), Special Areas of Conservation (SACs) or Ramsar sites), Sites of Special Scientific Interest (SSSIs), National Parks (NPs), World Heritage Sites (WHSs), Scheduled Monuments (SMs) and Areas of Outstanding Natural Beauty (AONBs). The Proposed Development falls within the boundaries of the marine components of the Teesmouth and Cleveland Coast SPA/European Marine Site (EMS)/Marine Protected Area (MPA), Ramsar site and SSSI.

2.2.6 The relevant threshold for the construction of harbours and port installations under paragraph 10(g) of Schedule 2 is *'the area of the works exceeds 1 hectare'*.

2.2.7 By virtue of the details set out in this report, the Proposed Development which has a site area of 4ha, would exceed the site area threshold and is located partly within a sensitive area. Consequently, the necessary test if therefore whether the Proposed Development has the potential to generate significant environmental effects.

2.2.8 In accordance with both the EIA and Marine (EIA) Works Regulations, Schedule 2/A2 developments should be reviewed as detailed above to determine likelihood of significant effects on the environment by virtue of:

- **The characteristics of the development**, having regard to size and design of the whole Proposed Development; cumulation with other existing or approved projects, use of natural resources; production of waste; pollution and nuisances; risk of major accidents and/or disasters, including those caused by climate change; and risks to human health.
- **The location of the development** in terms of the environmental sensitivity of the geographical areas likely to be affected by the Proposed Development, in particular: the existing land use; the relative abundance, quality and regenerative capacity of natural resources in the area; the absorption capacity of the natural environment paying particular attention to areas such as nature reserves and parks, wetlands, river mouths, coastal zones, the marine environment, European sites and other areas classified or protected under national legislation, and landscapes of historical, cultural or archaeological significance.
- **The types and characteristics of the potential impact** – having regard to the likely significant effects of the Proposed Development having regard to the magnitude and

spatial extent, nature, transboundary nature, intensity and complexity, probability, onset, duration, frequency and reversibility of the impact; cumulation of the impact with the impact of other existing and/or approved development; and the possibility of effectively reducing the impact.

3. EIA Screening of the Development Characteristics

3.1 Description of the Proposed Works

3.1.1 The Proposed Development includes the demolition and removal of the following infrastructure at the Site, which are also illustrated on **Figure 2** within **Appendix A**:

Marine & Intertidal Components

- 40 m long concrete jetty with four centrally located sludge unloading arms, steel fenders and two pairs of mooring dolphins (north and south).
- Marine-side section of the jetty access bridge (approximately 20-30m).
- Deck furniture (e.g., handrailing, pipe supports, lighting columns).
- 74 tubular steel piles (12 to be removed from landside and 62 by barge) approximately 20m in length.

Shoreside / Terrestrial Components

- Shoreside section of the jetty access bridge (approximately 10-20m).
- Four storage tanks (two sludge and two water (one raw water, one wash water)), which are contained within a bund and positioned on reinforced concrete slabs.
- Pump House.
- Odour control equipment (including chemical storage tanks).
- Sludge return pump chamber.
- Concrete hardstanding.
- Pipework, access roads, lighting and cabling.
- Isolation of site services and all tanks and pipes to be cleaned prior to removal.
- Removal of pipework within the site boundary.
- Removal of boundary fencing.

3.1.2 Some elements of the onshore components have already been decommissioned. For example, the pumps have been removed from the Pump House and the odour control system has been partially removed.

3.1.3 The Site is accessed via internal roads from within the wider Bran Sands site. The onshore components are surrounded by security fencing, while the jetty is secured at its entrance by a steel fence and gate.

3.2 Overview of the Proposed Works

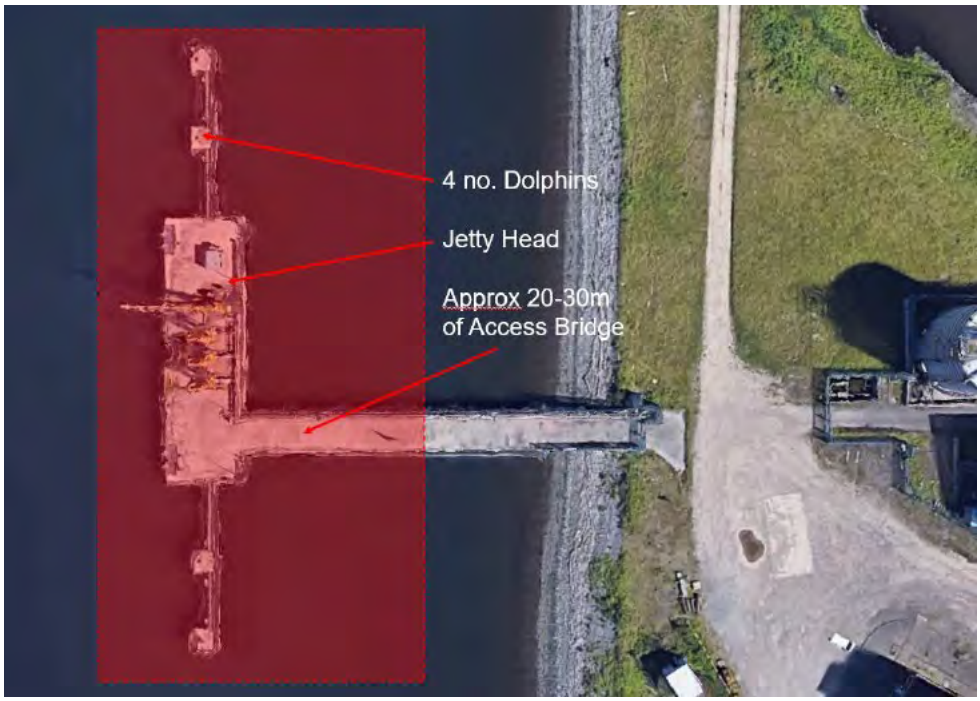
3.2.1 The following information is provided to facilitate understanding of the likely decommissioning methodology for the Proposed Development. This information considers known site-specific constraints (e.g., biodiversity, other infrastructure) and draws upon early contractor support to consider constraints understood to be prevalent for similar types of decommissioning projects in the UK.

Overview of Marine Works

3.2.2 The maximum extent of the marine demolition activities (including anchor spreads, spud legs, the extent of which is still to be confirmed) is estimated to be 3.1ha / 0.031km^2 assuming the area extends from mean high water springs (MHWS) to a maximum of 100m off the seaward end of the jetty, and 50m respectively off the north and south dolphins. The direct footprint of the marine works is anticipated to be far smaller as illustrated below in **Plate 1.**

3.2.3 Marine works will comprise complete removal of topside structures, loading arms, concrete slabs and pile foundations to at least the minimum extent required by landowners. A combination of vessels is proposed at this stage – one main crane barge, supported by one or two flat-top barges, a workboat, a safety boat and a dive support vessel. A demolition of the full extent of the access jetty is likely to be limited by water-depth (particularly on low spring tides), it is likely c. 30-40m of this access jetty will require removal from land.

Plate 1 Indicative marine works area



Jetty head, dolphins and access jetty

3.2.4 Due to the distance from shore, the removal of the jetty head, dolphins and part of the access jetty is anticipated to be undertaken from the River Tees using specialist heavy-lift

barges. This approach removes any need for major ground preparation works on the riverbank, thus reducing potential impacts in that area. Using larger vessel cranes to remove the jetty in large, controlled lifts also minimises the duration of works and any associated impacts and disruption.

Loading arms

3.2.5 Once isolated, loading arms will be removed via the main hook of the crane barge using a simple step-by-step process. It has been determined that the proposed lift heights are easily achievable across all tidal states.

North dolphins

3.2.6 Following clearance of the topside structures (e.g., deck furniture) the pair of north mooring dolphins will be removed as follows:

- A rig diamond-wire cutting machine (DWCM) will be used to cut the piles at level c. +5.6mCD (tbc) beneath the "grouted basket slab-pile connection". The DWCM will be used on and beneath the slabs above water in all cases. If piles are not able to be pulled, then a subsea DWCM will be used as mitigation.
- Any allowable pre-weakening cuts to the piles will be performed prior to lifting.
- The dolphin slab to be rigged to the main crane prior to final cuts.
- The final cuts to the piles will be undertaken.
- The concrete slab (single lift <40t) will be lifted to the processing barge.
- The remaining piles will be pulled with the use of vibro-hammer and main crane of crane barge.

Jetty head

3.2.7 Once all loading arms, pipelines, utilities and furniture are removed from the jetty head, it is removed in a similar manner to the north dolphins, with the addition of cuts to the main deck slab to typically <100te.

South dolphins

3.2.8 The same methodology will be employed for removal of the South dolphins as for the North dolphins. The piles will be removed by vibro-hammer, if the measured levels of vibration of the test pile (and subsequent monitoring) is within acceptable limits. The Breagh gas pipeline runs between south dolphins approximately 30m below the riverbed and limits on the acceptable levels of vibration will be agreed with the owner operator. Should use of vibro-hammers be deemed unsuitable at this location, the piles will be removed via a subsea diamond wire cut to the base of the pile (cut level to be determined). This would require localised mobilisation of sediment through airlift or controlled-flow techniques (maximum 5m³ anticipated per pile) around the immediate cut location to gain access. A subsea diamond wire tool will then be deployed into this

shallow 'pocket' to perform the cut. During this process the pile weight would be taken by the main crane of the crane barge and the subsea cut aided by a dive support vessel.

Pile Removal

3.2.9 In total, 62 of the 74 piles on Site will be removed through a combination of diamond wire cutting and vibro-hammering undertaken using a crane barge. The remaining 12 intertidal piles will be removed using a land-based crane. It is estimated that each pile will take 0.5 days to remove which equates to removal of 2 piles per day. The time required for realignment between piles will vary depending on the barge position, and set-up can vary from c. 0.5 hours to 5 hours pending pile position. The proposed hammer "on" time per pile is limited, with no more than 30 minutes to 1 hour anticipated per pile. It is considered that 1 hour per pile would be the worst-case scenario, with 30 minutes being more realistic and 5 minutes optimal, but unrealistic given the need for set up and soft start of equipment. In accordance with the precautionary principle, it is assumed each pile will require 1 hour of vibro-piling during removal.

3.2.10 Given the proximity of three designated Hazard Accidents Pipelines to the Proposed Development, vibration arising from the vibro-piling will be measured on a test pile to confirm it is within the limits of acceptability Vibration will be agreed with the pipeline owner / operators. Refer to **Section 4.11** and **Figure 6** within **Appendix A** for further details

3.2.11 Removal of the piles will not always follow the same work pattern. Where it is most practicable individual piles will be removed at the same time as individual slabs to allow access to inner piles, but in some locations removal of a sequence of slabs followed by a sequence of piles may be most favourable. The assumption of two piles/day is provided to cover this range of eventualities.

3.2.12 Pile removal will only be undertaken within normal working hours (07.00 -19.00 hours, 7 days a week) meaning there will be a minimum 12-hour continuous break in piling within each 24-hour period. Assuming two piles are removed per day with a maximum duration of 2 hours of associated vibro-pile removal, it is anticipated that additional breaks in piling will occur within the working day.

Processing of Recovered Waste

3.2.13 From early calculations and interpretation of the chosen removal methods, it is likely the following materials would require recovery to barge and onward processing at a nearby quayside facility:

- Concrete Deck Slabs:
  - 4 no. approx. 36t. Dolphin Slabs (each 3.6m x 3.6m x 1.0m).
  - 2 no. approx. 80t. Deck Slabs (each c. 6.0m x 4.0m x 1.5m).
  - 13 no. approx. 70t. Deck Slabs (various sizes).
  - 1 no. approx. 120t. Deck Slab (5.0 x 6.1 x 1.5m).
  - 5 no. approx. 65t. Deck Slabs (5.0 x 6.1 x 0.75m).

- Steel Piles:
  - 50 no. Ø762mm x 20-22mm WT, average length 18m, average weight 7t.
  - 8 no. Ø684mm x 16mm WT, average length 18m, average weight 4.75t.
- Loading Arms:
  - 4 no. loading arms. Weight 13t. each. Length c. 10m.

Overview of Onshore Works

3.2.14 For the onshore decommissioning works temporary site offices and welfare facilities would be required. It is anticipated they will be sited to the North of the access gate to the jetty to ensure access by the shoreside crane or its lifting radius is not impeded. This position would also leave the turning circle between the jetty and onshore structure free for all users.

3.2.15 Proposed working hours would be from 07:00 to 19:00, 7 days per week to maximise the daylight hours available in the summer months and minimise the risk of over-run into the autumn months; an important factor to minimise disturbance of species.

3.2.16 Site access during the onshore decommissioning work for all site vehicles, including haulage of waste materials, would be via the existing access track which runs parallel to the Dabholm Gut to the South of the Site. Access would then follow existing access roads within the Tees Dock area to reach the A1085. There are two proposed site access routes through this area which are shown on **Figure 3** within **Appendix A**. Vehicles using either route option would be contractor vehicles in addition to Heavy Goods Vehicles (HGVs) associated with the demolition works.

Removal of Shoreside Section of Piles and the Jetty Access Bridge

3.2.17 Due to limitations of water depth across all tides it is likely that 12 intertidal piles and approximately 30m of the Jetty Access Bridge would be removed by shoreside craneage rather than crane barge. It is estimated that the deck slabs would be cut and removed in approximately 31 tonne sections to minimise the crane size.

Demolition of Onshore Facilities

3.2.18 Prior to the demolition of onshore assets, final cleaning and purging of the tanks and pipelines would be undertaken as required. As the tanks were flushed after final use a number of years ago, it is anticipated that residue only will remain and cleaning with a high-pressure water system would be undertaken. Wash water would be recovered into a recirculation / bulking tank for off-site disposal and the lines inspected by CCTV to verify cleanliness prior to removal with a forklift / telehandler.

3.2.19 Tanks would be demolished using a 30-tonne high reach excavator, which would provide enough reach for all structures identified within the compound. It is anticipated that a small excavator would perform crushing of rubble, concrete, and excavated material on site for the backfilling of sumps and excavated foundations. The tank foundations would then be excavated, removed, and backfilled with crushed material.

3.2.20 Prior to demolition of the Pump House any remaining services would be stripped out. This will include dismantling of the gantry crane, the removal of control panels and removal of any remaining electricals and services. The steel-clad walls of the Pump House will be removed by the high reach excavator with demolition shear attachments. The sub-structure of the Pump Chamber would be left in situ; however drainage holes would be created prior to backfilling with suitable fill materials.

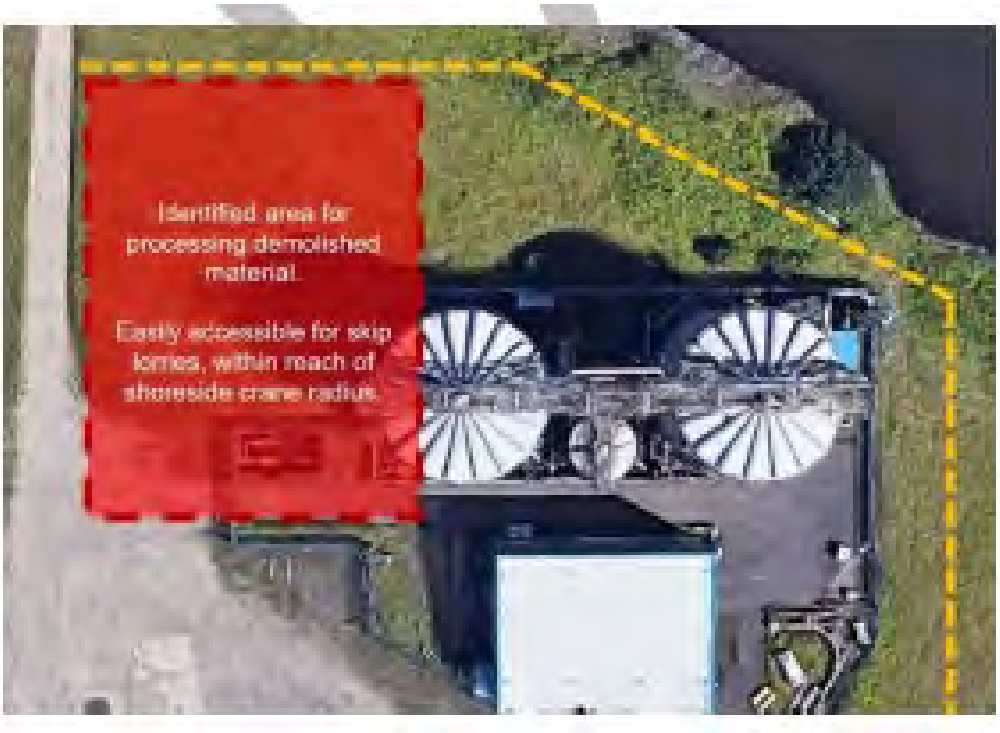
3.2.21 The diesel generator adjacent to the Pump House would be isolated, protected and drained prior to removal from site.

Processing of Onshore Waste

3.2.1 Working behind the principal demolition excavator, a small excavator would move and sort materials into various piles and skips ready for onward removal from the Site for processing. At the height of the onshore demolition works, it is anticipated that up to 4 no. 40-yard skips will arrive and depart per day.

3.2.2 As shown in **Plate 2**, it is anticipated that an area adjacent to the onshore facilities would be identified on site for the storage of materials as they are dismantled. It is possible that more than one stockpile location would be developed within the Site as the demolition progresses.

Plate 2 Potential area for primary sorting / processing on site



3.2.3 Initial calculations estimate that the following waste types and quantities would be generated following the demolition activities:

- Steel / Metal / Composites
  - Approximately 55t. Trifusion glass coated steel sheets.

- Approximately 1t. of GRP Fibreglass.
- Approximately 30t. of galvanised mild steel gantries and staircases.
- Approximately 20t. steel pipelines.
- Approximately 10t. of miscellaneous metals (handrailing, cable trays, lighting etc).
- Total metals to be removed from site = approximately 120t.

- Concrete / Excavated Material
  - Excavated / broken concrete material totalling approximately 500m^3 concrete (foundations and compound walls to suitable level). 150m^3 would be from the jetty – recovered by land crane.
  - Back-filling of approximately 150m^3 of sumps / voids to required ground level.
  - Total concrete / crushed concrete / soil to be removed from site = approximately 350m^3.

3.3 Outline Programme

3.3.1 It is estimated that the demolition programme, including mobilisation and de-mobilisation, would last approximately five months and is based on a 0700 to 1900 working day, 7 days per week. The onshore demolition works would be scheduled to tie-in with marine removal of the access jetty. Works would be timed in order to avoid key sensitive seasons for waterbirds this is a key constraint to these works.

3.3.2 An indicative programme is included in **Table 3.1** below.

Table 3.1 Indicative Programme

Activity	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	Week 20	Week 21	Week 22	Week 23	Week 24	Week 25	Week 26	Week 27	Week 28	Week 29	Week 30
Project Engineering, RAM, Subcontracts, Prep																														
Site Surveys																														
Tooling & Mobilisation of Vessels																														
Relocation of Vessels																														
Establish Marine Site																														
Removal of Topside Furniture																														
Removal of Loading Arms																														
Removal of North Dolphins																														
Removal of Jetty Head																														
Removal of South Dolphins																														
Removal of Access Jetty																														
As Left Survey (Marine)																														
Establish Onshore Site																														
Onshore Cleaning, Strip & Isolation																														
Onshore Demolition																														
Access Jetty Removal (Onshore)																														
Site Final Finishes																														

1. Programme is based on a 0700 to 1900 working day, 7 days per week.
2. The Onshore Demolition Programme (red) is currently scheduled to tie-in with the marine removal of the Access Jetty (weeks 18-22).

4. EIA Screening of Site Location and Site Sensitivity

4.1 Introduction

4.1.1 With regard to Schedule 3, paragraph 2 of the EIA Regulations and Schedule 23 of the Marine Works Regulations, information on the location of the Proposed Development, in terms of the environmental sensitivity of the Site and surrounding area likely to be affected by the Proposed Development is set out within this Chapter.

4.1.2 It should be noted that the information presented in this Chapter is applicable to both the terrestrial and marine aspects of the Proposed Development.

4.2 The Site

4.2.1 The Bran Sands Jetty and its associated buildings, hereafter referred to as 'the Site', are located on an area of reclaimed, brownfield land on the southern bank of the River Tees approximately 5km north-west of Redcar, North Yorkshire (central grid reference: NZ 54960 24816) (see **Figure 1** in **Appendix A**). The jetty was constructed on the River Tees in 1999 for the transportation of raw sludge to be treated at the NWL Bran Sands site. The jetty and associated onshore assets have not been in use since 2010 and have been decommissioned.

4.2.2 The Site covers an area of approximately 4ha. This comprises of a compound containing buildings, hard standing and bare ground, bordered by semi-improved grassland and areas of dense scrub of approximately 0.9ha and the footprint of the marine works which measures approximately 3.1ha (or 0.031km^2)

4.2.3 The Site is located on a peninsular of made ground in a busy and heavily industrialised area. The jetty, a primarily concrete structure, is situated in the edge of the River Tees Estuary. The surrounding areas are heavily industrialised, and the Tees Bay coastline lies approximately 1.5km to the north of the Site.

4.3 The Surrounding Area

4.3.1 The Tees Valley area has a longstanding industrial heritage and remains one of the UK's main manufacturing regions. The built areas surrounding the Site reflect this characteristic and are heavily industrialised (see **Figure 1** within **Appendix A**). To the north, the Site is bounded by the Redcar Bulk Terminal Facility; this terminal is a deep-water marine terminal that operates a 320m long quay and has an extensive 130ha terminal storage area extending out to the east, behind the quay. To the south, the Site is bounded by an inlet and the Teesport Industrial Estate consisting of low-grade quality grassland, warehouses, container storage facilities and associated port facilities. The River Tees borders the Site to the west, beyond which lies Seal Sands which supports a number of industrial and chemical facilities including BOC Teesside Hydrogen, Lianhetech Seal Sands and Pipe Track. Immediately adjacent to the Northumbrian Water pumphouse is

the A1085 (Trunk Road), which separates the Site from the residential area of Dormanstown.

4.4 Biodiversity

Designated Sites

4.4.1 Despite significant modification of the Tees Estuary over the past 150 years, it still includes areas of rocky shores, saltmarsh, sand dunes, intertidal sand and mudflats. The Site overlaps with and/or is in close proximity to five designated nature conservation sites as summarised in **Table 4.1** and illustrated on **Figure 2.1** within the Preliminary Ecological Appraisal (PEA) provided in **Appendix B**. The following designated sites are particularly relevant to the Proposed Development:

- The Site is within the Teesmouth and Cleveland Coast Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI) and species associated with the designation, such as breeding birds, are likely to utilise the development site habitats.
- An access road to the Site runs alongside the Eston Pumping Station Local Wildlife Site (LWS).

Table 4.1 Designated Nature Conservation Sites

Nature Conservation Site	Location	Summary of Interest Features
Teesmouth and Cleveland Coast SPA	Proposed Development within nature conservation site	The site qualifies under Article 4 of the Birds Directive (2009/147/EC) for the following reasons: • Regularly supports more than 1% of Annex I species including: pied avocet, sandwich tern, common tern, little tern, and ruff. • Regularly supports more than 1% of migratory species not listed in Annex I include red knot and common redshank. • The site is regularly used by internationally important assemblages of waterbird (26,014 individuals). The marine components of the SPA comprise a European Marine Site (EMS) and form part of the UK's Marine Protected Area (MPA) network, this site was extended in 2020 and now includes the coastal waters of Tees Bay[6].
Teesmouth and Cleveland Coast Ramsar	Proposed Development adjoins nature conservation site	The site meets the following qualifying criterion: • Criterion 5: The site supports waterfowl assemblages of international importance with peak counts in winter of 9528 waterfowl. • Criterion 6: Populations of international importance in spring/autumn for the following species: o Common Redshank (883 individuals) • Population of international importance in winter for the following species: o Red knot (2579 individuals)

[6] https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK9006061 [Accessed January 2022)

Nature Conservation Site	Location	Summary of Interest Features
		Nationally important plant species occurring on the site include: o Rush-leaved fescue *(Festuca arenaria);* o Stiff saltmarsh grass (*Puccinellia rupestris*); and o Pond water crowfoot (*Ranunculus baudotii*) Other bird species occurring at levels of national importance include: o Little tern (40 pairs); o Northern shoveler (7 individuals); and o Common greenshank (7 individuals) Nationally important invertebrate species occurring on the site include: o *Pherbellia grisescens*; o Dark northern stiletto fly (*Thereva valida*); o Bladderwort flea-beetle (*Longitarsus nigerrimus*); o *Dryops nitidulus*; o *Macroplea mutica*; o *Philonthus dimidiatipennis*; and o Trichohydnobius suturalis
Teesmouth and Cleveland Coast SSSI	Proposed Development within nature conservation site	An extensive mosaic of coastal and freshwater habitats including sand dunes, saltmarshes, mudflats, rocky and sandy shores, saline lagoons, grazing marshes, reedbeds and freshwater wetlands. The site is designated for the following reasons: • Jurassic geology; • Quaternary geology; • Sand dunes; • Saltmarshes; • Breeding harbour seals; • Breeding avocet, little tern and common tern; • Non-breeding shelduck, shoveler, gadwall, ringed plover, knot, ruff, sanderling, purple sandpiper, redshank and sandwich tern; • An assemblage of more than 20,000 waterbirds during the non-breeding season; and • A diverse assemblage of invertebrates associated with sand dunes.
Seal Sands SSSI	~1.7km to NW of Proposed Development	Overlapping with the southern extent of the Teesmouth NNR this is one of the largest areas of intertidal mudflats on the north-east coast of England. It supports a diverse array of benthic invertebrates that provide a rich prey resource for the bird populations present in the Estuary, as well as providing an important haul out site for both grey and harbour seals. Harbour seals are also known to breed here. Parts of this SSSI were de-notified in 2019.
Teesmouth National Nature Reserve (NNR)	~1.4km to NW of Proposed Development	Teesmouth NNR main habitats include sand dunes, grazing marsh, intertidal sand and mudflats. The NNR shares a boundary with the Teesmouth and Cleveland SPA.

Nature Conservation Site	Location	Summary of Interest Features
		Features of interest within the NNR include: • Harbour seals and grey seals within the tidal channels; • Four different species of marsh orchid; and • Large populations of migratory waterbirds. The reserve is split into two sections including North Gare dunes and grazing marsh and Seal Sands. Other flora and fauna of note within the NNR include: • Lapwings; • Curlews; and • Short-eared owl. Seal Sands is one of the larges areas of intertidal mudflats on England's north-east coats.
Eston Pumping Station LWS	~1.8km to SE of Proposed Development	This site meets the criteria for a LWS due to its combination of urban grassland with borderline neutral grassland covering 25% of the site. Additional areas of open water and swamp add to the ecological function of the site.

Terrestrial

Habitats

4.4.2 A PEA of the Site has been carried out to understand the species and habitats which occupy the Site at this time and the report is included in **Appendix B**. The PEA identified that the operational area of the Site is dominated by hardstanding and bare ground and is bordered by coastal grassland with sections of dense scrub. A patch of ephemeral / short perennial vegetation is present adjacent to the operational buildings.

4.4.3 Fencing, areas of bare ground and hardstanding were found to have negligible biodiversity value.

Protected Species

Bats

4.4.4 Overall, it was found that the Site does not provide significant roosting resources due to the absence of mature trees or woodland and the industrial use, construction type and material of its buildings. The buildings identified for demolition consist of metal storage tanks and metal frames / clad units, which are generally unfavourable for use by roosting bats with only one brick-built building on Site.

4.4.5 The grasslands throughout and surrounding the Site may be suitable for foraging bats, however the habitats on Site do not connect to areas with suitable roosting opportunities in the wider area due to the heavily industrialised nature of the area, which therefore reduces the likelihood that bats will commute into the Site to forage. There are

also no optimal linear features on Site, such as hedgerows, that would be commonly utilised by bats for commuting purposes.

Breeding Birds (All Species)

4.4.6 Suitable habitat for nesting by a range of passerine and ground-nesting birds existing within the Site, such as dense scrub and coastal grassland.

4.4.7 The intertidal areas of the Bran Sands Lagoon and the Tees Estuary may provide suitable habitat for foraging and roosting to a wider range of bird species associated with the Teesmouth and Cleveland Coast SPA and Ramsar.

Great Crested Newts

4.4.8 Waterbodies on site were assessed for suitability for Great Crested Newts (GCN) and eDNA water sampling was undertaken. All waterbodies were eDNA negative therefore GCN are considered likely to be absent from these waterbodies and associated terrestrial habitats in the vicinity of the Site.

Badgers, Reptiles and Otter

4.4.9 Suitable foraging habitat for otter and badger are present on the Site in addition to favourable habitat for reptiles. However, no evidence of otter or badger activity was identified, and no reptiles were recorded.

Other conservation-notable species

4.4.10 The PEA identified that whilst the Site's habitats may be periodically used by conservation-notable species, they do not provide a unique or otherwise notable resource in the local area.

Invasive non-native species

4.4.11 No invasive non-native species (INNS) were identified during the extended Phase 1 Survey undertaken as part of the PEA.

Marine Ecology

Intertidal and subtidal ecology

4.4.12 Intertidal and subtidal habitats within the Tees Estuary are highly productive and support abundant epifaunal and infaunal communities, as well as providing key functional habitats for birds (roosting, foraging) and fish (nursery, foraging). While intertidal mudflats are a Priority Habitat under Section 41 of the NERC Act 2006[7] such habitat is

[7] https://www.legislation.gov.uk/ukpga/2006/16/section/41 [Accessed January 2022]

not represented within or adjacent to the Site which is degraded, of low quality as reflected by its underuse by foraging waterbirds[8].

4.4.13 The PEA recorded no vegetation amongst the boulders / rocks in the intertidal area of the Tees Estuary. A large proportion of the rocks and boulders are man-made brickwork along the strandline. This habitat extends below the jetty where it is covered in wire mesh. Above the high tide mark man-made boulders have been placed as a sea defence, secured in place with wire mesh below the jetty for approximately 100m along the shore; in this area, there were no visible plant species.

Bran Sands Lagoon

4.4.14 The Bran Sands Lagoon is immediately adjacent to the north of the Site, connected to the Tees Estuary by a pipe, therefore the lagoon is likely to fluctuate with saline / brackish water. No mudflats were visible, and no plant species were visible within the waterbody.

Fish and Shellfish

4.4.15 The estuarine and coastal waters surrounding the Site contain productive habitats that support seasonal and resident fish populations. Improved water quality means the River Tees is now a main salmon (*Salmo salar*) river. Other migratory fish include sea trout (*S. trutta*), European eel (*Anguilla anguilla*), river (*Lampetra fluviatilis*) and sea lamprey (*Petromyzon marinus*). These and the following other Species of Principal Importance (SPI); herring (*Clupea harengus*), cod (*Gadus morhua*), whiting (*Merlangius merlangus*) and plaice (*Pleuronectes platessa*) are recorded within the Tees. Salmon and eel are also on the OSPAR List of Threatened and/or Declining Species. There are no shellfish species of conservation importance and no designated shellfish waters within the Site or surrounding waters.

Marine Mammals

4.4.16 Seal Sands is an important haul-out site for both harbour and grey seals, as well as being the only breeding site for harbour seals between the Wash and the Tay. Whereas Cetaceans such as harbour porpoise (*Phocoena phocoena*) and bottlenose dolphin (*Tursiops truncates*) are only very occasionally recorded within the Tees Estuary.

4.4.17 Although not a specific target of the PEA, no evidence of marine mammals or marine mammals themselves, including common and grey seals, was recorded at the time of the survey.

Ornithology

4.4.18 Although the area may provide suitable habitat for a range of passerine and ground-nesting birds existing within the Site, such as dense scrub and coastal grassland, the key ornithological sensitivities for the site have been identified as passage, wintering and

[8] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030002/TR030002-000444-ES%20Section%209%20Marine%20and%20coastal%20ornithology.pdf [Accessed January 2022]

breeding waterbird species (i.e., divers, grebes, cormorants, herons, swans, geese, ducks, rails, waders, gulls and terns).

4.4.19 The British Trust for Ornithology (BTO) Wetland Birds Survey (WeBS)[9] five year monthly peak mean count data for the five-year period 2015/16-2019/20 was accessed via the WeBS Online data portal for the whole of the Tees Estuary[10]. A data request was submitted to the BTO in May 2021 for WeBS count data for the Brans Sands South sector of the Tees Estuary (covering the period July 2015-June 2020), the survey area of which encompasses c1.7km the entire river frontage (including the area of the Jetty, saline lagoon and Dabholm Gut as well as additional areas of the river frontage – see **Figure 4** in **Appendix A**). This data was analysed to provide five year monthly peak means for key species and is presented in **Table 4.2** (identified as those species listed as qualifying species for the Teesmouth and Cleveland Coast Ramsar, SPA or SSSI designated sites identified in **Table 4.1**).

4.4.20 Additionally, the Industry Nature Conservation Association (INCA) undertook targeted ornithology surveys of the river frontage at the Site in addition to the saline lagoon and Dabholm Gut (**Figure 4** within **Appendix A**) across a five-year period of 2014-2018 that was made available to Wood[11]. Five-year monthly peak means for key species were also calculated from this data (**Table 4.2**).

Table 4.2 Five year monthly peak means of key waterbird species

	Webs Tees Estuary 2015/16-2019/20*	WeBS Bran Sands	INCA
Avocet	107 (July)	0	0
Common tern	457 (July)	6 (August)	13 (June/July)
Gadwall	776 (August)	10 (January)	28 (January)
Knot	533 (August)	0	0
Little tern	26 (July)	0	0
Purple sandpiper	40 (November)	0	0
Redshank	831 (December)	106 (December)	238 (Mar)
Ringed plover	244 (January)	0	0
Ruff	23 (August)	0	0
Sanderling	268 (October)	0	0
Sandwich tern	301 (July)	3 (June)	1 (June/July)

[9] https://www.bto.org/our-science/projects/wetland-bird-survey: accessed 8 February 2022
[10] Frost, T.M., Calbrade, N.A., Birtles, G.A., Hall, C., Robinson, A.E., Wotton, S.R., Balmer, D.E. and Austin, G.E. 2021. Waterbirds in the UK 2019/20: The Wetland Bird Survey. BTO/RSPB/JNCC. Thetford.
[11] Report ID INCA 2021-70 Bird Data for Bran Sands Lagoon, River Frontage and Dabholm Gut, 2014-2018 Mike Leakey August 2021

	Webs Tees Estuary 2015/16-2019/20*	WeBS Bran Sands	INCA
Shelduck	450 (February)	46 (April)	163 (January)
Shoveler	159 (November)	0	0

* "Contains Wetland Bird Survey (WeBS) data from Waterbirds in the UK 2019/20 © copyright and database right 2021. WeBS is a partnership jointly funded by the BTO, RSPB and JNCC, in association with WWT, with fieldwork conducted by volunteers."

4.4.1 Although all key waterbird species were recorded across the Tees Estuary WeBS, only five were recorded within the WeBS Bran Sands count sector or INCA survey areas. Two species, common tern and sandwich tern were recorded during the breeding season and these birds were observed foraging along the river or within the lagoon. The three remaining species (Gadwall, Redshank and Shelduck) were all recorded over the winter period. These five species will be taken forward as the key ornithological receptors to be considered.

4.5 Archaeology & Heritage

4.5.1 Studies indicate that there are no World Heritage Sites, Scheduled Monuments, Conservation Areas, Registered Parks and Gardens or Designated Battlefields within 5km of the Site. The nearest Scheduled Monuments are approximately 7km to the south on Eston Moor, and also within Wilton Moor Plantation and Court Green Wood. The nearest Conservation Areas are 'Coatham' located approximately 6km to the east / north-east and 'Kirkleatham' located approximately 5km to the south-east.

4.5.2 This area of the Tees riverfront has seen significant anthropogenic modification in the modern period following the establishment of large-scale industrial activity at Middlesbrough in the 1830s, and particularly during the expansion of the steelworks in the 20th century. Archaeological remains recorded in the vicinity of the jetty comprise modern navigation and harbour facilities, and the loss of the wherry Heckler in 1960 is recorded in the general vicinity of the site by the National Record for the Historic Environment. It is not recorded whether this vessel was salvaged, but its recorded loss in the fairway, or navigable channel suggest that any coherent wreckage would have been promptly removed as a navigational hazard. The heavily trafficked nature of the Tees downriver of Teesport suggests a generalised potential for smaller items of marine debris, although the repeated dredging of the Tees in the navigable channel and the vicinity of the jetty means that any survival would be fragmentary and largely of very recent date. There are also records of patches of pre-modern peats and estuarine sediment sequences within the Tees basin, frequently deeply buried below modern reclamation and fill material.

4.6 Flood Risk and Drainage

4.6.1 Environment Agency mapping demonstrate that the Site is located within Flood Zones 1, 2 and 3 (see **Figure 5** within **Appendix A**). The jetty, the area of adjacent hardstanding and a small proportion of the compound containing the onshore assets fall within Flood Zone 3. The remainder of the compound area falls within Flood Zones 1 and 2. The

major potential flood risk to the Site is from tidal sources. Mapping also suggests that the Site is at a very low risk of flooding from surface water.

4.6.2 Surface water currently infiltrates into surrounding ground.

4.7 Landscape and Visual

4.7.1 The Proposed Development is located with the heavily industrialised setting of the Teesside industrial and port complex, which is characterised by very large-scale steelworks, port, petroleum and chemical production sites. The landscape is further fragmented by road and rail links which pass through the industrial area to the south of the Site. The area is dominated by industrial activity with large buildings, cooling towers, sludge treatment works, chimney stacks and flare stacks. Views of the Site are relatively limited from public viewpoints, being surrounded by industrial structures and they are not overlooked by any residential properties.

4.8 Contaminated Land, Pollution and Waste

4.8.1 The Proposed Development is sited on reclaimed, brownfield land within an area characterised as being industrial in nature, with the closest residential receptor being located approximately 3km away from the Proposed Development. Currently the jetty and associated onshore assets have been decommissioned and consequently they do not generate any waste.

4.9 Navigation

4.9.1 The Tees Estuary is characterised by high levels of shipping activity (approximately 1000 vessel movements per month) and frequently accommodates large tankers and bulk carriers of up to 350m in length[12]. Teesport is an international asset that is key to UK exports, it has good deep-water access and is the largest exporting port by tonnage in England. It is the busiest of the four major ports of the North East of England[13].

4.10 Transport

4.10.1 The nearest road access to the Site is via the A1085 (Trunk Road), a dual carriageway road which links into both the A66 and A174, which in turn link to the A19. The A66 also links directly with the A1(M).

4.10.2 A railway line that provides a passenger service between Middlesbrough and Saltburn runs from the south-west to the north-east and lies adjacent to the eastern boundary of the Site. The nearest passenger station is British Steel Redcar, located approximately 400m east of Bran Sands.

[12] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030002/TR030002-000571-Doc%207.3%20Appendix%203%20-%20Habitats%20Regulation%20Assessment%20Sept%202014.pdf [Accessed January 2022]

[13] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/995970/FINAL_North_East_Technical_Annex.pdf [Accessed January 2022]

4.11 Other Material Assets / Marine Infrastructure

4.11.1 The following infrastructure runs underneath the Tees Estuary in the vicinity of the jetty and continues underground to the south of the onshore assets as shown on **Figure 6** within **Appendix A**:

- Sembcorp pipeline (Pipe Tunnel No. 2) containing numerous pipelines. This is designated as a Major Accident Hazard Pipeline.
- A buried 36" natural gas pipeline, which takes gas from the south side of the river via a second pipe tunnel to the north side of the Estuary (BP AMOCO CATS Pipeline). This is designated as a Major Accident Hazard Pipeline.
- A buried 20" pipeline transporting gas from the Breagh platform in the North Sea to the Teesside Gas Processing Plant (TGPP) located within the Seal Sands area of Teesside (the RWE Breagh Gas Processing Gas Pipeline). This is designated a Major Accident Hazard Pipeline. A 3" Mono Ethylene Glycol pipeline is also installed alongside this pipeline.

5. Terrestrial EIA Screening of Impacts

5.1 Introduction

5.1.1 This section specifically considers the EIA screening of impacts in relation to the terrestrial aspects of the Proposed Development against the criteria set out within **Chapter 2.** Taking into account the characteristics of the Proposed Development as detailed in **Chapter 3** and the environmental sensitivity of the Site as discussed in **Chapter 4**, this chapter considers the potential for impacts to arise on the terrestrial environment focusing on the demolition of the onshore assets and shoreside removal of a section of the jetty access bridge (approximately 10-20m).

5.2 Biodiversity

Terrestrial Ecology

5.2.1 There is potential for temporary habitat (including functional habitats) loss, degradation and/or physical disturbance within the footprint of the Proposed Development (the marine works area) as a result of pile removal via vibro-hammering, diamond wire cutting, airlifting and positioning of the shoreside craneage.

5.2.2 However, due to the small spatial extent, temporary duration and reversibility of these potential impacts within the highly modified Site and context and the fact infrastructure is being removed, not installed, these potential impacts are **highly unlikely to cause any significant effects**.

5.2.3 Standard best-practice measures shall be implemented to appropriately safeguard the biodiversity features of the Site without the need for specific ecological supervision or intervention. These measures will be incorporated into an Ecological Method Statement (EMS) to be adhered to throughout the course of the proposed works and where outlined in the EMS, the works would be overseen and guided by a suitably qualified and experienced ecologist.

Ornithology

5.2.4 The focus of this section is waterbirds (geese, ducks and waders), particularly those that are qualifying features of designated and protected sites within the estuary.

5.2.5 The timing of the Proposed Development is scheduled to avoid the most sensitive period (September - April) for key passage and over-wintering waterbirds recorded on site (gadwall, redshank and shelduck – see **Table 4.2**) and coincide with when their abundance is lowest. Although gadwall were most abundant in August across the Tees Estuary, at Bran Sands they were most abundant in January, and therefore their sensitivity is predominantly low (June-July) to medium (August). The seasonal sensitivity

of the wetland habitats at this time (March – August) is also optimal, being low – medium for mudflats and medium – low for saltmarsh, wet grassland and scrub14.

5.2.6 Whilst the timing of the Proposed Development does coincide with the recorded presence of foraging common and sandwich tern associated with breeding colonies neither species are considered to be sensitive to land-based disturbance during foraging behaviour. Furthermore, they were recorded in such low numbers that it is not considered likely that the Proposed Development will have a significant impact on the breeding populations of either species within the Tees Estuary.

5.2.7 As no likely significant effects are anticipated in relation to intertidal and subtidal estuarine and coastal habitats (see **Section 6.2**), it is in turn concluded that **no habitat related potential effects are anticipated for waterbirds**. Indirect effects as a result of the temporarily altered abundance and distribution of prey of piscivorous species may occur, however any potential effect is considered highly unlikely to be significant due to the abundance of adjacent, alternative foraging grounds and prey species available.

5.2.8 The potential for anthropogenic sources of underwater noise associated with the Proposed Development to effect waterbird species is not considered herein, due to their tendency to feed on intertidal flats rather than immerse themselves to obtain prey.

In-Air noise

5.2.9 Although there is potential for in air noise emissions associated with the Proposed Development, sensitivity of different waterbird species to disturbance (noise and visual) varies, and redshank are among the most sensitive species of those known to be present. Redshank are highly sensitive to noise disturbance, however they tend to be present at lower densities in areas with high levels of baseline disturbance. Neither foraging, common or sandwich tern are considered to be sensitive to airborne noise disturbance.

5.2.10 Due to the limited temporal and spatial extent of the Proposed Development, the seasonal timing of works to minimise potential impacts on waterbirds and the poor habitat quality within and adjacent to the Site, as well as the industrially characterised soundscape of the estuary **no likely significant effects are anticipated** on waterbirds in relation to in-air noise associated with the Proposed Development.

Lighting and Visual disturbance

5.2.11 Issues relating to lighting and visual disturbance are outlined in Section 4.4. Redshank, common tern and sandwich tern are considered tolerant of moderate and high-level visual disturbance, while gadwall and shelduck are highly sensitive to moderate to high level visual disturbance. The Site is located within a heavily modified environment with permanent, abundant sources of artificial light and visual stimuli both onshore from the port and other industry within the estuary, and on the water from large vessels frequently accessing the Port. Considering the seasonal timing, limited spatial extent and duration of the Proposed Development, and the existing highly disturbed baseline **no**

[14] https://www.tide-toolbox.eu/tidetools/waterbird_disturbance_mitigation_toolkit/ [Accessed January 2022]

likely significant effects are anticipated in relation to lighting and visual disturbance associated with the Proposed Development.

5.3 Historic Environment

5.3.1 There are no formal heritage designations associated with the Site. On this basis, the onshore assets and the jetty are considered to harness **no significant heritage value**.

5.4 Water

Flood Risk & Drainage

5.4.1 Although the Proposed Development does lie within Flood Zones 1, 2 and 3 it is considered to comprise water compatible and less vulnerable development in line with Annex 3: Flood Risk Vulnerability Classification of the National Planning Policy Framework[15]. The jetty and associated onshore assets are located at the water's edge due to their specific requirements applicable to their use prior to decommissioning. Given the nature of the Proposed Development it is considered that the sequential test and exception test do not apply. The Proposed Development is such that all structures will be removed and the onshore area will be reinstated as hardstanding thereafter there will be minimal change to surface water run-off as a result of the Proposed Development. It is therefore considered unlikely that the Proposed Development would increase flood risk elsewhere.

5.4.2 It is therefore concluded that **the Proposed Development would not result in a significant effect on the environment as a result of flooding or drainage issues**.

Water Environment

5.4.1 During the demolition period various types of wastes and discharges may be generated each requiring appropriate handling and disposal. As the tanks were flushed after final use a number of years ago, it is anticipated that residue only will remain and cleaning with a high-pressure water system would be undertaken. Wash water would be recovered into a recirculation / bulking tank for off-site disposal and the lines inspected by CCTV to verify cleanliness prior to removal with a forklift / telehandler.

Application of industry best practice preventative and control measures, an on-site spill kit and the preparation of a pollution prevention plan and spill response plan will be incorporated into the Environmental Management Plan (EMP) or equivalent. Based on these management and mitigation measures being in place, potential impacts related to accidental spills or leaks are **highly unlikely to cause any significant effects** on the water environment.

[15] https://www.gov.uk/guidance/national-planning-policy-framework/annex-3-flood-risk-vulnerability-classification [Accessed February 2022].

5.5 Landscape & Visual

5.5.1 Visually the Proposed Development involves no built development, instead proposing demolition and reinstatement works. The Proposed Development is located within an area which has specialist and industrial uses and river related activities. Given the context of the site, it is considered that there will be **no significant landscape and visual effects** as a result of the Proposed Development.

5.6 Land Use and Waste

Land Use

5.6.1 As the Site is situated on reclaimed, brownfield land some residual contamination may be present onsite. However, the proposals to demolish the onshore assets do not involve significant groundwork, only the removal of the buildings and concrete slab to ground level. Recovered material will be tested and either reused in reinstatement works or taken off site for appropriate disposal. The works will not disturb any associated sub-surface contaminants that may or may not be present. As such, there will be no opportunity for any potential contaminants to be released / exposed. The demolition of the onshore assets would also allow for future works to be undertaken by York Potash to assess and remediate the site, if required,

5.6.2 Environmental management measures during construction will be incorporated into an EMP or suitable equivalent to ensure there are no risks to human health or the environment as a result of the Proposed Development. This would include but is not limited to the following:

- Good management of stockpiles to prevent windblown dust transport pathways or run off, such as proper storage and covering of demolished and/or excavated materials.
- Use of Personal Protection Equipment (PPE).
- Standard site hygiene practices.
- Should visual or olfactory signs of contamination be identified or suspected during the demolition works, a contaminated land specialist will be consulted for advice and managed in line with guidance and best practice.

Waste

5.6.3 An EMP (or suitable equivalent) and the Principal Contractor's Environmental Management Systems will stipulate the responsible use of energy and water during the demolition works in accordance with best practice.

5.6.4 A Site Waste Management Plan (SWMP) will be produced prior to the start of the demolition works. The SWMP will details measures to minimise the disposal and maximise re-use and recycling in accordance with the waste hierarchy.

5.6.5 As per the waste hierarchy, as much of the demolished materials as possible will be recycled through a responsible and recognised disposal process and the appointed

contractor would be required to provide the Applicant will all records and certifications for safe and responsible re-use, recycle and disposal activities.

5.6.6 The disposal process will seek to ensure:

- Processing locations are considered to ensure environmental and social impacts, journey time, cost and carbon footprint of the operation are minimised.
- Items identified as being required for re-use shall be recovered in a reusable condition.
- All concrete and steel components shall be recycled for future re-use.
- All hazardous substances and fluids shall be disposed of in accordance with relevant regulations at the time of decommissioning.

5.6.7 Based on the above, **no likely significant environmental effects are anticipated** in relation to land contamination and waste as a result of the Proposed Development.

5.7 Transport and Access

5.7.1 During the demolition of the onshore assets, including the landward removal aspects of the jetty access, the existing access to the Site would be utilised and there would be no requirement widening of the access track, however some minor modifications may be required.

5.7.2 There would be an increase in vehicle movements on the road network as a result of onshore demolition activities of approximately an additional 28 movements per day, however this would be of a temporary nature and envisaged throughout the short-term duration of onshore works programme (approximately 3 months).

5.7.3 The Site is well connected to the local road network as illustrated on **Figure 3** in **Appendix A**. The quality of the local road network is such that it is expected to easily cope with the relatively limited quantity of traffic generated by the Proposed Development.

5.7.4 **Significant effects on traffic levels or the local road network are not anticipated** during the demolition of the onshore assets.

5.8 Noise, Vibration and Dust

5.8.1 Sensitive receptors to impacts arising from noise, vibration and dust would include ecological and ornithological receptors and staff employed on the proposed demolition works. The nature of any demolition project harnesses an inherent potential to generate noise, vibration and dust / air quality pollution through the course of the works and the associated transportation of materials. Temporary impacts could arise from the Proposed Development as follows:

- Noise and vibration arising from demolition activities (e.g. from the dismantling of the marine and onshore components including metal structures, from the crushing of rubble, concrete, and excavated material on site for the backfilling, and removal of piles).

- Additional emissions due to increased traffic at the site (travel by site operatives, transportation of waste materials.

5.8.2 The works are approximately 3km away from the nearest residential noise sensitive receptor, and therefore the separation of the works and the nearest dwellings is sufficient such that the noise from the works will be adequately distance attenuated to not present a significant risk to disturbance during the daytime.

5.8.3 The works are anticipated to last no longer than five months (with a current programme of 19 weeks) with working hours anticipated to be 07:00 – 19:00, 7 days a week. As no night-time works are proposed, there is no potential for noise impacts at the closest dwellings at night-time. Whilst there may be leisure users of the estuary located closer to the works than the nearest dwelling, they are considered to be transitory in nature and would only be exposed to the noise effects of the works for a short period of time, likely resulting in no significant impact.

5.8.4 The demolition activities can be suitably managed through the adoption of best practice measures in regard to noise, vibration and dust control to be set out in an EMP (or suitable equivalent) such that impacts arising from are minimised and appropriately mitigated. Demolition methodologies, compliance with appropriate working hours and good working practices, including the use of acoustic barriers to attenuate noise levels appropriately, will ensure the impacts of noise and vibration over the demolition period are not significant.

5.8.5 In terms of dust emissions, it is considered that normal preventative measures such as the use of wheel washing facilities (if required) and the dampening down of dust generating activities or areas will be undertaken and specified in the EMP (or suitable equivalent). Therefore, it is not considered that the Proposed Development will cause a detrimental effect on local air quality.

5.8.6 Given the temporary nature of the Proposed Development, alongside the industrial nature of the immediate surroundings, **no significant noise, vibration or dust impacts are anticipated** from the onshore demolition activities. Any residual impacts due to the works would be temporary in nature and therefore reversible once the works are complete. Consideration of the potential for noise impacts on ornithology is addressed in **Section 5.2**.

5.9 Other Material Assets

5.9.1 **Section 4.11** identifies the presence of three pipelines which run underneath the Tees Estuary in the vicinity of the jetty and continue underground to the south of the compound containing the onshore assets to be demolished, as illustrated in **Figure 6** in **Appendix A**. Due to the nature of this pipeline infrastructure as designated Major Accident Hazard pipelines, consideration of the potential effects on these material assets is addressed in **Section 5.10**.

5.10 Major Accidents and Disasters

5.10.1 Within 5km of the Proposed Development there are 13 establishments covered by the Control of Major Accident Hazards (COMAH) Regulations 201516 (see **Table 5.1**). Whilst there is the potential for these sites to be a source of major accident or disaster for the Project, each have stringent and strict control measures in place. Such measures include but are not limited to:

- Controlled access to site.
- Regular safety inspections of plant and processes.
- Maintenance of site elements to prevent a major accident or disaster event.
- On-site response facilities to reduce the impact of an incident.
- Buildings designed to prevent known effects of an incident.

Table 5.1 Establishments covered by COMAH within 5 km of the Site[17]

Establishment Name	Operator Name	Postcode	Activities at Establishment
Central Area Transmission System (CATS)	Wood Group PSN Limited	TS2 1UB	Chemical manufacture/production and/or disposal
Middlesbrough	Vertellus Specialties UK Limited	TS2 1UH	Chemical installations - storage/warehousing Chemical manufacture/production and/or disposal
Middlesbrough	BOC Limited	TS6 7RT	Chemical manufacture/production and/or disposal Fuel storage/distribution
North Tees	CF Fertilisers UK Limited	TS18 2RF	Chemical installations - distribution Chemical installations - storage/warehousing
North Tees Road Rail Terminal	Navigator Terminals North Tees Limited	TS2 1TT	Fuel storage/distribution
Olefins	SABIC UK Petrochemicals Limited	TS10 4RG	Petrochemical/Oil Refineries
Polyurethanes Area	Huntsman Polyurethanes (UK) Limited	TS10 4RG	Production of basic organic chemicals
Redcar	South Tees Site Company Limited	TS10 5QW	Not specified
Seal Sands	Fine Organics Limited	TS2 1UB	Chemical manufacture/production and/or disposal Production and storage of pesticides, biocides, fungicides, herbicides Production of basic organic chemicals Production of pharmaceuticals

[16] Check for establishments covered by the Control of Major Accident Hazard Regulations carried out online: https://notifications.hse.gov.uk/COMAH2015/Search.aspx [Accessed June 2021].

[17] HSE (no date) COMAH Public Information Record for Stockon on Tees [online]. Available at: COMAH 2015: Public Information Record (hse.gov.uk) [Accessed June 2021]

Establishment Name	Operator Name	Postcode	Activities at Establishment
			(intermediates and/or finished products) Waste storage, treatment and disposal
Seal Sands Terminal	ConocoPhillips (U.K.) Teesside Operator Limited	TS2 1UH	Petrochemical/Oil Refineries
Stockton on Tees	Navigator Terminals Seal Sands Limited	TS2 1UA	Chemical installations - distribution Chemical installations - storage/warehousing Fuel storage/distribution
Wilton	Alpek Polyester UK Limited	TS10 4RG	Chemical manufacture/production and/or disposal
Wilton	Ensus UK Limited	TS6 8JH	Petrochemical/Oil Refineries

5.10.2 The Proposed Development lies within the Inner Zone of consultation distances of several sites which hold a Hazardous Substance Consent and are regulated under COMAH, as well as the Inner, Middle and Outer Zones from Major Accident Hazard Pipelines (discussed below). As the Proposed Development will not be accessed by members of the public, and will have a 'normal working population', it would be classified as Sensitivity Level 1 (SL1) under HSE's Land Use Planning Methodology[18]. An SL1 development is classed as suitable for the Inner Zone (and middle/outer) and it is anticipated that the HSE would not advise against development.

5.10.3 The implementation of the measures described above and the nature of the proposed development means that the Proposed Development **is highly unlikely to react with these establishments to create a major accident or disaster.**

5.10.4 The Proposed Development lies within the Outer Emergency Planning Zone (OEPZ) of Hartlepool Nuclear Power Station operated by EDF Energy. The Detailed and Outer Emergency Planning Zones are held by Hartlepool Borough Council[19]. The Hartlepool Power Station is tightly regulated by the Office for Nuclear Regulation under the Nuclear Installations Act, The Energy Act and the COMAH Regulations.

5.10.5 The OEPZ covers an area of 30 km in all directions from the power station and does not impose any specific restrictions on development in this area. The nature of the Proposed Development means that it is **highly unlikely to react with these establishments to create a major accident or disaster.**

5.10.6 The Proposed Development is within close proximity to the following infrastructure as shown on **Figure 6** within **Appendix A**:

- Sembcorp Tunnel No.2, which is a designated Major Accident Hazard Pipeline.

[18] HSE's land use planning methodology, https://www.hse.gov.uk/landuseplanning/methodology.htm, [Accessed February 2022]
[19] Emergency Planning – Nuclear, Hartlepool Borough Council, https://www.hartlepool.gov.uk/info/20044/emergency_planning/1017/emergency_planning_-_nuclear/1, [Accessed February 2022]

- RWE Breagh Onshore Gas Crossing, which is a designated Major Accident Hazard Pipeline.
- BP AMOCO CATS Pipeline, which is a designated Major Accident Hazard Pipeline.

5.10.1 The specific construction methodologies (e.g., alternatives to vibro-hammers, separation distances from the pipelines and specific activities, and anchor points for demolition vessels) will need to be agreed for pile and structure removal within proximity of the pipelines. This is being – and will continue to be – achieved through consultation and formal agreement between the pipeline owners/operators), NWL (and appointed Contractor to ensure technical feasibility), the MMO and PD Ports.

5.10.2 The approach to demolition as well as any mitigation measures (e.g. to employ specific methods within a certain distance of the pipeline or avoid certain techniques entirely) would then become proposed Marine Licence conditions within the MLA, with proposed draft text submitted to the MMO for review and approval.

5.10.3 No works will take place without the approval of the pipeline operators, in the unlikely event that the pipeline operators will not engage, then a detailed risk assessment will be required and a safe approach for demolition may need to be agreed with the regulatory bodies (HSE and MMO).

5.10.4 The Contractor undertaking the demolition and removal activities associated with the Proposed Development will also be required to comply with all applicable legal HSE measures and to work in accordance with the Construction (Design and Management) Regulations[20] which seek to minimise the risk of a major accident occurring.

5.10.5 Due to the nature of the assets (i.e., active gas pipelines), there remains a residual risk of a major accident occurring. However, based on the approach proposed, the demolition of the Proposed Development would be designed so as to minimise the potential effects on existing infrastructure, and as such, the risk of a major accident occurring is considered to be extremely low and therefore no likely significant effects are anticipated.

5.10.6 On the basis that the approval of the pipeline operators to the approach and required mitigation will be secured through the Marine License, then these pipelines are considered **unlikely to be a source of a major accident or disaster for the Proposed Development.**

5.11 Cumulative effects

5.11.1 The principal scheme that might give rise to cumulative effects would relate to the York Potash Harbour Facilities DCO. However, as the DCO proposes the demolition of the jetty in particular to make way for the construction of these port facilities, the two schemes cannot co-exist.

5.12 Transboundary effects

5.12.1 The magnitude and extent of any effects is likely to be limited to receptors within the immediate area surrounding the Site. Therefore, there are **unlikely to be any significant transboundary effects** as a result of the Proposed Development.

6. Marine EIA Screening

6.1 Introduction

6.1.1 This section specifically considers the marine aspects of the Proposed Development against the criteria set out within **Section 3**, and in the context of existing environmental baselines, to determine whether Proposed Development is likely to give rise to any significant environmental effects. Acknowledging the type and nature of the Proposed Development this report not only constitutes a formal request for EIA Screening Opinion from the MMO, but also seeks to secure agreement of the proposed, targeted Environmental Appraisal scope presented within **Appendix C**.

6.1.2 The following environmental factors (described in paragraph 1 of Schedule 2 of the Marine Works (EIA) Regulations) have been deemed not to be applicable to the Proposed Development from a marine perspective, but are captured within Chapter 5;

- Population, socio-economics and human health: There is no population nearby to be affected by the Proposed Development; the working team would be too small and short term to have any economic impact and there are no recreational matters which would be affected. Human health, to the extent it is relevant, is addressed by **Section 5.8**.
- Climate: any greenhouse gas emissions will be extremely small within the context of the global climate, the local emissions climate, and due to this being a decommissioning with no future emissions being produced as a result of the Proposed Development.

6.1.3 The remainder are appraised within this Screening Report in the following subsections (Note due to the location of the Site some subsections are also addressed in the terrestrial components of this Report):

- **Biodiversity** – Intertidal and subtidal ecology; Fish and Shellfish; Marine Mammals and Coastal Ornithology.
- **Noise (underwater)**- Fish and Shellfish; Marine Mammals and Coastal Ornithology.
- **Land** - Intertidal and subtidal ecology.
- **Soil** - Intertidal and subtidal ecology.
- **Water** - Intertidal and subtidal ecology.
- **Air (In air noise)** - Marine Mammals and Coastal Ornithology.
- **Landscape** - Marine Mammals and Coastal Ornithology.
- **Waste and resource use** - Intertidal and subtidal ecology.
- **Material Assets** – Other marine infrastructure and Marine transport and navigation.
- **Major Accidents and Disasters** – Major accidents and disasters.

- **Interaction between environmental factors** – Cumulative effects.
- **Cumulation with other projects** – Cumulative effects.

6.2 Intertidal and subtidal ecology

Temporary loss/removal and/or physical disturbance of intertidal and/or subtidal habitats

6.2.1 There is potential for temporary habitat (including functional habitats) loss, degradation and/or physical disturbance within the footprint of the Proposed Development (the marine works area) as a result of vibro-piling, diamond wire cutting, airlifting, vessel movements, anchoring, positioning.

6.2.2 However, due to the small spatial extent, temporary duration and reversibility of these potential impacts within the highly modified Site and context and the fact infrastructure is being removed, not installed, these potential impacts are **highly unlikely to cause any significant effects** and are therefore not considered further.

Increased suspended sediment concentrations (SSC)

6.2.3 There is potential for temporary increases in SSC and turbidity due to suspension, resuspension and deposition of sediments and potentially formation of sediment plumes as a result of as a result of vibro-piling, diamond wire cutting, airlifting, vessel movements, anchoring, positioning. These impacts have the potential to result in effects including compromised photosynthetic productivity, clogged filter feeding mechanisms or gills and physical smothering and/or burial of fauna (including eggs and larvae).

6.2.4 The Site is located in the tidally-influenced stretch of the estuary where most suspended sediments enter from Tees Bay. It is also immediately adjacent to the regularly dredged deep access approach channel for Teesport. Within this baseline context, it is not considered likely that any temporary and highly localised increases in SSC or turbidity as a result of (and in the immediate vicinity of) the Proposed Development will exceed existing baseline fluctuations. Furthermore, it is reasonable to assume that species present in this environment are adapted to and/or tolerant of variable SSC levels, turbidity and smothering, therefore these potential impacts are **highly unlikely to cause any significant effect** and are not considered further.

Release of sediment bound contaminants

6.2.5 Potential exists for release and mobilisation of historic contaminants due to physical disturbance of sediments and/or removal of mattressing as a result of the Proposed Development. There is an associated risk of direct and indirect toxic effects on intertidal and subtidal ecological receptors, including qualifying features and supporting habitats of designated and protected sites.

6.2.6 Sediment contaminant sampling and analysis undertaken in 2014 for the York Potash Project (YPP), includes the Site (which falls within its DCO boundary) as well as extending into the dredged Tees channel, revealed sediments to contain relatively high levels of

contaminants[21] particularly heavy metals and PAHs[22]. Data from the YPP and previous surveys at nearby locations (<1.5km of the Site) also indicated contaminant concentrations increase with depth, as would be expected in such a historically industrialised location as the Tees Estuary[23]. Should any contaminants be released as a result of the removal of piles, these are anticipated to be from the upper sediment layers within the Site. The works for the Proposed Development will be far shallower than any dredging or construction works for existing and proposed projects in the Tees. For example, the Teesport approach channel is maintained at a depth of 10.4m at the end of the Jetty. It is considered reasonable that any contaminants potentially mobilised will be the same as those already present in the Estuary, therefore these potential impacts are **highly unlikely to cause any significant effect**.

Accidental spills/leaks/ run-off of potential contaminants /pollutants

6.2.7 During the construction period, various types of wastes and discharges may be generated by project vessels (e.g., fuels, lubricants, black water (sewage), grey water (sinks, showers), deck drainage and bilge water), each requiring appropriate handling and disposal. Untreated or insufficiently treated discharges may affect marine water quality and in turn marine ecological receptors.

6.2.8 Any discharges of controlled (non-hazardous) wastes and effluent from project-related vessels shall meet applicable MARPOL Convention requirements. Application of industry best practice preventative and control measures, an on-site spill kit and co-ordination with Teesport to plan responses to any spills or leakages is also anticipated through the EMP or equivalent. Based on these management and mitigation measures being in place potential impacts related to accidental spills or leaks are **highly unlikely to cause any significant effects** and are not considered further.

Introduction of marine Invasive Non-Native Species (INNS)

6.2.9 There is a risk of direct (e.g., mortality, disease, pathogens) and indirect (e.g., displacement/out competition) effects on intertidal and subtidal ecological receptors, including qualifying features and supporting habitats of designated and protected sites as a result of introduction of INNS.

6.2.10 Through implementation of industry best practice for marine biosecurity, and development and application of the EMP, the risk of introducing INNS will be minimised. Should any plant or equipment not be solely sourced from within UK controlled waters the Contractor will be required to demonstrate adherence to the provisions of management measures such as the Ballast Water Convention. Providing such management and mitigation measures are correctly implemented this potential **effect is considered highly unlikely to be significant** within the Tees and is not considered further.

[21] Cefas Guideline Action Levels for the disposal of dredged material (Cefas, 2000); Canadian Sediment Quality Guidelines (CSQG) for the Protection of Aquatic Life (Canadian Council of Ministers of the Environment (CCME), 2002).
[22] Polycyclic aromatic hydrocarbons
[23] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030002/TR030002-000442-ES%20Section%207%20Marine%20sediment%20and%20water%20quality.pdf [Accessed January 2022]

6.3 Fish and Shellfish

6.3.1 Potential impacts have been identified in relation to fish and shellfish receptors (including species highlighted within **Paragraph 4.4.15**, and those of importance as prey species to qualifying features of designated sites within the area). Such impacts may include direct impacts (for example release of potentially toxic contaminants or increased SSC), and indirect impacts including changes to prey availability.

6.3.2 However, as no likely significant effects are anticipated in relation intertidal and subtidal estuarine and coastal habitats (**Section 4.2**), nor in relation to the release of contaminants / increased SSC levels in the vicinity of the Site, it is in turn concluded that no habitat related potential effects are anticipated for fish and shellfish.

Underwater noise

6.3.3 The ambient acoustic environmental status of a water body can be altered due to the introduction of energy in the form of underwater noise, anthropogenic sources of which can include vibro-piling and vessel movements. An underwater noise survey was undertaken in 2014 for the York Potash Project to determine sound pressure levels and identify sound sources characterising the ambient underwater acoustic baseline. The existing underwater soundscape was found to be highly anthropogenically influenced, predominantly by the intensity of shipping related noise which persists even when vessels are stationary[24]. The key sound sources of underwater noise associated with the Proposed Development are as a result of vibro-piling, diamond wire cutting, airlifting, vessel movements, anchoring, positioning.

6.3.4 Potential effects of underwater noise on marine fauna can be broadly classified as physical/physiological (e.g., mortality, non-recoverable injury, permanent threshold shift (PTS) or temporary threshold shift (TTS) in hearing, recoverable injury), or behavioural responses (e.g., displacement, disturbance, stress, perceived/physical barriers to movement/migration). Effects vary depending on the sound source characteristics (frequency (Hz) and decibels (dB)), attenuation of the noise in the environment, the distance from source of the receptor species and in species and individual levels of sensitivity.

6.3.5 With the exception of migratory fish, it is considered unlikely that any underwater noise effects will be significant for fish or shellfish species due to their ability to disperse into adjacent, available, and alternative habitats within the estuarine and coastal waters of the Tees. Furthermore, it is reasonable to assume that species present in this environment are adapted to and/or tolerant of the nature and levels of anthropogenic noise that characterise the existing underwater soundscape. Additionally, any mitigation measures implemented for migratory fish will benefit other species by proxy.

6.3.6 It is considered that there is **potential for likely significant effects from underwater noise on migratory species** (e.g., salmon and trout), particularly in relation to behavioural responses, if appropriate mitigation measures (e.g. no piling 3 hours after low water, >8 hour continuous break in piling per 24 hour period) are not identified and

[24] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030002/TR030002-000446-ES%20Section%2011%20Fisheries%20and%20fishing%20activity.pdf [Accessed January 2022)

agreed with the MMO and their relevant advisors. It is therefore proposed, subject to agreement from the MMO, that further targeted appraisal of these potential effects is undertaken within an Environmental Appraisal to support the Marine Licence Application for this Proposed Development.

6.4 Marine Mammals

6.4.1 Potential impacts have been identified in relation to marine mammal receptors, this section considers the likelihood of any resulting significant environmental effects. Such impacts may be direct (physical and behavioural effects of underwater noise) or indirect (such as changes to prey availability and/or distribution) in nature.

6.4.2 However, as no likely significant effects are anticipated in relation to intertidal and subtidal estuarine and coastal habitats (**Section 4.2**), and subsequently associated fish species (see above) it is in turn concluded that no habitat related potential effects are anticipated for marine mammals. Indirect effects as a result of the temporarily altered abundance and distribution of prey species may occur; however, any **potential effect is considered highly unlikely to be significant** due to the abundance of adjacent, alternative foraging grounds and prey species available.

Underwater noise

6.4.3 The potential for anthropogenic sources of underwater noise to effect marine fauna is outlined in **Section 6.3**.

6.4.4 Seals are well equipped to hear both underwater and in-air, meaning they may be susceptible to underwater noise impacts, as well as those arising from in-air noise emissions associated with the Proposed Development. Based on the well-established Tees Seals Research Programme (TSRP), which is managed by the Industry Nature Conservation Association (INCA[25]), the Site does not overlap with any critical functional seal habitat. The focus of monitoring is on Seal Sands (below MHWS), Greatham Creek and Bailey Bridge all of which are approximately 2nm from the Site by water, and 1.5 km in a direct line are separated by notable industrial infrastructure at Seal Sands including the ConocoPhillips Oil Refinery and Terminal.

6.4.5 Considering their habituation to the heavily anthropogenically influenced soundscape, the abundance of optimal seal habitats elsewhere in the estuary and seals' capacity to avoid underwater noise through dispersal both within and out of water **no likely significant effects are anticipated** on seals in relation to underwater noise associated with the Proposed Development. Furthermore, mitigation proposed for migratory fish (e.g., defined breaks in piling) will also benefit seals.

6.4.6 Due to individuals not being regularly present in or reliant on habitats within the Tees, and (unlike seals) having no designated 'sensitive areas' within the estuary or surrounding coastal waters, it is considered unlikely that cetaceans will be exposed to underwater noise associated with the Proposed Development. However, should individuals be present during the marine works it is considered reasonable to assume

[25] http://www.inca.uk.com/wp-content/uploads/2020/01/Teesmouth-Seals-Report-2019-final.pdf [Accessed January 2022]

that they will be habituated to the highly modified soundscape, and due to their highly mobile nature will have capacity to disperse into alternative, adjacent habitats with ease if disturbed or displaced. For these reasons **no likely significant effects are anticipated** on cetaceans in relation to underwater noise associated with the Proposed Development. Furthermore, mitigation proposed for migratory fish (e.g., defined breaks in piling) will also benefit any occasional cetaceans that are present.

In Air noise

6.4.7 There is the potential for effects on seals due to in air noise emissions associated with the Proposed Development. However, due to the limited temporal and spatial extent of the Proposed Development, as well as the spatial separation (1.5km) of the Site from known key functional seal habitats, coupled with the industrially characterised soundscape of the estuary **no likely significant effects are anticipated** on seals in relation to in-air noise associated with the Proposed Development.

Lighting and Visual disturbance

6.4.8 Lighting of works areas, vessels and equipment and installed and partially removed infrastructure is required for health, safety and security reasons. However artificial light from fixed or mobile light sources can result in detrimental effects (e.g., altered circadian rhythms, displacement, disturbance, disorientation) on marine mammals. Visual disturbance relates to that caused by movement of plant, vessels or personnel on Site.

6.4.9 The Site is within a heavily modified environment with permanent, abundant sources of artificial light and visual stimuli both onshore from the port and other industry within the estuary, and on the water from large vessels frequently accessing the Port. Considering the limited spatial extent and duration of the Proposed Development, the geographic separation of the Site from mapped seal habitats and the existing baseline context **no likely significant effects are anticipated** in relation to lighting and visual disturbance associated with the Proposed Development.

6.5 Ornithology

6.5.1 The focus of this section is waterbirds (geese, ducks and waders), particularly those that are qualifying features of designated and protected sites within the estuary. Potential impacts have been identified in relation to ornithological receptors (Table 3.1), this section considers the likelihood of any resulting significant environmental effects.

6.5.2 The timing of the Proposed Development is scheduled to avoid the most sensitive period (September - April) for key passage and over-wintering waterbirds recorded on site (gadwall, redshank and shelduck – see **Table 4.2**) and coincide with when their abundance is lowest. Although gadwall were most abundant in August across the Tees Estuary, at Bran Sands they were most abundant in January, and therefore their sensitivity is predominantly low (June-July) to medium (August). The seasonal sensitivity

of the wetland habitats at this time (March – August) is also optimal, being low – medium for mudflats and medium – low for saltmarsh, wet grassland and scrub26.

6.5.3 Whilst the timing of the Proposed Development does coincide with the recorded presence of foraging common and sandwich tern associated with breeding colonies neither species are considered to be sensitive to land-based disturbance during foraging behaviour. Furthermore, they were recorded in such low numbers that it is **not considered likely that the Proposed Development will have a significant impact** on the breeding populations of either species within the Tees Estuary.

6.5.4 As no likely significant effects are anticipated in relation to intertidal and subtidal estuarine and coastal habitats (**Section 4.2**), it is in turn concluded that no habitat related potential effects are anticipated for waterbirds. Indirect effects as a result of the temporarily altered abundance and distribution of prey of piscivorous species may occur, however any potential effect is considered highly unlikely to be significant due to the abundance of adjacent, alternative foraging grounds and prey species available.

6.5.5 The potential for anthropogenic sources of underwater noise associated with the Proposed Development to effect waterbird species is not considered herein, due to their tendency to feed on intertidal flats rather than immerse themselves to obtain prey.

In-Air noise

6.5.6 Although there is potential for in air noise emissions associated with the Proposed Development, sensitivity of different waterbird species to disturbance (noise and visual) varies, and redshank are among the most sensitive species of those known to be present. Redshank are highly sensitive to noise disturbance, however they tend to be present at lower densities in areas with high levels of baseline disturbance. Neither foraging, common or sandwich tern are considered to be sensitive to airborne noise disturbance.

6.5.7 Due to the limited temporal and spatial extent of the Proposed Development, the seasonal timing of works to minimise potential impacts on waterbirds and the poor habitat quality within and adjacent to the Site, as well as the industrially characterised soundscape of the estuary **no likely significant effects are anticipated** on waterbirds in relation to in-air noise associated with the Proposed Development.

Lighting and Visual disturbance

6.5.8 Issues relating to lighting and visual disturbance are outlined in **Section 4.4**. Redshank, common tern and sandwich tern are considered tolerant of moderate and high-level visual disturbance, while gadwall and shelduck are highly sensitive to moderate to high level visual disturbance. The Site is located within a heavily modified environment with permanent, abundant sources of artificial light and visual stimuli both onshore from the port and other industry within the estuary, and on the water from large vessels frequently accessing the Port. Considering the seasonal timing, limited spatial extent and duration of the Proposed Development, and the existing highly disturbed baseline **no**

[26] https://www.tide-toolbox.eu/tidetools/waterbird_disturbance_mitigation_toolkit/ [Accessed January 2022]

likely significant effects are anticipated in relation to lighting and visual disturbance associated with the Proposed Development.

6.6 Other Material Assets / Marine Infrastructure

6.6.1 **Section 4.11** identifies the presence of three pipelines, which run underneath the Tees Estuary in the vicinity of the Jetty, and continue underground to the south of the compound containing the onshore assets to be demolished, as illustrated on **Figure 6** in **Appendix A**. Due to the nature of this pipeline infrastructure as designated Major Accident Hazard pipelines, consideration of the potential effects on the functional integrity of these material assets is addressed in **Section 6.10**.

6.7 Marine transport and navigation

6.7.1 The proposed marine works area is 0.03km^2 and discussions between the Applicant and the Tees and Hartlepool Harbour Authority have raised no significant concerns in relation to working and anchoring in/near the channel. Through the Marine Licencing process, further consultation will also be undertaken with Trinity House, specifically regarding potential issues relating to shipping and navigation. As it is not expected that large numbers of vessel movements would be required in connection with the Proposed Development, disturbance impacts are not anticipated to arise and therefore **no likely significant effects are anticipated**.

6.8 Waste and Material Resource Management

6.8.1 It is anticipated that the dolphins, jetty head (incl. loading arms) and a portion of the access jetty would be recovered to a flat-top barge for storage and onward transport to a local processing facility, to minimise durations of barge journeys, time away from the Site and also minimise the carbon footprint of the works. The Contractor would be required to provide the Applicant with all records and certifications for safe and responsible re-use, recycling and disposal. It is likely that a Waste Framework Assessment will be required.

6.8.2 An EMP (or suitable equivalent) and the Principal Contractor's Environmental Management Systems will stipulate the responsible use of energy and water during the demolition works in accordance with best practice.

6.8.3 A Site Waste Management Plan (SWMP) will be produced prior to the start of the demolition works. The SWMP will details measures to minimise the disposal and maximise re-use and recycling in accordance with the waste hierarchy.

6.8.4 As per the waste hierarchy, as much of the demolished materials as possible will be recycled through a responsible and recognised disposal process and the appointed contractor would be required to provide the Applicant will all records and certifications for safe and responsible re-use, recycle and disposal activities.

6.8.5 The disposal process will seek to ensure:

- Processing locations are considered to ensure environmental and social impacts, journey time, cost and carbon footprint of the operation are minimised;
- Items identified as being required for re-use shall be recovered in a reusable condition;
- All concrete and steel components shall be recycled for future re-use; and
- All hazardous substances and fluids shall be disposed of in accordance with relevant regulations at the time of decommissioning.

6.8.6 Based on the above, **no likely significant environmental effects are anticipated** in relation to waste as a result of the Proposed Development.

6.9 Historic Environment

6.9.1 There are no formal heritage designations associated with the Site.

6.9.2 The proposed works within the Tees Estuary would affect only sediments previously disturbed by the construction of the jetty and associated scour. No heritage assets that have settings which could be affected by the Proposed Development have been identified. It is consequently considered that no discernible harm would arise to heritage assets as defined by NPPF.

6.9.3 There is **no potential for significant adverse effects** on the historic environment. There is potential, however, that marine debris may be recovered during the work and it is recommended that a Protocol for Archaeological Discoveries (PAD) be developed to ensure that any such material encountered in the works can be appropriately identified and recorded. It is likely to be a condition of the Marine Licence for the PAD to be submitted to the MMO prior to marine works commencing.

6.10 Major accidents and disasters

6.10.1 The same establishments and infrastructure considered in the terrestrial chapter (**Section 5.10**) are relevant for the marine considerations. **Section 5.10** should be referred to for further details. The conclusion remains as presented within **Section 5.10**, that a major accident or disaster are a result of the Proposed Development is **unlikely**.

6.11 Cumulative effects

6.11.1 The Marine Works (EIA) Regulations require the cumulative effects of a project to be considered in order to identify whether any of the individual effects of the Proposed Development (considering its characteristics, location and nature of potential impacts) would combine to create a cumulative effect greater than the sum of the individual effects.

6.11.2 Cumulative effects are: *"those that result from additive effects caused by other past, present or reasonably foreseeable actions together with the plan, programme or project itself and synergistic effects (in- combination) which arise from the reaction between effects of a development plan, programme or project on different aspects of the environment*[27].

[27] https://www.iema.net/corporate-programmes/eia-quality-mark/impact-assessment-outlook-journal

6.11.3 Based on this EIA Screening it is **not considered likely that synergistic cumulative effects are likely to arise** between effects of the Proposed Development on different environmental receptors. However, whilst there may be some potential for additive effects with other existing and/or approved development, **they are unlikely to create additional, significant, cumulative effects**.

6.12 Transboundary effects

6.12.1 The magnitude and extent of any effects is likely to be limited to receptors within the immediate area surrounding the Site. Therefore, there are **unlikely to be any significant transboundary effects** as a result of the Proposed Development.

7. Summary of EIA Screening Assessment

7.1 Conclusion

7.1.1 This EIA Screening Assessment has considered whether the Proposed Development is likely to give rise to significant effects on the environment.

7.1.2 The Proposed Development falls under Schedule 2 of the EIA Regulations and A2 of the Marine Works (EIA) Regulations. While the Site is located in a sensitive area as defined by the EIA and Marine Works Regulations the existing environment within the site and surrounding areas is highly modified and characterised by significant levels of industrial activity.

7.1.3 The baseline environmental conditions in the area on and adjacent to the Site have been considered. The potential exists for effects to arise on a range of environmental receptors due to disturbance caused during the removal and demolition activities; however, as the Site is located in an industrial area with few adjacent sensitive receptors and as impacts arising would be short-term and temporary, the potential for significant effects is considered to be unlikely. Standard proven mitigation measures will be employed.

7.1.4 The proposed decommissioning solution aims to minimise environmental impacts within the Site and surrounds via implementation of controlled removal methods than minimise noise, light and dust emissions. The Contractor will comply with all relevant quality standards (e.g., ISO9001 Certification for Quality Management, OHSAS 18001 Certification for Health and Safety Management Systems and ISO14001 for Environmental Management Systems) and adhere to all relevant UK Merchant Shipping Rules, IMO standards and relevant marine conventions (e.g., MARPOL). The waste strategy aims to re-use, re-cycle and to process waste locally to the Site

7.1.5 Accordingly, this EIA Screening assessment has identified that significant effects on the environment are considered unlikely and the effects that have been identified would not justify an EIA. It is concluded that the Proposed Development should not be considered to constitute EIA development as defined by the EIA and Marine Works EIA Regulations.

7.1.6 Subject to receipt of a negative Screening Opinion, it is intended that an Application for Prior Notification of Demolition will be submitted to RCBC. The application will be accompanied by a Demolition and Restoration Statement, which will draw on the findings of this EIA screening exercise, detailing the methodology for the works to be undertaken and the measures to be employed to minimise the impact of the demolition activity on the terrestrial environment. It is anticipated that RCBC would be able to confirm that their prior approval would not be required for the Proposed Development.

7.1.7 The Marine Licence application will be supported by any necessary studies and/or reports, which will be submitted as supporting information. Whilst these would not constitute an Environmental Statement (ES), they will enable the potential effects of the Proposed Development on the marine environment to be identified and assessed and given the scale of the Proposed Development, this is considered appropriate to allow the

MMO to consider the material matters pertaining to Marine Licence application. The Applicant would be willing to accept appropriate Marine Licence conditions to ensure the implementation of reasonable mitigation to avoid or minimise any potential adverse effects.

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Appendix A Figures

NOTES:

1. MAPPING IS BASED UPON THE ORDNANCE SURVEY MAP AND PRODUCED ON BEHALF OF NORTHUMBRIAN WATER BY PERMISSION OF ORDNANCE SURVEY ON BEHALF OF THE CONTROLLER OF H.M.S.O. CROWN COPYRIGHT RESERVED LICENCE No. WU298506.
2. ALL DIMENSIONS ARE IN MILLIMETRES.
3. ALL LEVELS ARE IN METRES UNLESS STATED OTHERWISE.

LEGEND:

RED LINE BOUNDARY

JETTY COMPOUND

JETTY

RIVER TEES

LINKLINES

BRAN SANDS ETW

OS MAP OF LOCATION NTS

HARTLEPOOL

BILLINGHAM

TEES BAY

ESTON

0m 50m 100m 150m 200m

SCALE 1:2,500

REV	DATE	REVISION/ ISSUE DESCRIPTION	DRN	CHK	APP
P02	02/03/2022	UPDATED DRAWING TITLE	JDS	FM	NM
P01	08/06/2021	ISSUED FOR REVIEW AND COMMENT	JDS	FM	NM

SCALE: 1:2500

PROJECT TITLE

BRAN SANDS JETTY DEMOLITION

DRAWING TITLE

FIGURE 1 SITE LOCATION PLAN

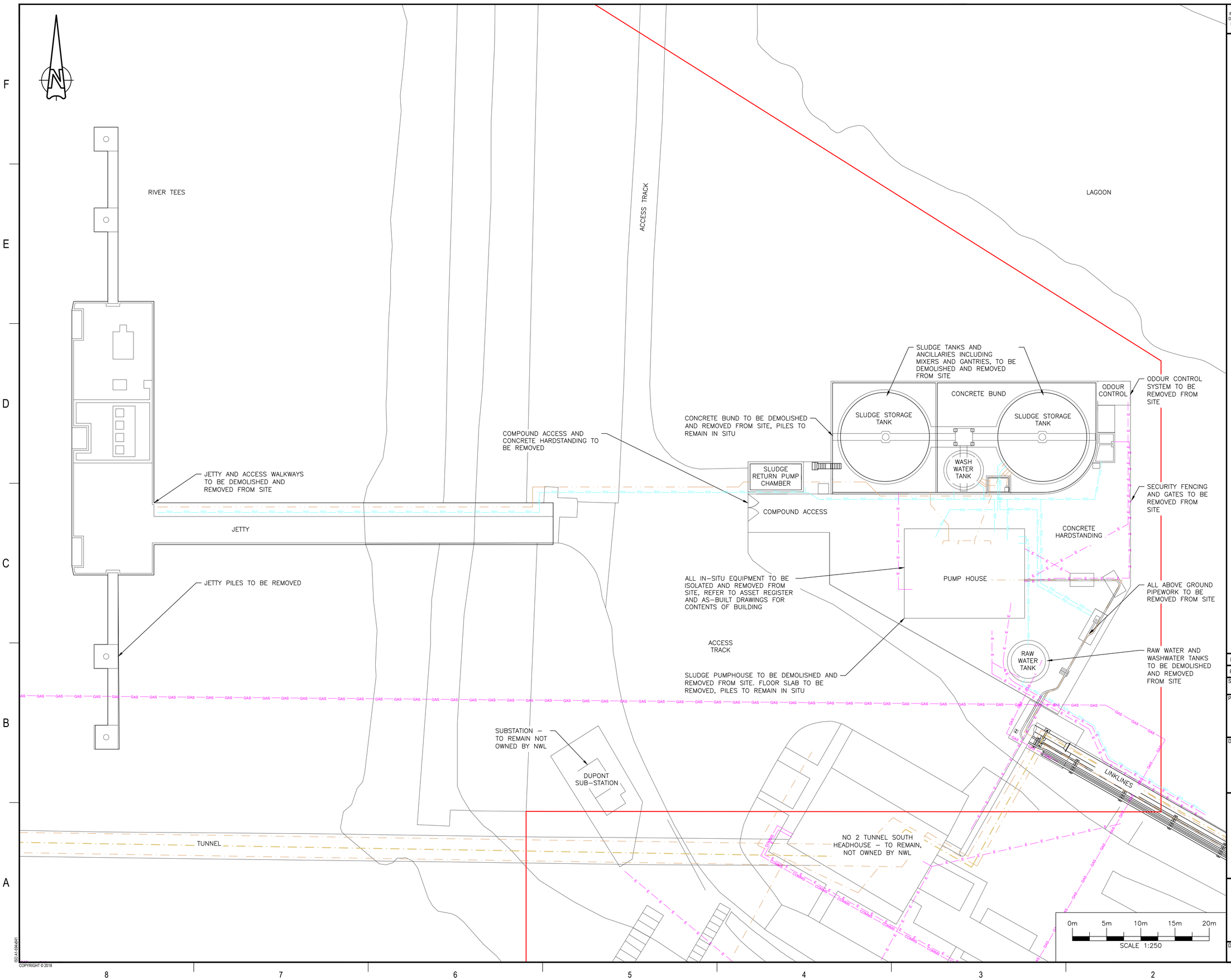
NORTHUMBRIAN WATER living water

wood.

PARTNERSHIP HOUSE, REGENT FARM ROAD, GOSFORTH, NEWCASTLE UPON TYNE, NE3 3AF
TEL: (0191) 2726100

DRAWING NO. (BS 1192)	STAT	REV
16481-001-DOC-SIN-B02-001	S3	P02

ISO A1 594841



NOTES:

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2. ALL DIMENSIONS ARE IN MILLIMETRES. ALL DIMENSIONS ARE IN MILLIMETRES.
3. ALL LEVELS ARE IN METRES UNLESS STATED ALL LEVELS ARE IN METRES UNLESS STATED OTHERWISE.

LEGEND:

- EXISTING STRUCTURE
- EXISTING TELECOMMS
- EXISTING SEWER
- EXISTING ELECTRICAL CABLE
- EXISTING GAS MAIN
- EXISTING SLUDGE PIPE
- EXISTING RAW WATER
- EFFLUENT
- RED LINE BOUNDARY

REV	DATE	REVISION/ ISSUE DESCRIPTION	DRN	CHK	APP
P01	02/03/2022	FIRST ISSUE	JDS	FM	NM

SCALE: 1:250

PROJECT TITLE

BRAN SANDS JETTY DEMOLITION

DRAWING TITLE

FIGURE 2 SITE LAYOUT

wood.
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TEL: (0191) 2726100

DRAWING NO. (BS 1192)	STAT	REV
16481-001-DOC-SIN-B05-003	S3	P01

ISO A1 594x841

NOTES:

1. MAPPING IS BASED UPON THE ORDNANCE SURVEY MAP AND PRODUCED ON BEHALF OF NORTHUMBRIAN WATER BY PERMISSION OF ORDNANCE SURVEY ON BEHALF OF THE CONTROLLER OF H.M.S.O. CROWN COPYRIGHT RESERVED LICENCE NO. WU298506.
2. ALL DIMENSIONS ARE IN MILLIMETRES.
3. ALL LEVELS ARE IN METRES UNLESS STATED OTHERWISE.

LEGEND:

- ROUTE FOR LIGHT VEHICLES
- ROUTE FOR HGV
- ROUTE FOR ALL VEHICLES
- RED LINE BOUNDARY

JETTY

JETTY COMPOUND

RIVER TEES

LINKLINES

HOLD: TRAFFIC MANAGEMENT/PASSING PLACES TO BE AGREED

BRAN SANDS ETW

HOLD: ROUTE THROUGH SEMBCORP LAND TO BE AGREED, MAY DEPEND ON VEHICLES TO BE USED, HEIGHT/WEIGHT LIMIT OF BRIDGES ETC

TRUNK ROAD A1085

ESTON PUMPING STATION

HOLD: UNUSED ACCESS TO BRAN SANDS USED TO ACCESS JETTY SITE, FOR LIGHT VEHICLES

0m 25m 50m 75m 100m
SCALE 1:1,250

0m 100m 200m 300m 400m
SCALE 1:5,000

REV	DATE	REVISION/ ISSUE DESCRIPTION	DRN	CHK	APP
P02	02/03/2022	UPDATED DRAWING TITLE	JDS	FM	NM
P01	09/06/2021	ISSUED FOR REVIEW AND COMMENT	JDS	FM	NM

SCALE: 1:2500 1:5000

PROJECT TITLE: BRAN SANDS JETTY DEMOLITION

DRAWING TITLE: FIGURE 3 SITE ACCESS ROUTES

NORTHUMBRIAN WATER living water

wood.
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TEL: (0191) 2726100

DRAWING NO. (BS 1192)	STAT	REV
16481-001-DOC-SIN-B13-001	S3	P02

Key

- BTO WeBS Bran Sands
- Dabholm Gut
- Lagoon
- River Frontage

0 100 200 300 400 m

Scale at A3: 1:8,000

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Client

NORTHUMBRIAN WATER living water

Bran Sands EIA Screening Report

Figure 4
Ornithology survey area

February 2022

wood.

N:\data\Projects\806994 Bran Sands Jetty Demolition\Deliver Stage\D Design_Technical\Drawings\ArcGIS\MXD\806994-WOOD-XX-XX-FG-OE-00007_S0_P01.1.mxd Originator: gwenda.pannu

NOTES:

1. MAPPING IS BASED UPON MAPPING FROM THE ENVIRONMENTAL AGENCY WEBSITE https://flood-map-for-planning.service.gov.uk

Selected point
Flood zone 3
Flood zone 3: areas benefitting from flood defences
Flood zone 2
Flood zone 1
Flood defence
Main river
Flood storage area

REV	DATE	REVISION/ ISSUE DESCRIPTION	DRN	CHK	APP
P01	02/03/2022	FIRST ISSUE	JDS	FM	NM

SCALE: NTS

PROJECT TITLE
BRAN SANDS JETTY DEMOLITION

DRAWING TITLE
FIGURE 5 EA FLOOD MAPPING

wood.
PARTNERSHIP HOUSE, REGENT FARM ROAD, GOSFORTH,
NEWCASTLE UPON TYNE, NE3 3AF
TEL: (0191) 2726100

DRAWING NO. (BS 1192)	STAT	REV
16481-001-DOC-SIN-B05-004	S3	P01

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

KEY RESIDUAL DESIGN RISKS

- BURIED SERVICES
- ABOVE GROUND SERVICES
- HIGH PRESSURE GAS MAIN
- PRESSURE PIPEWORK
- 11KV CABLES
- WORKING OVER AND ADJACENT TO WATER
- CONTAMINATED LAND
- CONTAMINATED TANKS AND PIPEWORK

NOTES:

1. MAPPING IS BASED UPON THE ORDNANCE SURVEY MAP AND PRODUCED ON BEHALF OF NORTHUMBRIAN WATER BY PERMISSION OF ORDNANCE SURVEY ON BEHALF OF THE CONTROLLER OF H.M.S.O. CROWN COPYRIGHT RESERVED LICENCE NO. WU298506.
2. ALL DIMENSIONS ARE IN MILLIMETRES.
3. ALL LEVELS ARE IN METRES UNLESS STATED OTHERWISE.

LEGEND:

- EXISTING STRUCTURE
- EXISTING TELECOMMS
- EXISTING SEWER
- EXISTING ELECTRICAL CABLE
- EXISTING GAS MAIN
- EXISTING SLUDGE PIPE
- EXISTING RAW WATER
- EFFLUENT
- RED LINE BOUNDARY

RIVER TEES

JETTY

ACCESS TRACK

LAGOON

SLUDGE RETURN PUMP CHAMBER

SLUDGE STORAGE TANK

SLUDGE STORAGE TANK

ODOUR CONTROL

WASH WATER TANK

COMPOUND ACCESS

CONCRETE HARDSTANDING

PUMP HOUSE

PIGGING STATION

RAW WATER TANK

BREAGH PIPELINE ENCLOSED IN 1220mm STEEL CASING BENEATH JETTY COMPOUND, EXTENT OF CASING UNKNOWN

LINKLINES

ACCESS TRACK

BREAGH PIPELINE, OPERATED BY PX 20" GAS MAIN 70BAR NORMAL OPERATING PRESSURE, 150BAR MAX OPERATING PRESSURE

3" MAIN AND COMMS CABLE RUNS ALONGSIDE THE BREAGH PIPELINE

DUPONT SUB-STATION

SEMBCORP TUNNEL NO 2

250 NB PHILLIPS PIPELINE

AMOCO/BP TUNNEL

CATS PIPELINE 36" GAS

0m 5m 10m 15m 20m

SCALE 1:250

REV	DATE	REVISION/ ISSUE DESCRIPTION	DRN	CHK	APP
P03	02/03/2022	DRAWING TITLE UPDATED	JDS	FM	NM
P02	06/08/2021	EXISTING PIPELINE ADDED	JDS	FM	NM
P01	23/07/2021	ISSUED FOR REVIEW AND COMMENT	JDS	FM	NM

SCALE: 1:250

PROJECT TITLE

BRAN SANDS JETTY DEMOLITION

DRAWING TITLE

FIGURE 6 HAZARD PLAN

NORTHUMBRIAN WATER living water

wood.

PARTNERSHIP HOUSE, REGENT FARM ROAD, GOSFORTH, NEWCASTLE UPON TYNE, NE3 3AF
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DRAWING NO. (BS 1192)	STAT	REV
16481-001-DOC-PDC-P15-003	S3	P03

ISO A1 594x841

Appendix B Preliminary Ecological Appraisal

Northumbrian Water Group

Bran Sands Jetty

Preliminary Ecological Appraisal Survey Report

Wood Group UK Limited – September 2021

Report for

Graeme Ridley
Northumbrian Water Group
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Abbey Road
Pity Me
Durham

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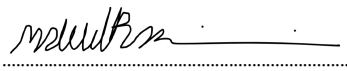
Phillip Joyce

Issued by

Phillip Joyce

Approved by



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Doc Ref. 806994-WOOD-ZZ-XX-RP-OE-00001_S0_P01

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Document revisions

No.	Details	Date
1	Final Report	09/08/2021
2	Report	07/09/2021

Executive summary

Purpose of this report

Northumbrian Water Group (NWG) is proposing to demolish a jetty and associated buildings at Bran Sands, on the southern bank of the estuarine River Tees near Redcar.

Wood Group UK Limited (referred to herein as 'Wood') has been commissioned to carry out an ecological appraisal of land within the project boundary to inform these proposals. 'Preliminary Ecological Appraisals' (PEA) enable the early identification of potential biodiversity constraints; inform additional surveys or potential mitigation requirements; and help establish the ecological baseline. Extended Phase 1 habitat survey and supporting desk studies are the core components of Preliminary Ecological Appraisals in the UK.

This report provides a PEA for the Bran Sands Jetty Site. The report is intended for the purpose of reporting the results of the PEA and associated assessment and includes recommendations for additional assessment and mitigation where required.

Contents

1. Introduction

Northumbrian Water Group required a Preliminary Ecological Appraisal (PEA) to inform the demolition of an existing jetty and associated buildings and infrastructure at Bran Sands on Teesside. A PEA enables the early identification of potential biodiversity constraints; inform additional survey or mitigation requirements; and help establish the ecological baseline. Extended Phase 1 habitat survey and supporting desk-studies are the core components of PEAs in the UK.

1.1 Overview of proposals

Northumbrian Water Group (NWG) is proposing to demolish a jetty and associated buildings at Bran Sands, on the southern bank of the estuarine River Tees near Redcar. The demolition of the jetty and associated buildings at Bran Sands is hereafter referred to as 'the proposed development'.

The jetty was constructed on the River Tees in 1999 for the transportation of raw sludge to be treated at the NWG Bran Sands site. This facility and associated assets have not been in use since 2010 and has therefore been decommissioned.

Bran Sands Jetty and its associated buildings, hereafter referred to as 'the Site', are located approximately 5km north-west of Redcar, North Yorkshire (central grid reference: NZ 54960 24816) and covers an area approximately 3ha, (see **Figure 1.1**). The Site primarily comprises buildings, hard standing and bare ground, bordered by semi-improved grassland and areas of dense scrub. The site is located on a peninsular of made ground in a heavily industrialised area. The jetty itself is situated in the edge of the River Tees estuary of the and is a primarily concrete structure. The site is bounded by the River Tees lies to the west, a lagoon to the east/northeast, and outlet channel to the south, and the narrow peninsular extends to the north before re-joining industrial land. The wider area to the east and west is heavily industrialised with the Tees Bay coastline is located approximately 1.5km to the north of the Site.

In summary, the demolition currently proposed for the Bran Sands Jetty and associated assets includes the removal of the following infrastructure:

- Jetty with sludge unloading arms;
- 2 No. sludge storage tanks;
- Plant building (pump room / switch room / transformer room);
- Raw water and wash water tanks;
- Odour control equipment; and
- Isolation of site services.

The demolition and site re-instatement of the Site is planned to start in March 2022 with the demolition completed by July 2022[1].

[1] Email correspondence from Nigel Middleton to Phillip Joyce on 23rd August 2021

1.2 Purpose of this report

This PEA is intended to establish the ecological baseline for the proposed development, enable the early identification of potential ecological constraints, and inform additional survey or mitigation requirements. This PEA provides a summary of the desk study data gathered to date (**Section 2**); the methods and results of an extended Phase 1 habitat survey (**Section 3**); and identifies any additional surveys, mitigation, or 'avoidance measures' that may be required to support the proposed development (**Section 4**). The study approach broadly follows the *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017).

This PEA is based on the site plans and approach identified within Wood's Statement of Capability for the jetty demolition that was provided to NWG in January 2021 [2]and associated scheme information provided by NWG; these have been used to identify an appropriate geographical scope for the desk-study and extended Phase 1 habitat survey, based on an initial assessment of the likely environmental changes associated with the proposed development. Future variations in scheme design or layout will require re-appraisal of the conclusions and may require additional investigations to ensure that the ecological data remain robust.

The report provides a baseline for those aspects covered by the extended Phase 1 habitat survey methodology only and is intended to assist with scheme design and delivery. It does not:

- Provide a detailed 'evaluation' of the habitats and species at the site (which is a key component of the Ecological Impact Assessment (EcIA) process used to support some planning applications), except where this can be clearly and meaningfully determined based on the available data; and
- Does not set out detailed mitigation proposals (although potential mitigation solutions are identified).

Additional data or interpretation may be required for a suitably robust assessment of the ecological conditions at the Site and the likely effects of the scheme, sufficient to support consent applications (including planning submissions). Where such additional survey or assessment is required, this is identified within the recommendations in **Section 4**.

A glossary of technical terms and abbreviations is provided in **Appendix A**. Species are referred to by their common names, with the binomen's (scientific names) provided in **Appendix B**.

[2] Wood (2021). Bran Sands ETW and RSTC – Jetty Demolition: Wood – Statement of Capability. Technical note prepared for Northumbrian Water Group.

Key

Survey area

0 100 200 300 m

Scale at A3: 1:6,000

Bran Sands Jetty Demolition

Figure 1.1
Survey Area

September 2021

wood.

\\GOS-FS80\shared\data\Projects\806994 Bran Sands Jetty Demolition\Deliver Stage\D Design_Technical\Drawings\ArcGIS\MXD\806994-WOOD-XX-XX-FG-OE-00002_S0_P01.01.mxd Originator: tom.suter

2. Desk Study

Desk studies involve the collection and interpretation of existing biodiversity data from various sources. The data provides contextual information on the Site and the surrounding area and helps to identify features that may require particular attention during field surveys.

2.1 Approach

A data-gathering exercise was undertaken in May 2021 to obtain information relating to statutory and non-statutory biodiversity sites; species or habitats of principal importance for the conservation of biodiversity; legally protected and controlled species; and other conservation-notable habitats or species (see **Boxes 1 and 2**). The scope of the data collection was based on an initial assessment of the likely environmental changes associated with the proposed development, and included data on:

- European protected sites within 2 km of the site boundary;
- Sites of Special Scientific Interest (SSSIs) within 2 km of the site boundary;
- Other statutory and non-statutory sites designated for their nature conservation interest within 1 km of the site boundary;
- Protected species, species of principal importance for the conservation of biodiversity, or other conservation-notable species recorded within 1 km;
- Habitats of principal importance for the conservation of biodiversity, or other conservation-notable habitats recorded within 1 km; and
- Any other sites or features that could potentially be affected by the proposed development (e.g. downstream sites).

The geographical context of the site was also examined using the relevant Ordnance Survey maps[3] and freely available aerial photographs. These were used to identify features that may be important locally for protected or conservation-notable species, such as potential migration or dispersal routes, or any potential receptors of site-derived pollutants in the wider landscape. In particular, the location and connectivity of ponds and other waterbodies within 500 m of the site was determined, to allow an initial assessment of possible impacts on any local great crested newt (GCN) populations.

The sources of desk study information are summarised in **Table 2.1**. Bat records data were also sought from the Durham Bat Group and the Industry Nature Conservation Association (INCA) on the 24th May 2021, but both organisations confirmed that they did not hold any bat records within 2km of the Site.

[3] Ordinance Survey Maps (2021) [online] Available at: https://osmaps.ordnancesurvey.co.uk/ [Accessed 23 May 2021]

Box 1 - Designated Biodiversity Sites, and Priority Habitats and Species

Statutory Biodiversity Sites

- **European sites**: Important biodiversity sites designated under international law or treaties. European sites are any **Special Area of Conservation** (SAC) from the point at which the European Commission and the UK Government agree the site as a 'Site of Community Importance' (SCI) (if this was before 31 Jan 2020); any classified **Special Protection Area** (SPA); any **candidate SAC** (cSAC). The term 'European site' is term is also commonly used when referring to **potential SPAs** (pSPAs), to which the provisions of Article 4(4) of *Directive 2009/147/EC* (the 'new wild birds directive') apply; and to **possible SACs** (pSACs) and listed **Ramsar** sites, to which the provisions of the Habitats Regulations are applied a matter of Government policy (NPPF para. 175; TAN 5 para. 5.1.3; SPP para. 136) when considering development proposals that may affect them.
- **Sites of Special Scientific Interest** (SSSIs): Nationally important sites notified under the *Wildlife and Countryside Act 1981* (as amended) that provide the best examples of the UK's flora, fauna, or geological or physiographical features (note, this assessment focuses on those sites notified for their biodiversity interest).
- **National Nature Reserves** (NNRs): Nationally important sites notified under the *National Parks and Access to the Countryside Act 1949* and the *Wildlife and Countryside Act 1981* (as amended); in practice most NNRs are SSSIs also.
- **Local Nature Reserves** (LNRs): Locally important sites that are designated under the *National Parks and Access to the Countryside Act 1949* with the objective of encouraging their use for the study, research or enjoyment of nature.

Non-statutory Biodiversity Sites

Non-statutory biodiversity sites in North Yorkshire and County Durham are known as Local Wildlife Sites (LWS) and are safeguarded by the policy provisions of Redcar & Cleveland Borough Council Biodiversity Action Plan 2018 - 2023.

Other important habitats or species

Species or habitats of "principal importance for the conservation of biodiversity" are those listed by Natural England pursuant to Section 41 of the *Natural Environment and Rural Communities Act 2006* (as amended). They are commonly referred to as 'Section 41' habitats or species.

Other conservation-notable habitats and species would include:

- Species listed as being of conservation concern in the relevant UK Red Data Book (RDB) or the Birds of Conservation Concern Red List (Eaton *et al.* 2015).
- Ancient woodland (i.e. areas that have been under continuous woodland cover since at least 1600 listed on the Ancient Woodland Inventory (AWI));
- Nationally Rare and Nationally Scarce species in the UK, which are species recorded from, respectively, 1-15 and 16-100 hectads (10x10km squares of the UK national grid).
- Populations of birds comprising at least 1% of the relevant British breeding/wintering population (where data are available).
- Habitats and species listed by the relevant LBAP; and
- Other species or assemblages such as large populations of animals considered uncommon or threatened in a wider context.

Box 2 - Legally Protected and Controlled Species

Legal Protection

Many species of animal and plant receive some degree of legal protection. For the purposes of this report, legal protection refers to:

- Species included on Schedules 5 and 8 of the *Wildlife and Countryside Act 1981* (as amended), excluding species that are only protected in relation to their sale (see Sections 9[5] and 13[2] of the Act);
- Species included on Schedules 2 and 5 of the *Conservation of Habitats and Species Regulations 2017* (as amended); and
- Badgers, which are protected under the *Protection of Badgers Act 1992*.

Legal Control

Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended) lists species of animal that it is an offence to release or allow to escape into the wild (for example grey squirrel) and species of plant that it is an offence to plant or otherwise cause to grow in the wild (for example, Japanese knotweed).

Table 2.1 Sources of desk-study information

Aspect	Data	Sources
Statutory sites	• Boundary data • Citations • Other site information (e.g., Conservation Objectives; Site Improvement Plans; Condition Assessments; Views about Management; etc.)	Magic[4]: www.magic.gov.uk JNCC: http://jncc.defra.gov.uk/page-4 NE: http://publications.naturalengland.org.uk/category/10001 NE: https://designatedsites.naturalengland.org.uk/
Non-statutory sites	• Boundary data • Citations	Local Biodiversity Records Centre (Environmental Records Information Centre Northeast (ERIC NE))
Other sites and habitats	• Boundary data	Magic: www.magic.gov.uk
Species records	• Location data	Local Biodiversity Records Centre (Environmental Records Information Centre Northeast (ERIC NE)) Durham Bat Group Industry Nature Conservation Association (INCA)

2.2 Desk study results

Designated Sites

There are five designated nature conservation sites within the study area (see **Figure 2.1**). The interest features of these sites are summarised in **Table 2.2**, with brief notes on any potential pathways by which the sites or features might be exposed to the environmental changes associated with the proposed development.

[4] Source of geographic information about the natural environment from across government.

The following sites are particularly relevant to the proposals:

- The Site is within the Teesmouth and Cleveland Coast SSSI and species associated with the SSSI, such as breeding birds, are likely to utilise the development site habitats.
- An existing access road to the site runs alongside the Eston Pumping Station LWS and is therefore likely to be used to access the Site.

Table 2.2 Designated nature conservation sites within the relevant search areas, and potential effect-pathways

Site	Location*	Summary of interest features	Potential effect pathways**
Teesmouth and Cleveland Coast SPA	Proposed development within site	The site qualifies under Article 4 of the Birds Directive (2009/147/EC) for the following reasons: • Regularly supports more than 1% of Annex I species including: pied avocet, sandwich tern, common tern, little tern, and ruff. • Regularly supports more than 1% of migratory species not listed in Annex I including red knot and common redshank. • The site is regularly used by internationally important assemblages of waterbird (26,014 individuals),	There is hydrological connectivity between the SPA and the Site; and the SPA is designated for waterfowl species that are likely to utilise habitats on or adjacent to the Site including the Bran Sands Lagoon.
Teesmouth and Cleveland Coast Ramsar	Proposed development adjoins site	The site meets the following qualifying criterion: • Criterion 5: The site supports waterfowl assemblages of international importance with peak counts in winter of 9528 waterfowl. • Criterion 6: Populations of international importance in spring/autumn for the following species: o Common Redshank (883 individuals) • Population of international importance in winter for the following species: o Red knot (2579 individuals) Nationally important plant species occurring on the site include: o Rush-leaved fescue *(Festuca arenaria);* o Stiff saltmarsh grass (Puccinellia rupestris); and o Pond water crowfoot (Ranunculus baudotii) Other bird species occurring at levels of national importance include: o Little tern (40 pairs); o Northern shoveler (7 individuals); and o Common greenshank (7 individuals) Nationally important invertebrate species occurring on the site include: o Pherbellia grisescens; o Dark northern stiletto fly (*Thereva valida*); o Bladderwort flea-beetle (*Longitarsus nigerrimus*); o *Dryops nitidulus*; o *Macroplea mutica*; o *Philonthus dimidiatipennis*; and o Trichohydnobius suturalis	There is hydrological connectivity between the Ramsar site and the Site; and the Ramsar is designated for waterfowl species that are likely to utilise habitats on or adjacent to the Site including the Bran Sands Lagoon.

Site	Location*	Summary of interest features	Potential effect pathways**
Teesmouth and Cleveland Coast SSSI	Proposed development within site	An extensive mosaic of coastal and freshwater habitats including sand dunes, saltmarshes, mudflats, rocky and sandy shores, saline lagoons, grazing marshes, reedbeds and freshwater wetlands. The site is designated for the following reasons: • Jurassic geology; • Quaternary geology; • Sand dunes; • Saltmarshes; • Breeding harbour seals; • Breeding avocet, little tern and common tern; • Non-breeding shelduck, shoveler, gadwall, ringed plover, knot, ruff, sanderling, purple sandpiper, redshank and sandwich tern; • An assemblage of more than 20,000 waterbirds during the non-breeding season; and • A diverse assemblage of invertebrates associated with sand dunes.	There is hydrological connectivity between the SSSI and the Site; and the SSSI is designated for waterfowl species and harbour that are likely to utilise habitats on or adjacent to the Site including the Bran Sands Lagoon and the Tees Estuary around the Jetty.
Teesmouth NNR	~1.4km to NW of proposed development	Teesmouth NNR main habitats include sand dunes, grazing marsh, intertidal sand and mudflats. The NNR shares a boundary with the Teesmouth and Cleveland SPA. Features of interest within the NNR include: • Harbour seals and grey seals within the tidal channels; • Four different species of marsh orchid; and • Large populations of migratory waterbirds. The reserve is split into two sections including North Gare dunes and grazing marsh and Seal Sands. Other flora and fauna of note within the NNR include: • Lapwings; • Curlews; and • Short-eared owl. Seal Sands is one of the larges areas of intertidal mudflats on England's north-east coats.	There is hydrological connectivity between the NNR and the Site; and the NNR is designated for waterfowl, harbour seals and grey seals that are likely to utilise habitats on or adjacent to the Site including the Bran Sands Lagoon.
Eston Pumping Station LWS	~1.8km to SE of proposed development	This site meets the criteria for a LWS due to its combination of urban grassland with borderline neutral grassland covering 25% of the site. Additional areas of open water and swamp add to the ecological function of the site.	Proposed access route for light vehicles runs through the existing track within this LWS.

Key
***** Location relative to proposed development site
** Note, these pathways are based on the environmental changes typically associated with the construction or operation of a scheme of this type / scale and should be reviewed as the scheme is developed.
Annex I / II – Habitats or species listed on Annex I or II (respectively) of Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the 'Habitats Directive')
Article 4.1 / 4.2 – Bird species qualifying under Article 4.1 or 4.2 of Directive 2009/147/EC on the Conservation of Wild Birds (the 'new Wild Birds Directive')
Criterion 1, 2 etc. – Ramsar criteria; there are nine criteria used as a basis for selecting Ramsar sites; see jncc.defra.gov.uk/page-161.

Species Records

Table 2.3 provides a summary of the key species records that are dated within the last 10 years[5], principally:

- Protected species;
- Section 41 species;
- Nationally rare or red-list species; and
- Other records notable in a local context (e.g. Local BAP species; species other than those above, which are identified by the data provider as being locally significant; records suggesting potentially significant local populations).

Table 2.3 Key species records from past 10 years

Species	No. of records	Closest record	Protection	Other conservation criteria
MAMMALS				
Brown Hare	7	~1.2km to E	-	S41; LBAP
Common seal	34	~1.5km to N	HR	S41; LBAP
European Otter	1	Record from1km grid square in search area	WCA / HR	S41; LBAP
Grey seal	28	~1.5km to N	HR	-
Hedgehog	2	~1.2km to NW	-	S41
BIRDS				
Avocet	139	Records from1km grid square in search area	WCA	-
Barn owl	8	Records from1km grid square in search area	WCA	LBAP
Bittern	4	Records from1km grid square in search area	WCA	S41; LBAP
Black tern	6	Records from1km grid square in search area	WCA	-
Black-necked grebe	27	Records from1km grid square in search area	WCA	-
Black-tailed godwit	162	~1.8km to NW	WCA	RL
Black-throated diver	1	Record from1km grid square in search area	WCA	-
Common scoter	44	~1.9km to NW	WCA	S41; RL
Fieldfare	1	Record from1km grid square in search area	WCA	RL
Garganey	3	Records from1km grid square in search area	WCA	-
Goldeneye	17	Records from1km grid square in search area	WCA	RL

[5] i.e. since 2011; this focuses on those records most likely to be relevant to the development and the current land-use baseline.

Species	No. of records	Closest record	Protection	Other conservation criteria
Great northern diver	43	Records from1km grid square in search area	WCA	-
Green sandpiper	12	Records from1km grid square in search area	WCA	-
Greenshank	**110**	**~1.8km to NW**	**WCA**	**-**
Greylag goose	13	Records from1km grid square in search area	WCA	-
Hen harrier	1	Record from1km grid square in search area	WCA	S41; RL
Kingfisher	6	Records from1km grid square in search area	WCA	-
Lapland bunting	1	Record from1km grid square in search area	WCA	-
Little gull	50	Records from1km grid square in search area	WCA	-
Little ringed plover	67	Records from1km grid square in search area	WCA	-
Little tern	4	Records from1km grid square in search area	WCA	-
Long-tailed duck	70	Records from1km grid square in search area	WCA	RL
Marsh harrier	10	Records from1km grid square in search area	WCA	-
Mediterranean gull	5	Records from1km grid square in search area	WCA	-
Merlin	19	Records from1km grid square in search area	WCA	RL
Peregrine	43	~1.8km to NW	WCA	-
Pintail	12	~1.7km to NW	WCA	-
Red-throated diver	22	Records from1km grid square in search area	WCA	-
Redwing	1	Record from1km grid square in search area	WCA	RL
Roseate tern	15	Records from1km grid square in search area	WCA	S41; RL
Ruff	38	Records from1km grid square in search area	WCA	RL
Shore lark	8	Records from1km grid square in search area	WCA	-
Slavonian grebe	67	Records from1km grid square in search area	WCA	RL
Snow bunting	18	Records from1km grid square in search area	WCA	-
Spoonbill	2	Records from1km grid square in search area	WCA	-
Velvet scoter	6	Records from1km grid square in search area	WCA	-
Whimbrel	127	~1.1km to NW	WCA	-
Wood sandpiper	9	Records from1km grid square in search area	WCA	-
Whooper swan	14	Records from1km grid square in search area	WCA	-
INVERTEBRATES				

Species	No. of records	Closest record	Protection	Other conservation criteria
Cinnabar	1	~1.9km to NE	-	S41
Dingy skipper	1	~1.9km to NE	-	S41; LBAP
Grayling	1	~2km to NE	-	S41; LBAP
Shaded broad bar	3	~1.9km to NE	-	S41
Small heath	6	~1.8km to NE	-	S41
Wall brown	2	~1.8km to NE	-	S41

Key

WCA – *Wildlife and Countryside Act 1981* (as amended)
HR – *Conservation of Habitats and Species Regulations 2017* (as amended) or *The Conservation (Natural Habitats, &c.) Regulations 1994* (as amended)
S41 – Section 41 species; see Box 1
LBAP – Tees Valley Biodiversity Action Plan Species
RL – Red list species; see Box 1

Additional Red List bird species within the search area include the following species: lesser redpoll, skylark, white-fronted goose, European greater white-fronted goose, pochard, scaup, linnet, twite, ringed plover, herring gull, nightingale, velvet scoter, grey wagtail, yellow wagtail, curlew, whimbrel, tree sparrow, shag, red-necked grebe, kittiwake, woodcock, arctic skua, ring ouzel, mistle thrush, lapwing,

Additional Information and Features

Site context

A review of freely available web-based satellite imagery shows that the site is located in a heavily industrialised landscape with surrounding habitat features, including:

- Coastal lagoons;
- Grasslands;
- Coastal mudflats; and
- Sand dunes.

These features, primarily the grasslands and coastal lagoons, are fragmented due to industrial buildings, roads, and infrastructure. However, some linkages remain through the Tees estuary and the grasslands that are present are closed off from public access and therefore may provide habitat linkages into the Site for a range of species.

The Site appears unexceptional at the landscape scale, supporting a similar range of habitats and features to those present locally.

Priority habitats and networks

Data from Magic[6] suggests that the following priority habitats coincide with, or are close to (100m or less), the Site:

- Mudflats.

Waterbodies

Analysis of Ordnance Survey 1:10k maps indicate that there are two ponds or similar waterbodies within 500m[7] of the Site boundary (see **Figure 2.2**); Bran Sands Lagoon, is considered to be unsuitable for great crested newts (GCN) due to the brackish nature of the waterbody. Pond 1 is a water tank in the operational area of the Site.

In addition, there are four ponds (Ponds 2 to 5) within 500m of the proposed access routes to the Site.

Existing Planning Application Data

The National Infrastructure Planning website has been reviewed to identify any ecological survey reports completed for planning applications within 500m of the Site. This search identified that a Development Consent Order (DCO) application was granted to York Potash in 2016 for the development of a new underground mine, this boundary for this application included the Bran Sands Jetty Site and ecological surveys were completed in this area. Below is a summary of the results of the ecological surveys on protected species conducted to inform the DCO application[8]:

- Bat Surveys.
  - In 2013, buildings on the Bran Sands Jetty Site were inspected for their suitability to support roosting bats. The No.2 Tunnel Head House on the Site was assigned a potential of 'very low' to support roosting bats and therefore no further surveys were undertaken.
- Otter and Water Vole Surveys
  - In October 2013, otter and water vole surveys were undertaken at the Bran Sands Lagoon and the Dabholme Beck that runs into the Tees Estuary. These surveys identified two spraints on the northern edge of the Bran Sands Lagoon and one spraint along the Dabholme Beck. One potential otter track was also recorded along the Dabholme Beck; and
  - No evidence of water vole was recorded during the surveys.
- Reptile Surveys
  - In September and October 2013, reptile surveys were undertaken on the grassland around the Site. 10 survey visits were completed, and no reptiles were recorded.

[6] MAGIC (2021) [online] available at: https://magic.defra.gov.uk/MagicMap.aspx [Accessed 24 May 2021].

[7] Natural England guidelines (Natural England, 2015) recommend that ponds within 500m of a development site be assessed for their potential to support GCN, if the site habitats are suitable and there are no factors that might reduce the likelihood of GCN accessing the site. This reflects the distance that GCN can commonly use terrestrial habitats surrounding a breeding pond.

[8] TR030002-000479-Section 10 App 10.2 Terrestrial ecology survey reports.pdf

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452500 453000 453500 454000 454500 455000 455500 456000 456500 457000 457500

527000 526500 526000 525500 525000 524500 524000 523500

N

Teesmouth and Cleveland NNR

Teesmouth and Cleveland Ramsar

Teesmouth and Cleveland SPA

Teesmouth and Cleveland Coast SSSI

Eston Pumping Station

Ground Flares

Ground Flare

Ground Flare

Eustace House

The Fleet

Dabhams Beck

The Mill Race

Key

- Survey area
- Redcar and Cleveland Local Wildlife Site (LWS)
- National Nature Reserve (NNR)
- Special Protection Areas (SPA)
- Sites of Special Scientific Interest (SSSI)
- Ramsar site

0 250 500 750 m

Scale at A3: 1:16,000

Bran Sands Jetty Demolition

Figure 2.1
Designated Sites

September 2021

wood.

\\GOS-FS80\shared\data\Projects\806994 Bran Sands Jetty Demolition\Deliver Stage\D Design_Technical\Drawings\ArcGIS\MXD\806994-WOOD-XX-XX-FG-OE-00004_S0_P01.01.mxd Originator: tom.suter

454500 455000 455500 456000 456500 457000

525000 524500 524000 523500 523000

N

Bran Sands Lagoon

Pond 1

Pond 2

Pond 3

Pond 4

Pond 5

Dabholm Cut

Dabholm Gut

Dabholm Beck

The Fleet

The Mill Race

Bolby Rd

Dabholm Rd

Tees Dock Rd

Trunk Rd

Eustace House

Key

- Survey area
- Potential access track
- Access track 500m buffer
- Bran Sands site 500m buffer
- Waterbody
- Ponds

0 100 200 300 400 500 600 m

Scale at A3: 1:10,000

Bran Sands Jetty Demolition

Figure 2.2
Waterbodies within 500 metres of the site and proposed access track

September 2021

wood.

3. Extended Phase 1 Habitat Survey

Phase 1 habitat survey is an established field-scale vegetation survey method that classifies land parcels into various habitat categories. The survey is typically 'extended' to identify other relevant biodiversity features, such as the potential for legally protected species to use a site based on the habitat types present.

3.1 Methods

A Phase 1 habitat survey (JNCC, 2010)[9] of the Site and a 50m surrounding area (where access was permitted and possible) was undertaken by a Wood ecologist on 5th May 2021. Distinct habitats were identified and any conservation-notable habitats or interest features that were too small to map were subject to a more detailed description in a Target Note (TN; see **Appendix D**). As the standard Phase 1 habitat survey methodology is largely concerned with vegetation communities only, the survey was 'extended' in accordance with the *Guidelines for Baseline Ecological Assessment* (IEA, 1995)[10] to include:

- Preliminary searches for evidence of protected or conservation-notable species / species-groups (including bats; great crested newts; badger; water voles; reptiles; and otters), and for habitats or features likely to support them if direct evidence is absent;
- Hedgerow assessments[11], aimed at identifying hedges that might be classified as 'important' based on the relevant ecological and structural criteria set out in *The Hedgerows Regulations 1997* (although note that formal surveys in this respect were not undertaken); and
- The identification of other constraints (e.g. invasive non-native plant species) or opportunities (e.g. opportunities for micro-siting or enhancement) that may be present at the Site.

It must be noted that any preliminary searches for evidence of protected or conservation-notable species undertaken during a Phase 1 habitat survey will not generally confirm that a species is absent, unless otherwise stated, and will not necessarily remove the need for additional species-specific surveys to determine the baseline of mitigation requirements. The location of key interest features (e.g. potential bat roosts, badger sett entrances, water vole burrows, or mature trees) were recorded using a GPS unit or GPS-enabled tablet computer.

Great crested newt surveys

The extended Phase 1 habitat survey identified potentially suitable waterbodies for great crested newts within 500m of the Site and proposed access route. These waterbodies were subject to a Habitat Suitability Index assessment to determine the level of suitability for them to be used by breeding for great crested newts

[9] JNCC (2010). Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit. Joint Nature Conservation Committee, Peterborough, Peterborough.

[10] IEA (1995). Institute of Environmental Assessment: Guidelines for Baseline Ecological Assessment. E & FN Spon, London.

[11] Based broadly on the methods set out in the *Hedgerow Survey Handbook*, DEFRA 2007.

Habitat Suitability Index

The Habitat Suitability Index (HSI) assessment methodology is described in guidance by Oldham et al (2000)[12] and is based on the correlation between habitat quality and GCN population size. It is a quantitative measure of habitat quality that produces a score between 0 and 1. This is derived from an assessment of ten habitat variables (indices) known to influence the presence of newts. An HSI of 1 is optimal habitat (high suitability for breeding GCN), while a HSI of 0 is unsuitable habitat, and scores relate to a scale of categories: excellent, good, average, below average and poor. The HSI is calculated on a single pond basis but takes into account surrounding terrestrial habitat and local pond densities. Natural England states that if a pond has a very low HSI score (<0.5, which equates to poor suitability or below), then there would typically be a minimal chance of GCN presence.

Waterbodies which achieved an HSI score equating to 'below average' suitability or above were therefore subject to further surveys to determine presence / likely absence of GCN using the environmental DNA (eDNA) water sampling survey method. The eDNA survey determines the presence or likely absence of GCN at a waterbody through laboratory analysis of water samples to identify GCN DNA and were undertaken in accordance with guidance by Natural England (Biggs *et al*. 2014[13]). Water samples were collected on 18th June 2021, during the survey period outlined in the guidance (mid-April and the end of June).

Constraints

The survey had the following principal constraints:

- The Bran Sands Jetty itself could not be accessed for survey due to being locked; the habitats in this area were assessed from the edge of the fence, but not directly surveyed; and
- Access to the interior of Site structures was not obtained.

These constraints are discussed further in the relevant results sections; however, it is considered that they do not affect the validity or robustness of the survey or its conclusions.

3.2 Results

Interpretation and terminology

PEAs are intended to assist the client with scheme design and delivery through the early identification of potential ecological constraints and additional survey or mitigation requirements. They may not provide a comprehensive ecological baseline for the Site, and additional investigations will often be required to establish the absence of some protected and / or conservation-notable species from the Site, or the value of the Site for certain biodiversity features. The results are set out in this context.

A glossary of technical terms and abbreviations is provided in **Appendix A**. Note that species are referred to by their common names only in the main body of the report, with the scientific names provided in **Appendix B**.

[12] Oldham RS, Keeble J, Swan MJS & Jeffcote M (2000). Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus). Herpetological Journal 10(4): 43-155.

[13] Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Griffiths, R.A., Foster, J., Wilkinson, J., Arnett, A., Williams, P. and Dunn, F. (2014). *Analytical and methodological development for improved surveillance of the Great Crested Newt*. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA. Freshwater Habitats Trust, Oxford.

This report does not provide a detailed 'evaluation' of the ecological features at the Site, although the standard EcIA geographical evaluation terminology (i.e., 'international', 'national', 'regional', and so on; see **Appendix A**) is applied where appropriate and meaningful as it is useful when discussing the relative intrinsic value of the various features and the need for additional surveys. Species or habitats with a high 'policy importance'[14] are also identified since this will also have a bearing on the additional investigations or assessment that may be required to support the scheme.

With regard to protected and conservation-notable animal species, habitats are initially defined as being either 'suitable' or 'unsuitable' to support a particular species, where direct evidence of a species is absent. The need for further survey work is then based on additional contextual information (e.g., desk-study records; accessibility of the Site; relative suitability of the habitats in a local context; etc.) moderated by professional experience of similar schemes and habitats.

Site habitats

The Site habitats are illustrated on **Figure 3.1** with descriptions of the target notes (TN) provided in **Appendix D**. The Site layout is broadly as follows:

- The operational area of the Site is dominated by hardstanding and bare ground with several operational structures and buildings;
- An open tank containing standing water is present on the Site, adjacent to the operational buildings;
- The operational area is bordered by coastal grassland with sections of dense scrub;
- The surrounding area is heavily industrialised with pipework running from the Site to the east; and
- Immediately adjacent to the northeast of the Site is the Bran Sands Lagoon which contains brackish water and is fed from the Tees estuary. The Jetty is situated within the Tees estuary to the west of the Site. Intertidal boulders and rocks have been placed as a sea defence along the estuary coastline and underneath the Jetty. The rocks immediately under the jetty are covered in wire mesh.

A summary of the Site habitats, and their relative importance, is provided in **Table 3.1**. The habitats most sensitive to negative effects as a result of the scheme proposals are:

- The coastal grassland immediately surrounding the buildings proposed for demolition;
- The Tees estuary which the jetty is located within; and
- The buildings proposed for demolition.

Table 3.1 Summary of Site habitats

Habitats	Summary	S.41 Habitat*
Scrub – dense/continuous	Dense scrub is present along the top of the bank of the Bran Sands Lagoon, surrounding the small metal substation and surrounding the raw water tank in the operational area of the Site. Scrub habitat is dominated by bramble with some willow scrub and hawthorn. This is a common habitat not intrinsically notable.	No

[14] i.e. covered by international or national legislation or policy, such as protected species.

Habitats	Summary	S.41 Habitat*
Parkland and scattered trees – broad-leaved	One immature willow tree is present along the northern fence of the operational buildings.	No
Coastal grassland	Coastal grassland is the dominant habitat outside of the operational areas of the Site. This habitat is present either side of the bare ground access track leading north of the Site, where the grassland is more rank and disturbed. This grassland extends to the east of the operational area of the Site and north of the pipe corridor. The dominant grass species present is red fescue with frequent false oat grass, regular kidney vetch and birds-foot trefoil which are often found in coastal grasslands. Additional species present include hop trefoil, wild carrot, mallow, sea plantain, common vetch, speedwell, bristly oxtongue, sheep's sorrel, toadflax, cut leaved cranesbill, creeping buttercup, creeping cinquefoil, Yorkshire fog, cock's-foot, hogweed, dandelion, ribwort plantain, bramble, common nettle, creeping thistle, red clover, common ragwort, sea beet and common cat's-ear.	No
Standing Water	The Bran Sands Lagoon is immediately adjacent to the north of the Site and connected to the Tees Estuary by a pipe. Therefore, this lagoon is likely to fluctuate tidally with saline/brackish water. The margins of this lagoon are steep and at the time of survey there were no mudflats were visible. No plant species were visible within the waterbody. One small concrete tank, the sludge return pump chamber, is present within the area of operational buildings. This tank holds standing water and is likely fed by rainwater, smooth newts were present in the tank at the time of survey.	Yes – Saline Lagoon
Watercourses	The Jetty is within the Tees Estuary tidal river. The estuary is bordered by industry on both banks with frequent shipping traffic. The structure of the estuary is heavily impacted by industry shown by the presence of sea wall and industrial jetty's along both the eastern and western banks.	Yes – River
Boulders/rocks - intertidal	This is the intertidal area of the Tees Estuary. No vegetation was recorded in this habitat. A large proportion of the rocks and boulders are man-made brickwork along the strandline. These may have been placed here as part of sea defences but have since been dispersed along the strandline via the tide. This habitat extends below the jetty where is it covered in wire mesh.	No
Rocks/boulders above high tide mark	Man-made boulders have been placed above high tide as a sea defence. This habitat has been secured in place with wire mesh below the jetty for ~100m along the shore, in this area there were no visible plant species. Where there is no mesh present the only plant species recorded was rarely occurring sea beet.	No
Ephemeral/short perennial	A patch of ephemeral/short perennial vegetation is present adjacent to the operational buildings and includes black medick, lesser trefoil, kidney vetch, greater plantain, bittersweet, yellow wort and pineapple weed. There are occasional instances of Yorkshire fog.	No
Fence	A metal chain link fence is present around the small substation building. Palisade security fencing is present around the operational buildings and at the access to the jetty. This habitat has negligible biodiversity value.	No
Wall	The palisade fencing around the operational buildings is installed on top of a short concrete wall surrounding the perimeter. This habitat has negligible biodiversity value.	No
Buildings	There are seven operational buildings on Site with little biodiversity value. These buildings consist industrial metal storage tanks and industrial brick-built buildings with external metal sheet cladding; their potential to be used by bats or nesting birds is considered in the following sections.	No

Habitats	Summary	S.41 Habitat*
Bare ground	A bare ground access track is present heading north out of the Site and there is bare ground heading southeast from the Site in between pipework. The access track has no vegetation present where vehicle use if frequent. Vegetation including scentless mayweed and ribwort plantain are present along the borders of the bare ground. These habitats have negligible biodiversity value.	No
Hardstanding	A large area of the Site comprises hardstanding around the operational buildings and along the access road where no vegetation is present that has negligible biodiversity value.	No
Other habitat	Above ground exposed pipework resting upon concrete plinths with stone ballast surround lead from the operational buildings parallel to the access track with negligible biodiversity value.	No

* Habitats meeting the UKBAP 'Priority Habitat' criteria (Maddock 2011); the UKBAP criteria are applied to the S.41 'habitats of principal importance for the conservation of biodiversity'.

Protected species

The following sections summarise the evidence of protected species found during the field survey, and the suitability of the Site and surrounding habitats for those protected species identified by the desk-study or which are most commonly encountered in this part of the UK. This identifies those protected species most likely to be exposed to environmental changes associated with the scheme but does not exclude the possibility of other protected species being subsequently encountered. Periodic reviews of the available data and any additional consultation responses will therefore be appropriate throughout scheme design.

Bats

Roosting

The extended Phase 1 habitat survey did not include detailed roost inspections, although the buildings on Site were assessed for their suitability for bats (with particular emphasis on those likely to be directly affected by the proposed development), and any roosting opportunities (e.g., cracks and crevices etc.) were identified. The potential roosting opportunities identified on Site are summarised in **Table 3.2**. Overall, the Site does not provide significant roosting resources due to the absence of mature trees or woodland and the industrial use, construction type and material of its buildings. The buildings present on Site primarily consist of metal storage tanks and metal framed/clad units which are generally unfavourable for use by roosting bats with only one brick-built building on Site.

It was not possible to inspect the buildings internally during the survey, however considering the nature of buildings B1 to B6, they are likely to have negligible suitability for roosting bats. Due to the minor suitable roosting features present on B7, consisting of small gaps where mortar is missing, and the high constant noise levels, this building is assessed as having low at best suitability to support roosting bats and negligible potential to support a maternity or hibernation roost.

Table 3.2 Assessment of the suitability of Site features for roosting bats

Reference	Summary	Constraint?
B1 - Substation	A single storey metal framed and metal clad building with no potential roosting features. This building has negligible suitability to support roosting bats.	No – not likely to be directly affected, and the building has negligible suitability to support roosting bats
B2 – Sludge storage tank	A cylindrical steel storage tank with associated pipework. This building has no potential roosting features and has negligible suitability to support roosting bats.	No – Although being demolished the building has negligible suitability to support roosting bats
B3 – Sludge storage tank	A cylindrical steel storage tank with associated pipework. This building has no potential roosting features and has negligible suitability to support roosting bats.	No – Although being demolished the building has negligible suitability to support roosting bats
B4 – Wash water tank	A cylindrical steel storage tank with associated pipework. This building has no potential roosting features and has negligible suitability to support roosting bats.	No – Although being demolished the building has negligible suitability to support roosting bats
B5 – Pump house	A single storey sheet metal building with a sloped corrugated roof. The lower foundations of the building are large breeze blocks with no potential roosting features. This building has negligible suitability to support roosting bats.	No – Although being demolished the building has negligible suitability to support roosting bats
B6 – Raw water tank	A cylindrical steel storage tank with associated pipework. This building has no potential roosting features and has negligible suitability to support roosting bats.	No – Although being demolished the building has negligible suitability to support roosting bats
B7 – No.2 tunnel head house	A large operational brick-built building with a flat roof. A large vent is present at the top of the building with potential internal access; however, this vent has a continuously running fan behind it making it an unsuitable access point for bats. There are instances of missing mortar in some of the brickwork which may provide limited opportunities for roosting bats. However, the building appears to be continuously operational and produce high noise levels therefore reducing its suitability for roosting bats. This building has a low suitability at best to support transitional roosting bats and negligible suitability to support a maternity or hibernation roost.	No – This building is not planned for demolition and is situated ~30m away from any proposed demolition works.

Commuting / Foraging

The grasslands throughout and surrounding the Site may be suitable for foraging bats, however the habitats on Site do not connect to areas with suitable roosting opportunities in the wider area due to the heavily industrialised nature of the area, therefore reducing the likelihood that bats will commute into the Site to forage. There are also no optimal linear features on Site, such as hedgerows, that would be commonly utilised by bats for commuting purposes.

Great Crested Newts

Aquatic Habitat Assessment

There are six waterbodies within 500m of the Site boundary and proposed access route which were accessible during the Phase 1 survey. One of these waterbodies is the Bran Sands Lagoon, due to the saline nature of this waterbody it was deemed unsuitable to support amphibians and so it has not been considered further for GCN. The sludge return pump chamber, Pond 1, was seen to contain smooth newts at the time of

the survey. Ponds 2 to 5 were accessed during an additional survey visit, Pond 2 appeared to be dry at the time of survey with dense common reed cover. The HSI scores for these waterbodies are shown in **Table 3.3.**

Table 3.3 HSI Results

Pond	Suitability Index (SI) Component Score										HSI Score	Suitability
	SI1	*SI2*	*SI3*	*SI4*	*SI5*	*SI6*	*SI7*	*SI8*	*SI9*	*SI10*		
Pond 1	1	0.05	1	0.67	1	1	1	0.1	0.67	0	0	Poor
Pond 2	1	0.8	0.1	0.33	1	0.67	1	0.65	0.33	0.8	0.56	Below Average
Pond 3	1	0.97	0.9	0.33	1	0.67	1	0.65	0.33	0.35	0.65	Average
Pond 4	1	0.97	0.9	0.33	1	0.67	1	0.65	0.33	0.35	0.65	Average
Pond 5	1	0.97	0.9	0.33	1	0.67	1	0.65	0.33	0.35	0.65	Average

Key to HSI component scores:
SI1 – Location in country; SI2 – Pond area; SI3 – Frequency of pond drying; SI4 – Water quality; SI5 – Shade; SI6 – Presence of waterfowl; SI7 – Presence of fish; SI8 – Proximity of other ponds; SI9 – Terrestrial habitat; SI10 – Macrophyte cover.

Terrestrial Habitat Assessment

GCNs spend most of their time in terrestrial habitats, either foraging or hibernating. They return to ponds / other waterbodies to breed in the spring (broadly from around mid-March to mid-June, although this is strongly dependent on weather conditions). They will cross most habitats when migrating (including amenity grassland, hardstanding, and roads) but tend to spend most of their time foraging in structurally 'complex' habitats, such as rough grassland, scrub, woodland, and hedgerows. They will hibernate or seek refuge in a range of places, including mammal burrows or rubble and vegetation piles, but will generally make use of any small voids or crevices that provide protection. This can include under concrete slabs, within fissures in hardstanding, or alongside structures such as fenceposts. As a result, rubble piles and other construction materials are often attractive to this species.

Most of the habitats on Site are unfavourable for great crested newts, although terrestrial habitats that are frequently favoured by this species are present (rough grassland and scrub). In addition, there are wood piles (TN1), piles of concrete beams (TN4) and waste materials including metal piping throughout the Site and within the grassland which may provide suitable refugia and hibernacula for GCN.

As described in the previous section, ponds 2, 3, 4 and 5 are located >500m from the main Site but are located within ~100m of the proposed Site access route which is along an existing track. There is good habitat connectivity between these ponds and the proposed access route through scrub and grassland. The access road does not provide suitable habitat for foraging or refuging GCN but has potential to be used to commute between areas of suitable habitat.

Presence / Likely Absence Surveys (eDNA)

Ponds 1, 3, 4 and 5 were subject to GCN presence / likely absence surveys using the eDNA water sampling method described in **Section 3.1**. Despite achieving an HSI score equating to 'poor' suitability, Pond 1 was included in the presence / likely absence survey after it was observed to contain smooth newts during the extended Phase 1 habitat survey. An eDNA survey was not completed on Pond 2 due to it being dry at the time of survey.

All waterbodies were eDNA negative. GCN are therefore considered likely to be absent from these waterbodies and associated terrestrial habitats in the vicinity of the Site, and GCN are thus not considered further within this report.

Breeding Birds (All Species)

Suitable habitat for nesting by a range of passerine and ground-nesting birds exists within the Site, such as dense scrub and coastal grassland.

The intertidal areas of the Bran Sands Lagoon and the Tees Estuary may provide suitable habitat for foraging and roosting to a wide range of bird species associated with the Teesmouth and Cleveland Coast SPA and Ramsar.

Badgers

No evidence of badger activity (such as footprints, latrines, or badger hairs) was identified within the Site, and no badger setts were recorded. Suitable foraging habitat for this species are present on the Site consisting of tall grassland and dense scrub.

Reptiles

No reptiles were recorded during the survey. However, favourable habitat for reptiles exists within the Site, including grassland with dense scrub, wood piles, rubble piles and waste piles may provide suitable habitat for foraging and refuging reptiles whereas the bare ground and hardstanding may provide suitable basking opportunities.

Otter

No evidence of otter was recorded during the survey, however, signs of otter using the Bran Sands Lagoon including spraint have previously been recorded in October 2013.

The lagoon and the Tees Estuary offer suitable foraging habitat. The intertidal area underneath the jetty has been meshed with wire preventing internal access for otter and limiting opportunity for rest sites in this area, however, outside of the meshed area there are rocks and boulders above high tide that create cavities and may provide opportunities for rest sites. In addition to this, tall grass and scrub may also provide suitable rest sites for otter within the Site. The Site is also well connected to other suitable habitats for foraging otter throughout the river and estuary habitats. The banks of the Lagoon are well sealed, and no obvious cavities were recorded that may provide access for otter. However, tall grass, scrub, and small patches of shingle on the lagoon banks may provide suitable rest sites for otter.

Marine Mammals

No evidence of marine mammals or marine mammals themselves, including common and grey seal, were recorded at the time or survey.

Due to the physical barrier of the steep banks and boulders and grassland between the estuary and Bran Sands Lagoon, the likelihood of marine mammals utilising the lagoon for foraging or hauling out onto the Site is greatly reduced. However, the Tees Estuary is known to support large populations of these species with Seal Sands, ~1.5km west of the Site, being an area of particular importance. Therefore, it is possible that common and grey seals may use the area of river under the jetty for foraging and may haul out onto the rocks and boulders in the intertidal area.

Other conservation-notable species

This section summarises any evidence of other conservation-notable species found during the field survey (**Table 3.4**) and provides an assessment of the Site's suitability for those conservation-notable species recorded by the desk-study (see **Table 3.5**), or which are most commonly encountered on sites such as this if direct evidence was not found. The likely importance of the Site to the conservation-notable species identified by the desk study is summarised in **Table 3.5**; note, this takes into account the relative importance of the Site habitats in comparison to the local and regional habitats; for many species, therefore, the Site habitats may be ostensibly suitable or periodically used but will not provide a unique or otherwise notable resource in the local area.

Table 3.4 Evidence of non-protected conservation-notable species

Species	Summary of evidence
Brown Hare	Seven brown hare records were identified by the desk study within 2km of the Site and one brown hare was recorded on Site during the survey (TN2). The Site's habitats including coastal grassland are suitable for this species, however, large areas of this habitat type are available to the west of Bran Sands Lagoon therefore the Site is unlikely to provide a unique or otherwise notable habitat resource for this species locally.

Table 3.5 Suitability of the Site for non-protected conservation-notable species identified by the desk study

Species	Summary
Hedgehog	Hedgehogs are commonly found in a mosaic of habitats such as hedgerows, woodlands and grassland. The Site's suitability for this species is therefore relatively low due to the absence of features such as hedgerow and woodland.
Cinnabar	Widespread moth species typically associated with open grassy habitats including waste ground on well drained grassland, mature sand-dunes and heathland. Larvae feeds on species such as common ragwort. Therefore, this Site has suitability for this species.
Dingy skipper	This butterfly species is typically associated with open, sunny habitats such as coastal habitats and waste ground. Larvae of this species feed on species present on this Site such as bird's-foot trefoil. Therefore, this Site has suitability for this species.
Grayling	Widespread on the coast of Britain, this butterfly species is typically associated with coastal habitats and derelict industrial sites where there are sheltered sunny spots and regular patches of bare ground. Larvae of this species feed on grass species present on this Site including red fescue. Therefore, this Site has suitability for this species.
Shaded broad-bar	Widespread moth species in a wide range of habitats including open grassy places such as calcareous grassland and sand dunes. Larvae of this species feed on plant species present on the Site including clover and vetch. Therefore, this Site has suitability for this species.
Small heath	This butterfly species is typically associated with well drained soils is short swards such as heathland and coastal dunes. The larvae of this species feed on grass species present on this Site such as fescues. Therefore, this Site is suitable for this species.
Wall brown	This butterfly species is typically associated with short, open grassland and other coastal habitats as well as derelict land. The larvae of this species feed on grass species present on this Site including cock's-foot and Yorkshire fog. Therefore. This Site has suitability for this species.

In summary, whilst the Site's habitats may be periodically used by conservation-notable species they do not provide a unique or otherwise notable resource in the local area, and additional surveys are unlikely to be required to reliably assess the effect of the proposed development on these species.

Invasive non-native species

No invasive non-native species (INNS) were identified during the extended Phase 1 survey.

455000

TN1
TN2
TN3
TN4
TN5

Key

- Survey area
- Target note

Phase 1 habitats

- A3.1: Parkland and scattered trees- broad-leaved
- J2.4: Fence
- J2.5: Wall
- A2.1: Scrub- Dense/Continous
- B3.2: Calcareous grassland - semi-improved
- G1.6: Standing water - brackish
- G1: Standing water
- H1.3: Boulders/rocks
- H4: Rocks/boulders above high-tide mark
- Hardstanding
- J1.3: Ephemeral/short perennial
- J3.6: Buildings
- J4: Bare ground
- J5: Other habitat
- Running Water

0 20 40 60 m

Scale at A3: 1:1,000

Bran Sands Jetty Demolition

Figure 3.1
Extended Phase 1 Habitat Survey Plan

September 2021

wood.

4. Summary and Recommendations

This section summarises the results of the desk study and field survey and identifies additional surveys that may be necessary to determine appropriate mitigation measures, based on the current proposals. It also identifies opportunities for 'avoidance measures' that may reduce survey or mitigation requirements if implemented as part of the proposed development.

4.1 Summary of Key Features

Table 4.1 summarises the desk-study and field survey results, focusing on those biodiversity features that are likely to be particularly relevant to scheme delivery (i.e., features that are particularly important[15] to nature conservation, or those where additional information is likely to be required to robustly determine the significance of any effects and/or the mitigation that may be required to support scheme delivery).

Table 4.1 Summary of potentially vulnerable biodiversity features

Biodiversity feature	Results summary and potential effect pathways
Teesmouth and Cleveland SPA and Ramsar	The Site is within the SPA and immediately adjoins the Ramsar site. The Site is hydrologically linked to the development Site and the interest features (waterfowl) are likely to make use of the habitats within and adjoining the development Site.
Teesmouth and Cleveland Coast SSSI	This SSSI is within the Site boundary. The Site is hydrologically linked to the development Site and the interest features (waterfowl and harbour seals) are likely to make use of the habitats within the development Site boundary including the Bran Sands lagoon and within the estuary surrounding the jetty.
Eston Pumping Station LWS	This LWS is located approximately 1.8km from the Site boundary. However, a proposed access route for light vehicles passes through the LWS using an existing access track. This may include minor works to the existing hard standing. Pond 2 is within this LWS, this pond was dry at the time of survey.
Reptiles	The combination of grassland, dense scrub, hard standing and bare ground and piles of potential refugia provide suitable foraging and refuging habitat for reptiles. These features have the potential to be impacted by the demolition including any vegetation removal and the removal of waste piles within the operational area.
Otter	Otter are known to be present within the area surrounding the Site including the Dabholme Beck and the Bran Sands Lagoon. Therefore, otter may commute through the Site between these two areas throughout the proposed work period.
Bran Sands Lagoon	The Bran Sands lagoon is a saline lagoon and therefore qualifies as S.41 habitat of principal importance. The lagoon is in close proximity to the demolition works, approximately 15m northeast of the Site. Therefore, there is potential for this priority habitat to be impacted by pollution events throughout the demolition.

[15] Importance relates to the quality and extent of designated sites and habitats, habitat/species rarity and its rate of decline. Ecological features that are not considered to be important are those that are sufficiently widespread, unthreatened, and resilient and with populations that will remain viable and sustainable irrespective of the proposed development. The importance of is typically characterised using a geographic scale and described in relation to UK legislation and policy, and with regard to the extent of habitat or size of population that may be affected by the proposed development.

Biodiversity feature	Results summary and potential effect pathways
Tees Estuary River	The Tees Estuary is a river and qualifies as a S.41 habitat of principal importance. The Bran Sands Jetty is situated within the estuary and therefore has the potential to be impacted by pollution events during its demolition and sedimental disruption.

The other biodiversity features identified in the desk-study and survey are not considered to be particularly vulnerable (i.e., exposed and sensitive) to the proposed development, or are not of sufficient nature-conservation importance, to require additional investigations or assessment. Specific mitigation measures (beyond the standard construction best-practice measures outlined in Appendix E) are unlikely to be required to safeguard these features, although **this must be reviewed as the scheme proposals are developed**.

4.2 Recommendations

Additional ecological inputs (e.g., surveys, consultations, or mitigation design; see below) will be required to facilitate delivery of the scheme and ensure that any biodiversity features are appropriately safeguarded. These inputs will also demonstrate that NWG has employed a suitably robust and precautionary approach to the assessment and mitigation of the scheme's effects on biodiversity features, which may be important should protected species be unexpectedly encountered during construction.

Design-Stage Avoidance Measures

'Avoidance measures' are actions that the developer can take to prevent effects on biodiversity features occurring as a result of a scheme; these might be measures incorporated into the scheme during the design process (e.g. avoiding certain features through the scheme layout), or other development commitments that remove the risk of particular effects (for example, clearing vegetation in the winter to avoid the possibility of effects on nesting birds). Avoidance measures may reduce some survey or mitigation requirements if incorporated into the scheme proposals during the design and planning stages.

The following avoidance measures may reduce the survey or mitigation requirements if incorporated into the scheme proposals during the design and planning stages.

- Avoid any upgrade works to the proposed access route or alter the proposed access route to avoid the Eston Pumping Station LWS (ensures the LWS is unlikely to present a constraint);
- Site compound and lay down areas should minimise the footprint within the grassland areas wherever possible to limit the impact on the grassland habitat and the species which it supports/potentially supports (ensures invertebrates discussed in **Table 3.7** are unlikely to present a constraint); and
- All vegetation clearance should be completed between September and February inclusive (ensures nesting birds are unlikely to present a constraint).

Additional Surveys and Investigations

The precise survey requirements will depend on the avoidance measures that can be implemented and the scheme proposals. The following additional surveys are likely to be appropriate to establish the status (presence / absence / population size class) of certain species and/or determine the mitigation requirements, based on the current scheme proposals (assuming that the avoidance measures noted above cannot be employed):

- A walkover survey or meeting with a project engineer to determine the precise construction requirements, including working areas, compounds and works to the existing access road;

- Due to the potential for the proposed development to affect the Teesmouth and Cleveland Coast SPA and Ramsar and associated bird interest features of these sites, bird surveys are required to determine the usage of the proposed development Site by such species to inform assessment of potential effects on the SPA/Ramsar (see below). These surveys are on-going during 2021;

Consultations / Permissions

Based on the available scheme information, and the available ecological data, the following biodiversity-related consents or permissions are likely to be required:

- Habitats Regulations Assessment: due to the proximity of the Site being located within Teesmouth and Cleveland Coast SPA and immediately adjoining the Ramsar site, which are designated for year-round bird interest including breeding common tern and little tern, breeding avocet, non-breeding waterbird assemblage and individual non-breeding populations of sandwich tern, knot, ruff, and redshank. There is the potential for qualifying bird species to use the adjacent lagoon and other intertidal areas within 500m of the proposed works (the potential impact zone) for foraging and roosting, and therefore be disturbed by the works or displaced once the jetty has been demolished. It is therefore considered that a Habitats Regulations Assessment (HRA) would be required to determine any 'likely significant effects' of the proposed development on the interest features of the SPA/Ramsar. This would mean that an Appropriate Assessment would be required to be undertaken by the competent authority (the MMO) and the implications of this could include having to undertake the works at an agreed time of year. It is recommended that a Report to Inform Appropriate Assessment (RIAA) is prepared to enable the competent authority to undertake the Appropriate Assessment. The RIAA should primarily focus on the potential effects of the works on qualifying bird features of the SPA / Ramsar site but should also consider effects on the habitats the bird species depend upon;
- SSSI Assent: The jetty is located within the Teesmouth and Cleveland Coast SSSI which is designated for a similar assemblage of bird species as the SPA as well as common seal and intertidal habitats. Therefore, the removal of the Jetty is likely to require SSSI assent from Natural England (NE);
- It is recommended that consultation is undertaken with Natural England with regards to the potential effects of the proposed development on the SSSI/SPA/Ramsar. Natural England are the statutory consultee that the MMO would defer to on such matters as HRA; and
- Consultation with the Local Planning Authority: Part of the proposed access route passes through the Eston Pumping Station LWS. Consultation with the LPA is likely required to inform them of the intention to carry out works within an LWS.

Potential Mitigation Requirements

The precise mitigation requirements will be determined once the additional surveys are complete, and the scheme design and construction proposals are finalised. **Appendix D** outlines those standard best-practice measures that should be applied throughout the construction period; these will appropriately safeguard many biodiversity features without the need for specific ecological supervision or intervention. It is recommended that these standard best-practice measures, along with detailed feature-specific measures (see below) are incorporated into an Ecological Method Statement that would be adhered to throughout the course of the proposed works, and that all site personnel would be briefed on the EMS via a toolbox talk. The works would be overseen and guided by a suitably qualified and experienced ecologist where outlined in the EMS.

Based on the proposals as currently understood, the following feature-specific measures are likely to be required to manage the residual risk of biodiversity features being affected by the proposed development:

- **Reptiles**:
  - The wood and concrete piles and waste material stored within dense scrub around the operational buildings should be removed under ecological supervision between April and October; and
  - Upon confirmation of the requirement for vegetation removal on the Site, a pre-works check by an Ecological Clerk of Works (ECoW) should be undertaken prior to 'Directional strimming' of the grassland (working from the centre of the field to the margins) to ensure any reptiles present are safely displaced to adjacent habitats.
- **Birds**: specific mitigation measures relating to birds are likely to be required, and these should be determined following the results of the on-going bird surveys and during the course of the HRA process (see above).
- **Otter**: A pre-works check of suitable habitats for otter rest sites, including rocks and boulders above the tide line and tall grass and scrub, should be undertaken prior to the proposed works commencing.
- **S.41 Habitats**: S.41 habitats of principal importance including the Bran Sands saline lagoon and the Tees Estuary River will require pollution prevention and sediment control measures to be implemented. These measures should be detailed in a Construction Environment Management Pan (CEMP).

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Appendix A
Glossary

Table A.1 Glossary of technical terms

Term	Definition
Conservation-notable species/habitats	Those species and habitats which are not specifically legally protected, but which are important for conservation, for example being either nationally rare or scarce, or uncommon, or receiving policy protection at a national or local level (such as being a considered in planning policy, or local biodiversity action plans).
Development Consent Order	The form of development consent granted by the Secretary of State for a Nationally Significant Infrastructure Project.
Protected species	Species which receive legal protection in England, notably those species which are legally protected under the *Wildlife and Countryside Act 1981* (as amended); the *Conservation of Habitats and Species Regulations 2017* (as amended); the EC Directive on the Conservation of Wild Birds (79/409/EEC) 2009; and the *Protection of Badgers Act 1992*.
Ramsar site	Ramsar sites are wetlands of international importance designated under the Ramsar Convention.
Species or habitats of "principal importance for the conservation of biodiversity"	Species or habitats of "principal importance for the conservation of biodiversity" are those listed by Natural England pursuant to Section 41 of the Natural Environment and Rural Communities Act 2006 (as amended). They are commonly referred to (respectively) as 'Section 41' habitats or species.

Table A.2 Abbreviations

Term	Definition
AWI	Ancient Woodland Index
BAP	Biodiversity Action Plan
cSAC	candidate SAC
DCO	Development Consent Order
eDNA	Environmental DNA
ERIC NE	Environmental Records Information Centre North East
GCN	Great Crested Newt
HR	Conservation of Habitats and Species Regulations 2017 (as amended); commonly referred to as the 'Habitat Regulations'
HSI	Habitat Suitability Index
INCA	Industry Nature Conservation Association
INNS	Invasive Non-Native Species
JNCC	Joint Nature Conservation Committee

Term	Definition
LNR	Local Nature Reserve
LWS	Local Wildlife Site
MAGIC	Multi Agency Geographic Information Centre
NE	Natural England
NNR	National Nature Reserve
NWG	Northumbrian Water Group
PEA	Preliminary Ecological Appraisal
pSAC	Possible Special Area Conservation
pSPA	Possible Special Protection Area
RDB	Red Data Book
RL	Red List Bird Species
SAC	Special Area of Conservation
SCI	Site of Community Importance
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
TN	Target Note
WCA	Wildlife and Countryside Act 1981 (as amended)

Appendix B
Species Scientific Names

The scientific names of species referred to in the report are provided in Table B.1; note, this is not a comprehensive list of the species present at the Site.

Table B.1 Species scientific names

Common name	Scientific name
AMPHIBIANS	
Great crested newt	Triturus cristatus
BIRDS	
Arctic skua	Stercorarius parasiticus
Barn owl	Tyto alba
Bittern	Botaurus stellaris
Black tern	Chlidonias niger
Black-necked grebe	Podiceps nigricollis
Black-tailed godwit	Limosa limosa
Black-throated diver	Gavia arctica
Common greenshank	Tringa nebularia
Common redshank	Tringa tetanus
Common scoter	Melanitta nigra
Common tern	Sterna hirundo
Curlew	Numenius arquata
European greater white-fronted goose	Anser albifrons
Fieldfare	Turdus pilaris
Gadwall	Anas strepera
Garganey	Anas querquedula
Goldeneye	Bucephala clangula
Great northern diver	Gavia immer
Green sandpiper	Tringa ochropus
Grey wagtail	Motacilla cinerea
Greylag goose	Anser anser

Common name	Scientific name
Hen harrier	Circus cyaneus
Herring gull	Larus argentatus
Kingfisher	Alcedo atthis
Kittiwake	Rissa tridactyla
Knot	Calidris canutus
Lapland bunting	Calcarius lapponicus
Lapwing	Vanellus vanellus
Lesser redpoll	Carduelis cabaret
Linnet	Carduelis cannabina
Little gull	Hydrocoloeus minutus
Little ringed plover	Charadrius dubius
Little tern	Sternula albifrons
Long-tailed duck	Clangula hyemalis
Marsh harrier	Circus aeruginnosus
Mediterranean gull	Larus melanocephalus
Merlin	Falco columbarius
Mistle thrush	Turdus viscivorus
Nightingale	Luscinia megarhynchos
Northern shoveler	Anas clypeata
Peregrine	Falco peregrinus
Pied avocet	Recurvirostra avosetta
Pintail	Anas acuta
Pochard	Aythya farina
Purple sandpiper	Calidris maritima
Red knot	Calidris canutus
Red-necked grebe	Podiceps grisegena
Red-throated diver	Gavia stellata
Redwing	Turdus iliacus
Ring ouzel	Turdus torquatus
Ringed plover	Charadrius hiaticula

Common name	Scientific name
Roseate tern	Sterna dougallii
Ruff	Philomachus pugnax
Sanderling	Calidris alba
Sandwich tern	Sterna sandvvicensis
Scaup	Aythya marila
Shag	Phalacrocorax aristotelis
Shelduck	Tadorna tadorna
Shore lark	Eremophila alpestris
Short-eared owl	Asio lammeus
Skylark	Alauda arvensis
Slavonian grebe	Podiceps auritus
Snow bunting	Plectrophenax nivalis
Spoonbill	Platalea leucorodia
Tree sparrow	Passer montanus
Twite	Carduelis flavirostris
Velvet scoter	Melanitta fusca
Whimbrel	Numenius phaeopus
White-fronted goose	Anser albifrons
Whooper swan	Cygnus cygnus
Wood sandpiper	Tringa glareola
Woodcock	Scolopax rusticola
Yellow wagtail	Motacilla flava
MAMMALS	
Badger	Meles meles
Brown hare	Lepus europaeus
Common seal	Phoca vitulina
European Otter	Lutra lutra
Grey seal	Halichoerus grypus
Harbour seal	Phoca vitulina
Hedgehog	Erinaceus europaeus

Common name	Scientific name
Water vole	Arvicola amphibius
INVERTEBRATES	
Bladderwort flea-beetle	Utricularia minor
Cinnabar	Tyria jacobaeae
Dark northern stiletto fly	Thereva valida
Dingy skipper	Erynnis tages
Grayling	Hipparchia semele
Shaded broad-bar	Scotopteryx chenopodiata
Small heath	Coenonympha pamphilus
Wall brown	Lasiommata megera
PLANTS	
Birds-foot trefoil	Lotus corniculatus
Bittersweet	Solanum dulcamara
Black medick	Medicago lupulina
Bramble	Rubus fruticosus agg.
Bristly oxtongue	Helminthotheca echiodes
Cock's-foot	Dactylis glomerata
Common cat's-ear	Hypochaeris radicata
Common nettle	Urtica dioica
Common ragwort	Jacobaea vulgaris
Common vetch	Vicia sativa
Creeping buttercup	Ranunculus repens
Creeping cinquefoil	Potentilla reptans
Creeping thistle	Cirsium arvense
Cut leaved cranesbil	Geranium dissectum
Dandelion	Taraxacum spp.
False oat grass	Arrhenatherum elatius
Greater plantain	Plantago major
Hawthorn	Crataegus monogyna
Hogweed	Meracleum sphondylium

Common name	Scientific name
Hop trefoil	Trifolium campestre
Kidney vetch	Anthyllis vulneraria
Lesser trefoil	Trifolium dubium
Mallow	Malva neglecta
Pineapple weed	Tripleurospermum inodorum
Pond water crowfoot	Ranunculus peltatus
Red clover	Trifolium pratense
Red fescue	Festuca rubra
Ribwort plantain	Plantago lanceolata
Rush-leaved fescue	Festuca arenaria
Scentless mayweed	Tripleurospermum inodorum
Sea beet	Beta vulgaris
Sea plantain	Plantago maritima
Sheep's sorrel	Rumex acetosella
Speedwell	Veronica chamaedrys
Stiff saltmarsh grass	Puccinellia rupestris
Toadflax	Linaria vulgaris
Wild carrot	Daucus carota
Willow	Salix spp.
Yellow wort	Blackstonia perfoliate

Appendix C
Target Notes

Table C.1 Target notes

Reference	Notes
TN1	Log piles within the grassland providing suitable refugia for reptiles and amphibians.
TN2	A patch of dense scrub where a brown hare was seen on Site. Scrub is suitable for refuging reptiles and amphibians.
TN3	Waste materials including metals pipes and pieces of machinery may provide refuge to reptiles and amphibians.
TN4	Piles of concrete beams providing potential refuge for amphibians and reptiles.
TN5	The intertidal area underneath the jetty and rocks/boulders above high tide are netted off and therefore making it unsuitable for otter holt creation as access is greatly limited.

Appendix D
Standard Avoidance and Mitigation Measures

General Measures

- In advance of works commencing an ECoW will provide a toolbox talk to all site personnel and the Designated Person(s) to brief them on the mitigation requirements;
- Site personnel must be fully aware of the Site boundary, ensuring that all works are contained within the development footprint, unless otherwise agreed with the Project Ecologist. Works should be restricted to the minimum possible footprint so as to avoid unnecessary disturbance of species/habitats;
- No works should take place after sunset and no artificial lighting should be used as this poses a risk of disturbing species such as bats which use unlit corridors for moving through the landscape. No external security lighting should be left on in-situ overnight. If the use of lighting is unavoidable, this must be agreed in advance with the Project Ecologist;
- All site personnel should be vigilant for evidence of protected species. If any protected species are observed within the development Site boundary or the surrounding habitats, the works should cease immediately, and the Project Ecologist be contacted who would provide advice on how best to progress with the works. Although these measures are necessary specifically in relation to protected species, site personnel should treat any animals with similar due care and attention;
- All site personnel should be aware that protected species may be found sheltering amongst refugia such as rubble, wood, chippings, site materials or rubbish and as a result;
    - All machinery, materials and chemicals should be stored safely and securely as advised by the Project Ecologist/ECoW, to prevent foraging and commuting animals coming in to contact with these, and to prevent spillage of chemicals. They should be stored on hard standing surfaces where possible. If not possible, materials should be raised off the ground;
    - Any rubble, wood, chippings or rubbish should be isolated from the adjoining habitats suitable for reptiles and GCN, as advised by the Project Ecologist/ECoW, to reduce the likelihood of reptiles and GCN using them as refugia; and
    - Fuel should be stored in appropriate capacity bunded tanks/bowsers, and drip trays used beneath equipment such as generators.
- Works should remain as far from all watercourses and waterbodies as is possible, with no works occurring within watercourses unless agreed in advance with the Project Ecologist;
- Chemicals in the form of herbicides, pesticides and fertilisers should not be used without approval from the Project Ecologist;
- Chemicals should be used in strict accordance with manufacturers' instructions, and appropriate spill kits should be provided and site personnel appropriately trained to use these;
- Appropriate best-practice pollution prevention and run-off control measures should be employed; the following guidance documents detail current industry best-practice for managing site-derived pollutants, which should be followed for all construction works unless additional measures and/or more appropriate approaches are identified by the contractors;

- Guidance should be taken from the Department for Environment, Food and Rural Affairs and the Environment Agency on emerging Guidance for Pollution Prevention[16] particularly advice on 'storing materials, products and waste' and 'construction, inspection and maintenance'. This guidance can be accessed at https://www.gov.uk/guidance/pollution-prevention-for-businesses;
- Venables R. *et al*. (2000) *Environmental Handbook for Building and Civil Engineering Projects*. 2nd Edition. Construction Industry Research and Information Association (CIRIA), London;
- Masters-Williams H et al. (2001) Control of Water Pollution from Construction Sites; Guidance for Consultants and Contractors. CIRIA Technical Guidance C532. CIRIA, London; and
- Kukadia V, Upton S & Hall D (2003) *Control of dust from construction and demolition activities*. Building Research Establishment / Dept. of Trade and Industry guidance. BRE, Watford.

- Any obvious mammal trails through the Site should remain clear of obstruction;
- Any excavations should be backfilled by the end of each working day. If this is not possible, then a means of escape for any animals that may become entrapped should be placed in the open trenches (i.e. one side of the excavation at a 1 in 2 or shallower angle or with a ramp left in place) or the trenches should be covered at the end of the day; and
- Prior to any sections of the Site being cleared/or excavated or any works that will cause disturbance to the ground, the area should be visually searched, or hand checked for GCN, reptiles and any other protected species by the ECoW or NWL Designated Person if more sensitive habitats are to be impacted. This should also be undertaken immediately prior to each "shift" of work on an area (e.g., after a lunch break and at the start of each day).

Site Clearance

- Removal of hedgerows, trees and scrub should be avoided. If this is not possible, this must be discussed in advance with the Project Ecologist as additional surveys, assessment and control measures may be required;
- All Site clearance (e.g. vegetation, rubble, logs etc.) should be carried out under suitable weather conditions as defined by the Project Ecologist/ECoW (i.e. 5 consecutive days where overnight temperatures are above 5°C) unless otherwise agreed;
- Prior to any clearance of the Site, an ECoW would undertake a walkover with site personnel to identify any additional ecological constraints which may be present, and to micro-site locations of access and working areas where appropriate to avoid ecological habitats/features of interest. The ECoW would also identify any areas of habitat that would require direct supervision by the ECoW (or where agreed the Designated Person) during clearance work;
- The Site must be clearly de-lineated from the adjacent habitats and the contractors must be fully aware of the Site boundary, ensuring that all clearance works are contained within the development footprint. Under no circumstances should the surrounding habitats be disturbed or impacted by the clearance works. All vehicles/machines must be stored within the agreed work area;

[16] https://www.gov.uk/guidance/pollution-prevention-for-businesses

- Immediately prior to clearance of the Site, hand searching (as required) of suitable habitats would be undertaken by the ECoW (or where agreed the Designated Person), with particular attention paid to habitat features which are suitable refuges for animals such as reptiles and GCN;
- Any coarse vegetation (e.g., hedgerow/scrub, tussocky grassland, tall ruderal vegetation) that requires removal within the Site should first be cut to a short sward/stump (~30cm in height), this initial cut may be conducted without supervision if agreed with the ECoW. After the first cut, hand searching (as required) of the remaining vegetation should again be undertaken by the ECoW (or where agreed the Designated Person) before they advise that it can be cut to ground level;
- Clearance of any habitat which is potentially suitable for hibernating reptiles/GCN (as identified by the Project Ecologist/ECoW, but generally features such as root bases, log or stone piles) should be avoided during the winter hibernation period (usually October to March, depending on temperatures), with the features being retained/protected until after the hibernation period when reptiles/GCN are likely to be active. Where the Project Ecologist/ECoW assesses that there is negligible risk of hibernating reptiles/GCN being encountered, they may advise that such features can be removed under supervision during the hibernation period;
- Where feasible, vegetation will be strimmed in a direction to encourage reptiles and other animals to move out of the working area into suitable adjacent habitat;
- All cut vegetation should then immediately (before sunset on the same day) be cleared out of the working area (for example, blown or raked) and disposed of at a location agreed by the Project Ecologist/ECoW or chipped into a skip/truck to be disposed off-site, noting the following;
    - Chippers and other machinery and equipment should be stored on hardstanding where possible;
    - If chippers, or any other vehicles are required to go on semi-natural habitats, these should be kept to readily defined routes as agreed with the Project Ecologist/ECoW. The routes should contain no potential animal hibernacula or present a risk to any other ecological features; and
    - Vehicle movement within semi-natural habitats should be restricted to the minimum possible footprint so as to avoid unnecessary disturbance of species/habitats. Vehicles should use already present routes wherever possible rather than creating new routes.
- Any branches/rubble/boulders etc. should be lifted (not dragged) off-site immediately. Any branches must be lowered gently and not allowed to crash to the ground;
- It is the client/contractor's responsibility to provide tools and equipment for the removal of all arisings/branches/rubble/boulders etc. and to carry out the removal;
- The ECoW will carry out a final walkover to confirm the works can proceed; and
- Vegetation within all cleared areas must be maintained at ground level height during the works or until the roots etc. can be removed, to help maintain the habitat in a condition which is unfavourable for protected and notable species and thus dissuade them from cleared areas.

Appendix C
Marine Environmental Appraisal Scoping

Marine Environmental Appraisal Scoping

Introduction

This Appendix summarises the potential environmental effects associated with the Proposed Development which are scoped for detailed consideration in the Environmental Appraisal. The potential for likely significant effects has been identified in relation to the following environmental factors:

- **Marine Biodiversity** - Underwater noise (particularly in relation to behavioural responses) in relation to migratory fish and potentially sediment bound contaminant related effects on marine ecological receptors.

No likely significant effects are anticipated, or considered further, for any other marine environmental factors or marine receptor groups.

A formal EIA Screening Opinion is sought from the MMO, via the submission of the Screening Report that this is appended to, to determine whether the Proposed Development constitutes an EIA Development.

If the MMO agrees this does not require an EIA, it is anticipated that the Environmental Appraisal will comprise of robust, targeted assessments to the scope outlined below. It is noted following discussion with the MMO that this will also include Habitat Regulations (HRA), Marine Conservation Zone (MCZ), Marine Plan, Waste and Water Framework Directive (WFD) Assessments to support the Marine Licence application.

Wood is engaging with Natural England (NE) via the Discretionary Advice Service (DAS) in relation to the HRA and note the importance of consultation with NE in relation to the potential for cumulative effects, as highlighted by the MMO. In addition to which the Applicant will directly engage with the Tees and Hartlepool Harbour Authority in relation to a requirement for a Harbour Works Permits and with The Crown Estate (TCE) in relation to landowner consents. There will also be a requirement for SSSI Consent and a Flood Risk Activity Permit.

Intertidal and subtidal ecology

Release of sediment and/or mattress bound contaminants

Should any contaminants be released as a result of the removal of the piles, these are anticipated to be from the upper sediment layers within the Site. It is considered reasonable that any contaminants potentially mobilised will be the same as those already present in the Tees Estuary, therefore these potential impacts are **highly unlikely to cause any significant effect**. However, due to the nature of the contaminants known and likely to be present this conclusion will be discussed with the MMO to ensure no further appraisal or mitigation is required.

Fish and Shellfish

Underwater noise

There is potential for likely significant effects from underwater noise on migratory species (e.g., salmon and trout), particularly in relation to behavioural responses, if appropriate mitigation measures (e.g. no piling 3 hours after low water, >8 hour continuous break in piling per 24 hour period) are not identified and agreed with the MMO and their advisors. It is therefore proposed that further targeted appraisal of these potential effects is undertaken within an Environmental Appraisal to support the Marine Licence application.

Potential Environmental Effects

The following potential environmental effects associated with the Proposed Development are proposed for detailed consideration in the Environmental Appraisal.

- **Marine Biodiversity** - Underwater noise (particularly in relation to behavioural responses) in relation to migratory fish and potentially sediment bound contaminant related effects on marine ecological receptors.

wood.