



# Immingham Green Energy Terminal

TR030008

Volume 6

6.2 Environmental Statement

Chapter 8: Nature Conservation (Terrestrial Ecology)

Planning Act 2008

Regulation 5(2)(a)

Infrastructure Planning (Applications: Prescribed  
Forms and Procedure) Regulations 2009 (as  
amended)

September 2023

# Infrastructure Planning

## Planning Act 2008

The Infrastructure Planning  
(Applications: Prescribed Forms and  
Procedure) Regulations 2009 (as amended)

# Immingham Green Energy Terminal

## Development Consent Order 2023

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## 6.2 Environmental Statement

### Chapter 8: Nature Conservation (Terrestrial Ecology)

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## Table of contents

Chapter	Pages
<b>8 Nature Conservation (Terrestrial Ecology) .....</b>	<b>8-1</b>
8.1 Introduction .....	8-1
8.2 Consultation and Engagement .....	8-2
8.3 Legislation, Planning Policy and Guidance .....	8-20
8.4 Assessment Methodology .....	8-25
8.5 Study Areas.....	8-25
8.6 Baseline Conditions.....	8-29
8.7 Development Design and Impact Avoidance.....	8-41
8.8 Assessment of Likely Impacts and Effects .....	8-43
8.9 Mitigation and Enhancement Measures .....	8-49
8.10 Assessment of Residual Effects .....	8-51
8.11 Summary of Assessment .....	8-52
8.12 References.....	8-57

### Tables

Table 8-1: Consultation Summary Table.....	8-3
Table 8-2: Relevant Legislation, Policy and Guidance Regarding Nature Conservation (Terrestrial Ecology).....	8-20
Table 8-3: Summary of Field Surveys undertaken in 2022/23 .....	8-27
Table 8-4: Summary of Habitats within Habitat Survey Area .....	8-31
Table 8-5: Protected Species Summary and Evaluation.....	8-38
Table 8-6: Summary of Assessment –Likely Significant Effects .....	8-53

## 8 Nature Conservation (Terrestrial Ecology)

### 8.1 Introduction

8.1.1 This chapter presents the findings of the assessment of the likely effects of the Project on nature conservation (terrestrial ecology).

8.1.2 The Project would be located partly within, and partly on land adjacent to, the Humber Estuary Special Area of Conservation (“SAC”), Special Protection Area (“SPA”), Ramsar site and Site of Special Scientific Interest (“SSSI”), collectively referred to as the Humber Estuary European Marine Site (“EMS”). All effects on the designated features of the Humber Estuary EMS are assessed in **Chapter 9: Nature Conservation (Marine Ecology) [TR030008/APP/6.2]** and **Chapter 10: Ornithology [TR030008/APP/6.2]** respectively, and therefore this chapter does not include an assessment of the impacts of the Project on the Humber Estuary EMS.

8.1.3 The interrelationships related to the potential effects on terrestrial ecology and other disciplines are addressed in the following chapters **[TR030008/APP/6.2]**:

- a. **Chapter 6: Air Quality:** this chapter assesses potential interactions between the Project and the designated habitats of the Humber Estuary EMS arising from changes in air quality.
- b. **Chapter 7: Noise and Vibration:** this chapter assesses potential interactions between the Project and the designated features of the Humber Estuary EMS that are sensitive to noise and vibration.
- c. **Chapter 9: Nature Conservation (Marine Ecology):** this chapter assesses potential interactions between the Project and the designated marine and intertidal habitat features of the Humber Estuary EMS.
- d. **Chapter 10: Ornithology:** this chapter assesses impacts on the qualifying bird interest of the Humber Estuary SPA/Ramsar and SSSI, including marine, coastal and supporting terrestrial habitats (i.e. functionally linked land). The assessment considers passage, overwintering and breeding bird species (including non-SPA/Ramsar breeding birds).

8.1.4 This chapter is also supported by the following appendices **[TR030008/APP/6.4]**:

- a. **Appendix 8.A:** Ecological Impact Assessment Methods.
- b. **Appendix 8.B:** Preliminary Ecological Appraisal Report.
- c. **Appendix 8.C:** Bat Survey Report.
- d. **Appendix 8.D:** Water Vole and Otter Survey Report.
- e. **Appendix 8.E:** Great Crested Newt Survey Report.
- f. **Appendix 8.F:** Draft Protected Species Licences.
- g. **Appendix 8.G:** Arboricultural Impact Assessment.

## 8.2 Consultation and Engagement

- 8.2.1 A scoping exercise was undertaken in August 2022 to establish the form and nature of the nature conservation (terrestrial ecology) assessment, and the approach and methods to be followed. The Scoping Report (**Appendix 1.A [TR030008/APP/6.4]**) records the findings of the scoping exercise and details the technical guidance, standards, best practice and criteria being applied in the assessment to identify and evaluate the likely significant effects of the Project on nature conservation (terrestrial ecology). A Scoping Opinion was adopted by the Secretary of State on 10 October 2022 **[TR030008/APP/6.4]**.
- 8.2.2 Statutory Consultation took place between 9 January and 20 February 2023 in accordance with the Planning Act 2008 (“2008 Act”). The Applicant prepared a Preliminary Environmental Information Report (“PEI Report”), which was publicised at the consultation stage.
- 8.2.3 Through consideration of the responses to the first Statutory Consultation, the developing environmental assessments and through ongoing design-development and assessment, changes within the Project were identified. A second Statutory Consultation took place between 24 May and 20 July 2023 in accordance with the 2008 Act and a PEI Report Addendum was publicised to support the consultation.
- 8.2.4 The consultation undertaken with statutory consultees to inform this chapter, including those comments relevant to terrestrial ecology, raised via the formal scoping opinion (**Appendix 1.A [TR030008/APP/6.4]**) and in response to the formal consultation, is summarised, in **Table 8-1**. The full responses to consultation comments are included within the **Summary of Consultation Responses** document **[TR030008/APP/5.1]**.
- 8.2.5 Following receipt of the **Scoping Opinion (Appendix 1.B [TR030008/APP/6.4])**, the following requirements identified by the Planning Inspectorate have been considered as part of this assessment:
- Evidence-based assessment of potential impacts on bats and their roosts is required: to address this requirement, further surveys have been undertaken and the results are reported in **Appendix 8.C [TR030008/APP/6.4]** and are summarised in this chapter.
  - Reptiles can be scoped out of the assessment provided that precautionary working methods are specified and committed: this approach has been followed in this chapter.
  - Further information on habitat suitability for white-clawed crayfish (*Austropotamobius pallipes*) in support of the case for scoping this species out of the assessment: to address this requirement, further information is provided in **Appendix 8.B [TR030008/APP/6.4]**.
  - All relevant statutory nature conservation designations are to be identified with reference to the Impact Risk Zones (“IRZs”) (defined by Natural England): the IRZs defined by Natural England have been used to define the statutory nature conservation designations in this chapter.

**Table 8-1: Consultation Summary Table**

Reference/Date	Consultee	Summary of Response	How comments have been addressed in this chapter
Scoping Report August 2022	Planning Inspectorate	The Scoping Report proposes to scope out further surveys for bat foraging and commuting activity at the West Site due to the prevalence of low quality or unsuitable habitat and because usage would likely be on an occasional and transient basis by small numbers of foraging/ commuting common species of bats. In light of the evidence provided in Appendix C, the Inspectorate agrees that further bat surveys can be scoped out for the West Site only.	No further comment required.
		The Scoping Report notes there are a large number of mature oak and ash trees within Long Strip woodland (Pipeline area) that maybe suitable for roosting bats, but it assumes that all mature trees would be avoided by the Proposed Development. It states that should it become necessary to remove/ prune any mature trees, further assessment work for bats would be undertaken to inform mitigation/ licensing requirements as necessary. The Inspectorate does not agree that this matter can be scoped out at this time. Suitable trees should be evaluated for their roosting potential and this information should be used to inform design development and the assessment of effects. Should substantial bat populations be identified the potential for impacts on foraging/commuting would need to be revisited.	An assessment of roosting potential of suitable trees for bat roosts has been undertaken as well as emergence surveys of possible roosts and this is reported in this chapter in <b>Section 8.6</b> below.  Emergence surveys are ongoing for a number of trees that were identified as having bat roost potential, and the surveys are due to be completed by the end of August or early September (weather dependent). A worst-case scenario has been assessed in the Chapter informed by the results of the bat activity surveys undertaken to date.  The full results of these surveys will be submitted into the Examination at the first opportunity.

Reference/Date	Consultee	Summary of Response	How comments have been addressed in this chapter
		<p>The Scoping Report states that none of the habitats within the Proposed Development's DCO site boundary have been found to be suitable for reptiles, as they lack the diverse habitat mosaic and varied topography favoured by species of reptiles for basking, refuge and hibernation and adds that in context with the lack of known reptile populations in this part of the county, it is reasonable to conclude that they are likely absent. The Scoping Report also states that the low risk of presence of grass snake on the main drain at the foot of the flood embankment can be addressed through a precautionary approach/ method statement for vegetation clearance during construction. The Inspectorate agrees that this matter can be scoped out of the assessment on this basis. The ES should set out the relevant precautionary working methods proposed to be adopted.</p>	<p>There have been minor changes to the Site Boundary since the submission of the EIA Scoping Report. None of the additional areas introduced into the Site Boundary are suitable for reptiles.</p> <p>Precautionary working methods for reptiles are defined in the <b>Outline Construction Environment Management Plan</b> ("Outline CEMP") for the Project [TR030008/APP/6.5] and these working methods are outlined in <b>Section 8.7</b> below.</p>
		<p>The Inspectorate agrees that Direct impacts on Local Wildlife Sites (LWS) during construction and decommissioning can be scoped out on the basis that there are no locally designated sites that would be directly impacted by the project construction activities.</p>	<p>No further comment required.</p>
		<p>Impacts on designated marine ecology features would be assessed in accordance with ES Chapter 8 and impacts on designated ornithology features would be assessed in accordance with Chapter 9. The Inspectorate agrees that this matter can be</p>	<p>The impacts on marine ecological receptors (other than birds) and on birds are assessed in <b>Chapter 9 Nature Conservation (Marine Ecology)</b> and <b>Chapter 10: Ornithology</b> [TR030008/APP/6.2] respectively.</p>

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		<p>scoped from terrestrial ecology assessment on the basis that no impacts are anticipated on the Humber Estuary Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar and Site of Special Scientific Interest (SSSI), collectively referred to as the Humber EMS, and as impacts on marine ecology and ornithology for these designated sites will be assessed elsewhere in the ES.</p>	
		<p>The preliminary ecological appraisal (Appendix C of the Scoping Report) states that ditches within the Proposed Development site boundary are unsuitable for white-clawed crayfish and therefore the species will not be considered further. The appraisal appears to relate only to the West Site of the Proposed Development site. The Inspectorate agrees that this matter may be scoped out for the West site but does not agree that this matter can be scoped out for the other parts of the site unless evidence demonstrating that ditches are unsuitable for white-clawed crayfish is provided for the other parts of the Proposed Development site in the ES or information which demonstrates agreement with the relevant consultation bodies and the absence of a likely significant effect.</p>	<p>The Preliminary Ecological Appraisal (“PEA”) has been updated and is appended at <b>Appendix 8.B [TR030008/APP/6.4]</b>. All areas of the site, including the ditch network have been included within the appraisal. The appraisal concludes that the ditch network is unsuitable for white-clawed crayfish.</p>
		<p>The Scoping Report considers the Humber Estuary Site of Special Scientific Interest (SSSI) may be affected by the Proposed Development but does not explicitly refer to other SSSIs or SSSI impact risk zones. The Inspectorate advises that all relevant SSSI designated sites and impact risk zones should</p>	<p>North Killingholme Haven Pits SSSI, as a saline lagoon connected to the European Marine Site, falls within the potential scope of <b>Chapter 9: Nature Conservation (Marine Ecology) and Chapter 10: Ornithology [TR030008/APP/6.2]</b>. It is not designated for features of relevance to the terrestrial</p>



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		be considered in the assessment (including North Killingholme Haven Pits SSSI and The Lagoons SSSI) and evidence which demonstrates that the Proposed Development is unlikely to have any significant adverse effects on these should be provided in the ES.	ecology chapter. The Lagoons SSSI is located at distance from the Project (north of the Humber), the outer IRZ band extends to c. 9.9km from the SSSI so the nearest terrestrial part of Order Limits (c. 19km from the SSSI) is not located within its IRZ. On this basis, all relevant SSSIs have been considered and additional SSSIs are not discussed further in this chapter, <b>Chapter 8: Terrestrial Ecology [TR030008/APP/6.2]</b> .
	Natural England	We note and welcome the report's consideration of impacts upon local wildlife and geological sites. Local Sites are identified by the local wildlife trust, geoconservation group or a local forum established for the purposes of identifying and selecting local sites. They are of county importance for wildlife or geodiversity. We welcome the report's inclusion of an assessment of the likely impacts on the wildlife and geodiversity interests of such sites. Further information on local wildlife Sites is available from the Yorkshire Wildlife Trust - 01904659570 or Email: info@ywt.org.uk. The ES should set out proposals for mitigation of any impacts and if appropriate, compensation measures and opportunities for enhancement and improving connectivity with wider ecological networks. They may also provide opportunities for delivering beneficial environmental outcomes.	The assessment in this chapter has not identified the potential for any significant effects on Local Wildlife Sites. Geological sites are outside the remit of a terrestrial ecological impact assessment but would be considered in <b>Chapter 21: Ground Conditions and Land Quality [TR030008/APP/6.2]</b> if any were present.
	North East Lincolnshire Council	The site appears to be adjacent to W2 of North East Lincolnshire Borough Council No. 107 (Long Wood, Laporte Road, Stallingborough) Tree Preservation	The potential impact of the Project on the Tree Preservation Order ("TPO") woodland is assessed in this chapter in <b>Section 8.6</b> below and an

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		Order 2002. There is a defined drainage ditch between the site and the woodland. I am aware that this site is managed by the Humber Nature Partnership and that there is a management plan in place. Given the woodland is covered by a TPO I feel the impact of the proposal on the woodland should be considered within the EIA.	Arboricultural Impact Assessment, which covers the impacts of the Project on the TPO woodland is provided at <b>Appendix 8.G [TR030008/APP/6.4]</b> .
Statutory Consultation January 2023	Humber Conservation	Please can you tell me the provisions that will be made to protect Longstrip Wood and public footpath	<p>The pipeline corridor connecting the East Site to the jetty and the jetty access road, which comprise Work No. 2, would be situated within the Long Strip woodland belt. Through an iterative design process, the Applicant has sought to minimise loss of the trees and in particular to ensure the protection of a veteran tree within this area. Part of the Long Strip, including the veteran tree, would be retained as shown in Annex A of <b>Appendix 8.F [TR030008/APP/6.4]</b>. Approximately 0.64ha of woodland will be removed from the Long Strip woodland. The loss of part of the woodland from Long Strip is fully assessed in the Arboricultural Impact Assessment at <b>Appendix 8.G [TR030008/APP/6.4]</b> and in this chapter Environmental Statement (“ES”) <b>Chapter 8: Nature Conservation (Terrestrial Ecology) [TR030008/APP/6.2]</b> in <b>Section 8.8</b> as well as <b>ES Chapter 13: Landscape and Visual Impact [TR030008/APP/6.2]</b>.</p> <p>An <b>Outline Woodland Compensation Strategy</b> has been prepared <b>[TR030008/APP/6.8]</b>. The Strategy sets out the approach to off-site planting of</p>

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			<p>trees in the Immingham area, as well as enhancement of existing retained on-site woodland, to ensure that the tree loss from the Long Strip is appropriately compensated. Further details are provided at <b>Section 8.7</b> of this chapter.</p> <p>An <b>Outline Landscape and Ecology Management Plan</b> (“Outline LEMP”) has been prepared to support the Application <b>[TR030008/APP/6.9]</b>. The Outline LEMP defines the opportunities which are available within the operational site boundaries to provide landscape and ecological measures to enhance the operational layout.</p> <p>The right of way through Long Strip comprises Bridleway 36 and the stretch from Laporte Road to the sea wall will be temporarily diverted during Phase 1. This is to enable the construction of works in this area and the use of the temporary construction area on the arable field to the east. Bridleway 36 would be re-opened on its existing alignment after first phase of construction. This is described in <b>ES Chapter 2: The Scheme [TR030008/APP/6.2]</b> and the impacts on users of the Bridleway are assessed in <b>ES Chapter 23: Socio-economics [TR030008/APP/6.2]</b>.</p>
		<p>What steps will be taken to protect Long Strip Wood (250 years old at least) and public footpath NELC BW36 (potential part of east coast path)</p>	<p>The response in the row above addresses these points.</p>

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	Forestry Commission	<p>Direct impacts of development that could result in the loss or deterioration of ancient woodland or ancient and veteran trees include:</p> <ul style="list-style-type: none"> <li>· Damaging or destroying all/part of them (including their soils, ground flora or fungi)</li> <li>· Damaging roots and understory</li> <li>· Damaging or compacting soil around tree roots</li> <li>· Polluting the ground and watercourses around them</li> <li>· Changing the water table or drainage of woodland or individual trees</li> <li>· Damaging archaeological features of heritage assets</li> </ul> <p>It is therefore essential that the ancient woodland identified is considered appropriately to avoid the above impacts.</p>	<p>None of the woodland within the Site is listed on the Ancient Woodland Inventory (“AWI”). The assessment presented in this chapter refers to the woodland as 'Long Established Woodland' as identified in the Forestry Commission guidance.</p>
		<p>The Forestry Commission has prepared joint standing advice with Natural England on ancient woodland and veteran trees which we refer you to as it notes that ancient woodland is an irreplaceable habitat, and that, in planning decisions, Plantations on Ancient Woodland Sites (PAWS) should be treated equally in terms of the protection afforded to ancient woodland. It highlights the Ancient Woodland Inventory to find out if woodland is ancient.</p> <p>We also particularly refer you to further technical information set out in Natural England and Forestry Commission’s Standing Advice on Ancient</p>	<p>None of the woodland within the Site is listed on the AWI. The other areas of non-ancient woodland have been added to the assessment and the impact of the Project on these areas is set out in <b>Section 8.8</b> of this chapter.</p> <p>A single veteran ash tree was located in the TPO woodland of the Long Strip during arboricultural surveys (see <b>Arboricultural Impact Assessment at Appendix 8.G [TR030008/APP/6.4]</b> for full details). This veteran tree would be retained and protected during construction to ensure there is no accidental damage to it. The route of the jetty access road and pipe-rack and the associated</p>

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		<p>Woodland – plus supporting Assessment Guide and Case Decisions.</p> <p>We would be keen to highlight the buffering guidance for Ancient Woodland as highlighted in the Standing Advice indicated above. It is also worth noting that there are several other areas of non-ancient woodland that could be affected also by the proposed development.</p> <p>If you would like individual feedback on sites with Forestry Commission Incentives and Regulatory agreements throughout the entire proposed site, please feel free to contact the Forestry Commission as there may existing obligations on the land in respect to proposed new woodland creation.</p>	<p>buildings, which comprise <b>Work No. 2</b>, have been designed to ensure this tree can be retained, as explained further in <b>ES Chapter 3: Need and Alternatives [TR030008/APP/6.2]</b>.</p>
		<p>As stated in chapter 8.6.8 of the PEI Report, the woodland to be potentially affected by the proposed development “Long Strip Woodland” has a TPO designation on it and that there is evidence of the woodland being in existence for a long period of time and its loss cannot be easily replaced with an equivalent area of newly planted saplings in an alternative location. We therefore recommend that this woodland is treated as Long Established Woodland.</p> <p>The Forestry Commission is aware of the very low woodland cover in this area, which is also picked up in your documents. We would be keen to see an increase in woodland cover in this area and therefore keen to understand any</p>	<p>Some of the Long Strip woodland will be permanently lost and this is assessed in this chapter. The assessment presented in this chapter refers considers the Long Strip woodland as 'Long Established Woodland' as identified in the Forestry Commission guidance.</p> <p>An <b>Outline Woodland Compensation Strategy</b> has been prepared <b>[TR030008/APP/6.8]</b>. The Strategy sets out the approach to off-site planting of trees in the Immingham area, as well as enhancement of existing retained on-site woodland, to ensure that the tree loss from the Long Strip is appropriately compensated. Further details are provided at <b>Section 8.7</b> of this chapter.</p>

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		mitigation/compensation measures that are developed. The Forestry Commission has information on existing woodland creation schemes in the area including spatial data on where woodland would be best created. We recommend a management plan is developed for ongoing management of any new established woodland sites, and that management is considered in relation to neighbouring or other existing established woodland in the local landscape.	
	Lincolnshire Wildlife Trust	One of our main concerns is the impact/loss of TPO protected and irreplaceable woodland within the Long Strip Wood. Because of the woods' naturalness – consisting almost entirely of native trees and shrubs appropriate to the area – the site has potential to be classified as Lowland Mixed Deciduous Woodland Priority Habitat. Furthermore, white-letter hairstreak <i>Satyrion w-album</i> , a Priority Species, has been recorded on site between at least 2003 and 2020. Given its age, rarity and significance, the Long Strip Wood is considered by LWT to be irreplaceable and invaluable to local biodiversity and heritage. LWT would urge the developers to make further efforts to avoid 'predicted loss of woodland' within the Long Strip Wood following the mitigation hierarchy. While we understand the scale of woodland loss is unknown at the present time, we are concerned that 'it is expected to be a large part of the woodland'. Currently, we do not find this acquiescence to remove such a large area of irreplaceable woodland	The woodland is considered as UK Priority Habitat and Long Established Woodland in this chapter.  Consultation with North East Lincolnshire Council ("NELC") regarding appropriate compensation for woodland loss is ongoing. Further details are provided below at <b>Section 8.7</b> .  No requirement for further terrestrial invertebrate surveys has been identified, since relevant species are not specifically protected and appropriate enhancement of retained woodland, as well as compensatory woodland planting, will maintain habitat availability for invertebrates. This chapter acknowledges the recorded presence of white-letter hairstreak within the woodland. However, further survey for this species is not merited since its presence has already been confirmed. Justification for scoping out terrestrial invertebrate surveys is set out in <b>Appendix 8.B (Preliminary Ecological Appraisal Report) [TR030008/APP/6.4]</b> . White-letter hairstreak is dependent on the presence of

Reference/Date	Consultee	Summary of Response	How comments have been addressed in this chapter
		<p>to be acceptable. There should be more efforts to avoid this impact in the design of the development. Were losses to the Long Strip Wood deemed to indeed be unavoidable following the mitigation hierarchy, LWT would expect commitments that go well beyond ‘appropriate mitigation/compensation’ to be put forward. This would need to include a significant effort and commitment to mitigating impacts and losses to this site, as well as a minimum delivery of 10% Biodiversity Net Gain – with encouragement from LWT to aim for targets beyond the minimum 10%.</p> <p>Given that recent surveys at Long Strip Wood found evidence of white-letter hairstreak, LWT would recommend that terrestrial invertebrates be scoped into further assessments.</p>	<p>elms and while some elms will be removed in association with Work No 2, some elms would also be retained. As a nationally significant infrastructure project (“NSIP”), the Project is not subject to the requirement to deliver 10% biodiversity net gain (“BNG”) under The Environment Act 2021, as the requirement is yet to come into practical effect. Biodiversity Net Gain calculations are therefore not mandatory for NSIPs and have not been undertaken.</p> <p>An <b>Outline LEMP</b> has been prepared to support the Application [TR030008/APP/6.9]. The Outline LEMP defines the opportunities which are available within the operational site boundaries to provide landscape and ecological measures to enhance the operational layout.</p> <p>An <b>Outline Woodland Compensation Strategy</b> has been prepared [TR030008/APP/6.8]. The Strategy sets out the approach to off-site planting of trees in the Immingham area, as well as enhancement of existing retained on-site woodland, to ensure that the tree loss from the Long Strip is appropriately compensated. Further details are provided at <b>Section 8.7</b> of this chapter.</p>
	North East Lincolnshire Council	<p>The applicants have been working with NELC Trees and Landscape to look at initial high level issues;</p> <ul style="list-style-type: none"> <li>The site meeting with the applicant on 14th December 2022 was constructive regarding the</li> </ul>	<p>The extent of tree removal is presented in the Arboricultural Impact Assessment at <b>Appendix 8.G</b> [TR030008/APP/6.4]. Consultation with NELC regarding appropriate compensation for woodland</p>



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		<p>ground investigation works required within the Long Strip Plantation;</p> <ul style="list-style-type: none"> <li>I am yet to receive any information, plans works specifications, detailing the works outlined at the above meeting;</li> <li>I am conscious that the construction of the above ground pipeline will likely result in further tree removal, this was not fully addressed at the aforementioned meeting. I look forward to further consultation regarding the extent of tree removal required to implement the scheme</li> <li>Regarding the issue of tree removal, both that required for the ground investigation works as well as along the route of the pipeline, I will expect this to be ameliorated via a landscape proposal. I welcome further discussion on the detail of this point.</li> </ul>	<p>loss is ongoing. Further details are provided below at <b>Section 8.7</b>.</p> <p>An <b>Outline Woodland Compensation Strategy</b> has been prepared [TR030008/APP/6.8]. The Strategy sets out the approach to off-site planting of trees in the Immingham area, as well as enhancement of existing retained on-site woodland, to ensure that the tree loss from the Long Strip is appropriately compensated. Further details are provided at <b>Section 8.7</b> of this chapter.</p>
	Local Resident (living within approx. 10km of the project)	I am a little concerned about an area we call the woods which goes up to bay 30 on the wall. Are you going to use this area as a construction site and what access road will you be using.	The route of the jetty access road and pipe-rack and the associated buildings, which comprise <b>Work No. 2</b> , have been designed to minimise the impacts on the Long Strip woodland and to ensure a veteran tree can be retained as explained further in <b>ES Chapter 3: Need and Alternatives</b> [TR030008/APP/6.2]. The majority of the woodland within the Long Strip would be retained.
	DFDS Seaways	The value of the ecological enhancements proposed for the IERRT have not been made clear and	The proposed Immingham Eastern Ro-Ro Terminal (“IERRT”) ecological enhancements are set out in the woodland enhancement plan document submitted as part of the IERRT application,



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		nothing has been further suggested in assessing the cumulative effect of both projects.	<p>compliance with which is a draft Development Consent Order (“DCO”) Requirement for that scheme. The area of woodland subject to the enhancements associated with the IERRT proposals, which relate to that part of the Long Strip woodland south of Laporte Road, will not be impacted by the IGET scheme, other than by way of the temporary removal of informal access in this area, which is explained in <b>ES Chapter 2: The Project [TR030008/APP/6.2]</b>.</p> <p>The cumulative effects of IERRT and IGET are covered in <b>ES Chapter 25: Cumulative and In-Combination Effects [TR030008/APP/6.2]</b>. There are not expected to be any cumulative effects arising in relation to nature conservation (terrestrial ecology), arising from landside impacts of both projects.</p>
Second Statutory Consultation May 2023 – July 2023	Lincolnshire Wildlife Trust	<p><b>Impacts to Long Strip Wood</b></p> <p>While changes have been made to the routing of the Pipe Rack and jetty access road (Change No. 3), the revised design, which includes a proposed access road carriageway, proposed footway and proposed pipe rack, is estimated to result in the direct loss of roughly 36% of the Long Strip Wood (estimated from Plate 6.2 using QGIS Georeferencer). These proposed changes are described by the Applicant as benefiting the Long Wood by avoiding the ‘highest value tree in the TPO’, a single veteran ash tree in the north east corner of the woodland. However, the Applicant</p>	<p>The route of the jetty access road and pipe-rack and the associated buildings, which comprise <b>Work No. 2</b>, have been designed to minimise the impacts on the Long Strip woodland and to ensure a veteran tree can be retained as explained further in <b>ES Chapter 3: Need and Alternatives [TR030008/APP/6.2]</b>. The majority of the woodland within the Long Strip would be retained.</p>

Reference/Date	Consultee	Summary of Response	How comments have been addressed in this chapter
		<p>acknowledges that several of the remaining trees distributed throughout the Long Strip Wood are of 'high and moderate quality'.</p> <p>In addition to the direct loss of moderate to high value trees, LWT would argue that the indirect, negative effects on this habitat and its inhabitants would likely be much greater due to several short-term (e.g., displacement through construction related activities) and long-term impacts (e.g., noise and pollution from prolonged road use and operational maintenance), and based on the extent and nature of the proposed development.</p> <p>In Section 6.4.4, the Applicant quotes the PEIR which states that, 'In order to mitigate for tree loss from the Long Strip and elsewhere, the following approach is proposed:</p> <p>Tree planting within some peripheral areas around the operational sites of the hydrogen facility, although these opportunities will be very limited; and</p>	<p>The permanent loss of woodland and indirect effects on retained woodland are acknowledged and assessed in <b>Paragraphs 8.8.6 – 8.8.9</b>. The impact is assessed as moderate adverse (significant).</p> <p>An <b>Outline Woodland Compensation Strategy</b> has been prepared [TR030008/APP/6.8]. The Strategy sets out the approach to off-site planting of trees in the Immingham area, as well as enhancement of existing retained on-site woodland, to ensure that the tree loss from the Long Strip is appropriately compensated. Further details are provided at <b>Section 8.7</b> of this chapter. It is acknowledged in <b>Paragraph 8.8.9</b> of this ES Chapter that this would require a longer timeframe than then 25-year operational life of the landside elements of the Project.</p> <p>As stated above, the route of the jetty access road and pipe-rack and the associated buildings, which comprise <b>Work No. 2</b>, have been designed to minimise the impacts on the Long Strip woodland. However, this woodland cannot be avoided by the Project, and this is explained further in <b>ES Chapter 3: Need and Alternatives [TR030008/APP/6.2]</b>.</p>

Reference/Date	Consultee	Summary of Response	How comments have been addressed in this chapter
		<p>Opportunities to be explored for potential off-site tree-planting within areas to be agreed with local bodies/organisations'</p> <p>LWT would like to point out that the Applicant has provided two examples of non-localised compensation, rather than mitigation. Therefore, further due diligence towards the mitigation hierarchy is recommended, and the above examples should be considered last resorts, according to best practice. Simply put, this particular woodland is considered irreplaceable and invaluable to local biodiversity and heritage, thus avoidance and mitigation should be emphasised, and the suggested compensation is likely to be unequal to the negative consequences of the projected habitat loss.</p>	
		<p>While it is clear that efforts have been made to address concerns for the impacts to the Long Strip Wood (e.g., Pipe Rack and jetty access road redesign), LWT believes that the current revisions fall short for delivering on assurances of minimal impact to the Long Strip Wood and due diligence according to the mitigation hierarchy. At this time, our stance remains the same and we will continue to monitor developments regarding impacts to the Long Strip Wood going forward.</p>	<p>This stance is noted.</p>
		<p><b>Biodiversity Net Gain</b></p>	<p>It is anticipated the secondary legislation mandating the need for 10% net gain will be in place by November 2023 for development within the Town &amp;</p>

Reference/Date	Consultee	Summary of Response	How comments have been addressed in this chapter
		<p>LWT is disappointed that the updated documents for the Second Statutory Consultation continue to neglect Biodiversity Net Gain (BNG). Therefore, our stance remains the same.</p> <p>LWT would encourage the Applicant to include BNG in the planning and delivery of this project, and we would also encourage separate terrestrial and marine BNG delivery. Lastly, LWT would strongly suggest that mitigation/compensation for impacts to the Long Strip Wood are considered separate and additional to any BNG measures.</p>	<p>Country Planning Act, and November 2025 for NSIPs. Current guidance indicates that NSIPs accepted for examination before the specified commencement date would not be required to deliver mandatory biodiversity net gain, and therefore formal calculations using the Department for Environment, Food &amp; Rural Affairs (“DEFRA”) metric have not been undertaken for the Project. However, a qualitative approach to biodiversity enhancements will be taken and the following commitments are made within the ES:</p> <p>1) An <b>Outline Landscape and Ecology Management Plan (OLEMP) [TR030008/APP/6.9]</b> has been prepared to support the Application. The Outline LEMP defines the opportunities which are available within the operational site boundaries to provide landscape and ecological measures to enhance the operational layout. The delivery and management of these areas will be incorporated into a Landscape and Ecology Management Plan (“LEMP”), prepared in accordance with the OLEMP and which will be secured by way of a DCO Requirement.</p> <p>2) An <b>Outline Woodland Compensation Strategy</b> has been prepared [TR030008/APP/6.8]. The Strategy sets out the approach to off-site planting of trees in the Immingham area, as well as enhancement of existing retained on-site woodland, to ensure that the tree loss from the Long Strip is appropriately compensated.</p>

Reference/Date	Consultee	Summary of Response	How comments have been addressed in this chapter
	Natural England	<p><b>Change No. 3 - Routing of pipe rack &amp; Jetty Access Road in Long Strip woodland</b></p> <p>Natural England highlights the advice in our previous response (dated 16th March) ‘tree works are proposed in Long Strip plantation, an assessment is needed to explain whether these works will impact on birds using the adjacent fields (if this field is still being used by birds during the tree works)’.</p> <p>Natural England highlights that the area of woodland proposed to be removed is priority habitat (deciduous woodland) and therefore support the commitment from the applicant to submit a ‘Woodland compensation strategy’ as part of the DCO, if there are no other options that avoid works within this area. Natural England would advise that prospective tree planting sites in the local area should be assessed to ensure that there is no conflict with areas that provide supporting habitat to Humber Estuary SPA bird populations.</p> <p><b>Change No. 7 - Public Rights of Way Diversion (Public Bridleway 36) and stopping up of any informal access in two areas</b></p> <p>Natural England welcomes that any potential mitigation measures required in respect of water voles or otters will be reported in the ES.</p>	<p>Ornithology surveys have concluded that the land adjacent to Long Strip plantation (<b>Work No. 9</b>) is not functionally linked to the Humber Estuary SPA/ Ramsar (see <b>ES Chapter 10: Ornithology</b>) <b>[TR030008/APP/6.4]</b>.</p> <p>An <b>Outline Woodland Compensation Strategy</b> has been prepared <b>[TR030008/APP/6.8]</b>. The Strategy sets out the approach to off-site planting of trees in the Immingham area, as well as enhancement of existing retained on-site woodland, to ensure that the tree loss from the Long Strip is appropriately compensated.</p> <p>Water vole is confirmed present within one ditch within the Proposed Development boundary and displacement works will be undertaken under a Class Licence approach, under the supervision of an ecologist registered to use a Natural England Class Licence for water vole.</p>



### 8.3 Legislation, Planning Policy and Guidance

8.3.1 **Table 8-2** presents a summary of the legislation, policy and guidance relevant to the nature conservation (terrestrial ecology) assessment and details how their requirements will be met by the Project.

**Table 8-2: Relevant Legislation, Policy and Guidance Regarding Nature Conservation (Terrestrial Ecology)**

Legislation/Policy/Guidance	Consideration within the ES Chapter
<b>The Conservation of Habitats and Species Regulations 2017 (as amended)</b> (Ref 8-1)	
<p>The Regulations provide for the protection of 'European sites' and the protection of 'European protected species'. The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licences by the appropriate authorities.</p> <p>The Regulations require competent authorities to consider or review applications for planning permission/ consents for projects through an appropriate assessment of the plan/ project.</p>	<p><b>Section 8.6</b> identifies European Sites and European Protected Species relevant to this assessment. <b>Section 8.7</b> summarises how these have been addressed in the Project design.</p> <p><b>Sections 8.8 - 8.10</b> provide an assessment of potential impacts and effects, and any related requirements for avoidance/mitigation/ compensation measures.</p> <p>Assessment in respect of the Humber Estuary EMS and its designated features is considered in <b>Chapter 9: Nature Conservation (Marine Ecology) [TR030008/APP/6.2]</b> and the ornithological features of the Humber Estuary SPA/Ramsar and SSSI in <b>Chapter 10: Ornithology</b>. The information to inform an appropriate assessment is presented in the <b>Shadow Habitats Regulations Assessment [TR030008/APP/7.6]</b></p>
<b>Wildlife and Countryside Act (“WCA”) 1981 (as amended)</b> (Ref 8-2)	
<p>Part 1 of the WCA affords general protection to all species of wild bird, and specific protection to flora and fauna listed in Schedules 1 (birds protected by special penalties), 5 (other animals), and 8 (flora, fungi and lichens). In certain circumstances, licences can be granted to permit some actions prohibited under the Act.</p> <p>Schedule 9 provides lists of non-native flora and fauna that it is an offence to release or cause to spread in the wild. Of primary relevance in the context of proposed developments are flora e.g. invasive non-native plant species.</p> <p>Part 2 of the WCA details the law regarding SSSI and other protected areas within Great Britain.</p>	<p><b>Section 8.6</b> identifies SSSIs and protected species and invasive species relevant to this assessment. <b>Section 8.7</b> summarises how these have been addressed in the Project design. <b>Sections 8.8 - 8.10</b> provide an assessment of potential impacts and effects, and any related requirements for avoidance/mitigation/compensation measures.</p>



Legislation/Policy/Guidance	Consideration within the ES Chapter
<p><b>Natural Environment and Rural Communities (“NERC”) Act 2006</b> (Ref 8-3) as amended by the Environment Act (2021)</p>	
<p>Through Section 40 of the Act, a legal duty is placed on Government Departments and public authorities to consider what action the authority can take, consistent with exercise of its functions, to further the general biodiversity objective, which is the conservation and enhancement of biodiversity in England. This ‘biodiversity duty’ includes, but is not restricted to, habitats and species of principal importance for nature conservation in England published by the Government in accordance with the requirement set through Section 41 of the Act.</p>	<p><b>Section 8.6</b> identifies important habitats and species relevant to this assessment including those identified in Section 41 of the Act. <b>Section 8.7</b> summarises how these have been addressed in the Project design. <b>Sections 8.8 - 8.10</b> provide an assessment of potential impacts and effects, and any related requirements for avoidance/ mitigation/ compensation measures.</p>
<p><b>Protection of Badgers Act 1992</b> (Ref 8-4)</p>	
<p>This Act makes it an offence to kill or take a badger, to cruelly ill-treat a badger, or to interfere with a badger sett, including disturbing a badger while it is occupying a sett. In certain circumstances, licences can be granted to permit some actions prohibited under the Act.</p>	<p>Surveys have been completed to identify if badgers are likely to be affected. <b>Section 8.6</b> confirms this species has not been recorded during recent surveys and so no disturbance to badgers is anticipated.</p>
<p><b>The Hedgerow Regulations 1997</b> (Ref 8-5)</p>	
<p>The regulations do not apply to acts of hedgerow removal covered by the grant of planning permission. However, the regulations retain value as part of the process for determining the relative value of specific hedgerows/ hedgerow networks and requirements for appropriate mitigation.</p>	<p>Surveys have been completed to identify locations where hedgerows are located and their importance has been evaluated (see <b>Section 8.6</b>). No ‘important’ hedgerows have been identified within the Site Boundary and therefore this legislation is not relevant to the Project.</p>
<p><b>Invasive Alien Species (Enforcement and Permitting) Order 2019</b> (Ref 8-6)</p>	
<p>The Order allows for the enforcement of European Union Regulation No. 1143/2014 on the prevention and management of the introduction and spread of invasive alien species within England. The Regulation lists species of European Union concern which cannot be imported, kept, bred/ grown, transported, sold, used, allowed to reproduce, or released into the environment. The Order therefore tightens existing rules (e.g. under the Wildlife and Countryside Act 1981) around releasing invasive non-native animals which threaten our native wildlife.</p>	<p>Surveys have been completed to identify if any terrestrial invasive non-native plant species are present on the Site. <b>Section 8.6</b> confirms that there are no known occurrences of invasive non-native plant species within the Site. The potential for future occurrence of invasive non-native plants is addressed in the <b>Outline Landscape and Ecological Management Plan [TR030008/APP/6.9]</b>.</p>



Legislation/Policy/Guidance	Consideration within the ES Chapter
<b>National Policy Statement for Ports 2012 (“NPSfP”) (Ref 8-7)</b>	
<p>Section 4.8 requires the decision-maker to “consider whether a project may have a significant effect on a European site, or on any site to which the same protection is applied as a matter of policy, either alone or in combinations with other plans or projects.”</p> <p>Section 5.1 (Biodiversity and geological conservation) provides the nature conservation framework for decisions on proposals for new port development. Section 5.1.4 states that “the applicant should ensure that the ES clearly sets out any effects on international, nationally and locally designated sites of ecological or geological conservation importance, on protected species and on habitats and species identified as being of principal importance for the conservation of biodiversity.” It states the policies to avoid and mitigate harmful aspects of development on International Sites (5.1.10), SSSI (5.1.11-5.1.12), Marine Conservation Zones (5.1.12), Regional and Local Sites (5.1.14) ancient woodland and veteran trees (5.1.15) and protected habitats and species (5.1.17-5.1.18). Section 5.1.19-5.1.20 require the mitigation measures to be shown.</p>	<p>In accordance with NPSfP Section 4.8, assessment in respect of the Humber Estuary EMS and its designated features is considered in <b>Chapter 9: Nature Conservation (Marine Ecology) [TR030008/APP/6.2]</b> and the ornithological features of the Humber Estuary SPA/Ramsar and SSSI in <b>Chapter 10: Ornithology [TR030008/APP/6.2]</b>. The information to inform an appropriate assessment is presented in the <b>Shadow Habitats Regulations Assessment [TR030008/APP/7.6]</b></p> <p>In accordance with NPSfP section 5.1.4 – 5.1.18), <b>Section 8.6</b> of this chapter identifies all of the terrestrial designations, habitats and species relevant to this assessment, including the identification of a veteran tree present in the Long Strip woodland. Marine designations are addressed in <b>Chapter 9: Nature Conservation (Marine Ecology) [TR030008/APP/6.2]</b>.</p> <p><b>Section 8.8 - 8.10</b> provides an assessment of potential impacts and effects. In accordance with NPSfP section 5.1.19-20, <b>Section 8.7</b> shows avoidance and mitigation included in the design and <b>Section 8.9</b> summarises the mitigation and enhancement measures for terrestrial ecology and <b>Section 8.10</b> shows any residual effects.</p>
<b>National Planning Policy Framework (“NPPF”) 2021 (Ref 8-9)</b>	
<p>Chapter 15 (<i>Conserving and enhancing the natural environment</i>) sets out government planning policies for England and how decision-making should contribute to and enhance the natural and local environment. Guidance to local planning authorities on determining planning applications is given in paragraph 180. Specifically, the following principles of relevance should be applied:</p> <p>a) if significant harm to biodiversity cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.</p> <p>b) development on land within or outside a SSSI and which is likely to have an adverse effect on it should not normally be permitted.</p> <p>c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees)</p>	<p><b>Section 8.6</b> identifies the SSSIs and biodiversity features relevant to this assessment. <b>Section 8.7</b> and <b>Section 8.9</b> summarise how the Project has incorporated measures to avoid significant harm (in accordance with NPPF 180a). Development adjacent to the Humber Estuary SSSI/SPA is considered in <b>Chapter 9: Nature Conservation (Marine Ecology)</b> and <b>Chapter 10: Ornithology</b> (in accordance with NPPF 180b). The Project avoids the loss of a veteran tree in Long Strip (not ancient woodland, described in <b>Section 8.6</b>), in accordance with NPPF 180c. <b>Sections 8.8 - 8.10</b> provide an assessment of potential impacts and effects, and any related requirements for avoidance/mitigation/compensation. Measures which have been integrated into the design (NPPF 180d) are summarised in <b>Section 8.7</b>.</p> <p>An <b>Outline Landscape and Ecology Management Plan (OLEMP)</b> has been prepared to support the Application [TR030008/APP/6.9]; The Outline LEMP defines the opportunities which are available within</p>

Legislation/Policy/Guidance	Consideration within the ES Chapter
<p>should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.</p> <p>d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design.</p>	<p>the operational site boundaries to provide landscape and ecological measures to enhance the operational layout.</p> <p>An <b>Outline Woodland Compensation Strategy</b> has been prepared [TR030008/APP/6.8]. The Strategy sets out the approach to off-site planting of trees in the Immingham area, as well as enhancement of existing retained on-site woodland, to ensure that the tree loss from the Long Strip is appropriately compensated.</p>
<p><b>Government Standing Advice</b> (Ref 8-10 and Ref 8-11)</p>	
<p>The purpose of standing advice is to guide decision-makers on the determination of proposals with potential to affect protected sites, habitats and species.</p>	<p>This advice has informed the overall survey and assessment approach in respect of protected species/habitats, which is set out in <b>Table 8-3</b> (field survey scopes and methods) and <b>Appendix 8.A</b> [TR030008/APP/6.4] (assessment scope and methods).</p>
<p><b>Local Policy</b></p>	
<p><i>North East Lincolnshire Local Plan 2018 (Ref 8-21)</i></p>	
<p>Policy 9 – Habitat Mitigation – South Humber Bank. This policy requires proposals within the Mitigation Zone, which will adversely affect the Humber Estuary SPA / Ramsar site due to loss of functionally linked land, to provide their own mitigation to comply with the requirements of the Habitats Regulations.</p> <p>Policy 41 – Biodiversity and Geodiversity. This policy sets out a strategic approach, which positively plans for the creation, protection, enhancement and management of sites of biodiversity and geodiversity value.</p>	<p>The Project is located within the Mitigation Zone<sup>1</sup> identified on the policies map and therefore falls within the remit of this policy where land that is functionally linked to the Humber Estuary SPA/ Ramsar site is lost to development. The relevant terrestrial habitats are identified in <b>Section 8.6</b>, but the impact assessment is covered in <b>Chapter 10: Ornithology</b> [TR030008/APP/6.2] given the relevant qualifying interest features are birds. Surveys to determine whether land within the Site Boundary is functionally linked to the SPA/ Ramsar have been undertaken (the scope is covered in <b>Chapter 10: Ornithology</b> [TR030008/APP/6.2]).</p> <p><b>Section 8.6</b> identifies the biodiversity features relevant to this assessment. <b>Section 8.7</b> summarises how these have been addressed in the Project design <b>Sections 8.8 - 8.10</b> provide an assessment of potential impacts and effects, and</p>

<sup>1</sup> Development proposals within the 'Mitigation Zone', which will adversely affect the Humber Estuary SPA / Ramsar site due to loss of functionally linked land, are required to provide their own mitigation to comply with the requirements of the Habitats Regulations.

Legislation/Policy/Guidance	Consideration within the ES Chapter
	any related requirements for avoidance/ mitigation/ compensation.
<b>Lincolnshire Biodiversity Action Plan (Ref 8-12)</b>	
Identifies biodiversity conservation objectives within the region and provides action plans for priority habitats, species, locally important wildlife and sites.	<b>Section 8.6</b> identifies the biodiversity action plan habitats and species relevant to this assessment. <b>Section 8.7</b> summarises how these have been addressed in the Project design <b>Sections 8.8 - 8.10</b> provide an assessment of potential impacts and effects, and any related requirements for avoidance/ mitigation/ compensation measures.
<b>Keepers of time: ancient and native woodland and trees policy in England (2022) (Ref 8-19).</b>	
<p>The Government increased protection for ancient woodland and ancient and veteran trees in the planning system by amending the NPPF in 2012 and again in 2018, 2019 and 2021.</p> <p>The strategic objectives of this policy are to:</p> <ul style="list-style-type: none"> <li>maintain and enhance the existing area of ancient woodland</li> <li>conserve and enhance the existing resource of ancient and veteran trees</li> <li>recognise the value of and protect long-established woodland</li> </ul> <p>The main priority is the protection of ancient woodland, and ancient and veteran trees; however, the policy recognises the value of long-established woodland and the need to protect this habitat from development.</p>	<p>None of the woodland within the Site is listed on the Ancient Woodland Inventory (“AWI”). The other areas of non-ancient woodland have been added the assessment (and are evaluated to be ‘Long Established Woodland’ based on Forestry Commission criteria) and the impact of the Project on these areas is set out in this chapter at <b>Section 8.6</b>.</p> <p>A single veteran ash tree was located in the TPO woodland of the Long Strip during arboricultural surveys (see <b>Arboricultural Impact Assessment at Appendix 8.G [TR030008/APP/6.4]</b> for full details). This veteran tree would be retained and protected during construction to ensure there is no accidental damage to it. The route of the jetty access road and pipe-rack and the associated buildings, which comprise <b>Work No. 2</b>, have been designed to ensure this tree can be retained as explained further in <b>ES Chapter 3: Need and Alternatives [TR030008/APP/6.2]</b>.</p> <p>An <b>Outline Landscape and Ecology Management Plan (OLEMP) [TR030008/APP/6.9]</b> has been prepared to support the Application; The Outline LEMP defines the opportunities which are available within the operational site boundaries to provide landscape and ecological measures to enhance the operational layout.</p> <p>An <b>Outline Woodland Compensation Strategy</b> has been prepared <b>[TR030008/APP/6.8]</b>. The Strategy sets out the approach to off-site planting of trees in the Immingham area, as well as enhancement of existing retained on-site woodland, to ensure that the tree loss from the Long Strip is appropriately compensated.</p>

## 8.4 Assessment Methodology

8.4.1 The assessment method for the Ecological Impact Assessment (“EclA”) contained in this chapter in order to identify likely significant effects is provided in **Appendix 8.A [TR030008/APP/6.4]** and remains as summarised in the Scoping Report.

### Limitations and Assumptions

8.4.2 No limitations are considered to be relevant. Access was possible to all areas within the Site Boundary and weather was good during all survey visits. All relevant habitats and species have been addressed within the assessments in this chapter.

8.4.3 Works within Work No. 10 relate only to temporary street works associated with existing built infrastructure (e.g. street furniture, overhead lines) on Kings Road during the construction phase; as no semi-natural habitats are impacted by this work, and therefore there is no risk of protected species being present, all land within Work No. 10 has been excluded from the ecology survey area.

### Use of the Rochdale Envelope

8.4.4 The Rochdale Envelope principle arises from United Kingdom (“UK”) case law. It is an established principle that allows a number of parameters to be set to establish an envelope within which the Project would be delivered. Its adoption allows robust EIA to be undertaken by defining a reasonable worst-case scenario that decision-makers can consider when determining the acceptability or otherwise of the environmental effects of the Project. Further context on the use of the Rochdale Envelope approach is provide in **Chapter 5: EIA Process [TR030008/APP/6.2]**.

8.4.5 In ecological impact assessment this approach is aligned with the use of the precautionary principle. Best practice guidance from the Chartered Institute of Ecology and Environmental Management (“CIEEM”) (Ref 8-20) states that *“the evaluation of significant effects should always be based on the best available scientific evidence proportionate to the severity of those effects.....In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effects, mitigation/compensation measures should be applied in accordance with the precautionary principle. Where uncertainty exists, it must be acknowledges in the EclA.”*

8.4.6 The assessment of effects on terrestrial ecology takes a precautionary approach in its assumptions about zone of influence based on the parameters of the Project, the importance of ecological features and potential for adverse effects.

## 8.5 Study Areas

8.5.1 The following study areas are applicable to the nature conservation (terrestrial ecology) assessment:

- a. Desk Study Area: defined as land within the Site Boundary and a 2km buffer for obtaining baseline data pertaining to terrestrial statutory and non-statutory designated sites, protected species and UK Priority habitats and species. The IRZs defined by Natural England have also been used to identify the

SSSIs of relevance to this assessment. This extent is considered to be appropriate because it is likely to encompass any physical pathways which might impact offsite terrestrial ecological receptors and also include the home ranges or territories of any mobile protected species which may be using both onsite and off-site areas.

- b. Habitat Survey Area: all terrestrial land within the Site Boundary (excluding the jetty) and up to 50m from the Site Boundary where accessible/visible from adjacent land. This includes permanent land take and temporary laydown areas. This extent is considered appropriate because it encompasses all habitats with the potential to be directly impacted, and any protected species the habitats may support.
- c. Species Survey Areas: these were defined on a case -by-case basis (refer to **Table 8-3**) in accordance with the good practice survey guidelines for the species concerned and with consideration of the likely pathways for impact.

8.5.2 The potential zone of influence, as defined by the CIEEM guidance and outlined below, seeks to consider the potential distance from the activities being conducted to facilitate the construction (or operation) of the Project in which the designated sites, habitats or species present may be affected by those activities e.g. the terrestrial habitats within which great crested newt may disperse from a breeding pond. The study and survey areas were considered sufficient to collate ecological baseline data to inform an EclA for the Project and to account for the potential effects likely to occur within the relevant zone of influence for each ecological feature.

#### **Desk Study**

8.5.3 A desk-based study was undertaken to obtain terrestrial ecology data from the following key sources:

- a. Multi-Agency Geographical Information for the Countryside (“MAGIC”) website (Ref 8-13) for statutory designated sites and ancient woodlands within 2km of the Project.
- b. Natural England website (Ref 8-14) for information on statutory designated sites of nature conservation interest within 2km of the Project and to confirm reasons for designation and site condition.
- c. Natural England Priority Habitat Inventory for records of priority habitats within 2km of the Project (accessible via MAGIC, see above).
- d. Lincolnshire Ecological Records Centre (“LERC”) for non-statutory designated sites and for records of protected and notable species within 2km of the Project.
- e. Local authority planning portal for any potentially relevant ecological records pertaining to the Site Boundary and its immediate surrounds.

#### **Field Surveys**

8.5.4 The scope of field surveys undertaken is detailed in **Table 8-3**, along with references to the relevant methods and guidance adopted for each survey, and the dates of each survey. The relevant areas of the Site are defined in **Chapter**



**2: The Project [TR030008/APP/6.2] and shown on Figure 2.3 [TR030008/APP/6.3].**

8.5.5 Phase 1 habitat and Phase 2 protected species surveys were undertaken in both 2022 and 2023 to reflect any impacts on the surveyed protected species made by the changes in the Site Boundary that occurred since the original PEA Report was prepared for the West Site (as submitted with the Scoping Report (**Appendix 8.B [TR030008/APP/6.4]**)). These surveys are summarised in **Table 8-3** below.

**Table 8-3: Summary of Field Surveys undertaken in 2022/23**

Survey	Field Survey Method	Field Survey Scope	Timing
<b>Phase 1 habitat survey</b>	Phase 1 Habitat Survey in accordance with the published method (Ref 8-16).  Assessment of possible presence of protected, priority or otherwise notable species and, where relevant, the likely importance of habitat features for such species.  Record of Invasive Non-Native Species (INNS) of plants. Incidental records of protected or priority species or their field signs.	<ul style="list-style-type: none"> <li>All habitats within the Site Boundary</li> </ul>	<p>March – June 2022</p> <p>March – June 2023</p>
<b>Woodland ground flora survey</b>	Walkover survey to record detailed botanical species listed within woodland habitats.	<ul style="list-style-type: none"> <li>Long Strip Woodland within Pipe Rack and Jetty Access Road site (Work No. 2) (see <b>Figure 2.4 [TR030008/APP/6.3]</b>)</li> </ul>	June 2022
<b>Badger</b>	Walkover survey to record any field signs of badger such as setts, latrines, or footprints.	<ul style="list-style-type: none"> <li>All habitats within the Site Boundary</li> </ul>	<p>March – June 2022</p> <p>March – June 2023</p>
<b>Bats – foraging/ commuting</b>	Monthly walked bat activity transects in suitable habitats in accordance with standard methods (Ref 8-17).	<ul style="list-style-type: none"> <li>Long Strip Woodland (Work No. 2)</li> <li>East Site - Ammonia storage site (Work No. 3)</li> </ul>	June, July, August and September 2022
	Monthly deployment of remote static bat detectors in suitable habitats for a minimum of five days per deployment.	<ul style="list-style-type: none"> <li>Long Strip Woodland (Work No. 2)</li> <li>East Site - Ammonia Storage site (Work No. 3)</li> </ul>	June, July, August and September 2022

Survey	Field Survey Method	Field Survey Scope	Timing
<b>Bats – roosting</b>	Potential Roost Features (“PRF”) assessment in accordance with standard methods (Ref 8-17)	<ul style="list-style-type: none"> <li>All mature trees in Long Strip Woodland (Work No. 2)</li> </ul>	February 2023
	Dusk emergence/dawn swarming surveys in accordance with standard methods (Ref 8-17)	<ul style="list-style-type: none"> <li>All trees identified with moderate or high bat roost potential during the PRF survey that will be removed for development (Work No. 2).</li> </ul>	July – August 2023
<b>Otter</b>	Presence/absence survey for field signs.	<ul style="list-style-type: none"> <li>All ditches within Site Boundary.</li> </ul>	October 2022
<b>Water vole</b>	Presence absence survey following standard methods (Ref 8-18).	<ul style="list-style-type: none"> <li>All ditches within the Site Boundary</li> </ul>	May and October 2022
<b>Great crested newt</b>	Habitat Suitability Index (“HIS”) assessment in accordance with standard methods (Ref 8-19).	<ul style="list-style-type: none"> <li>Ponds identified within 250m of Site Boundary, where accessible.</li> </ul>	June 2023
	Environmental DNA (“eDNA”) sampling.	<ul style="list-style-type: none"> <li>Ditch at the base of the flood embankment (Work No. 1).</li> </ul>	June 2022
		<ul style="list-style-type: none"> <li>Pond 1 (within 250 m of Site Boundary).</li> </ul>	June 2023
<b>Terrestrial invertebrates</b>	Habitat site appraisal by invertebrate specialist.	<ul style="list-style-type: none"> <li>West Site (Work No. 7)</li> <li>East Site - Ammonia Storage site (Work No. 3)</li> <li>Long Strip Woodland (Work No. 2)</li> </ul>	June 2022

### Field Surveys Scoped Out

8.5.6 As set out in the Scoping Report (**Appendix 1.A [TR030008/APP/6.4]**), surveys for the following species were scoped out:

- a. **Bat foraging/commuting activity at the West Site (Work No. 7):** the habitats comprise mainly open tall-swarded grassland with some areas of dense scrub. Given the open and exposed nature of the West Site, it is considered unlikely that the habitats would be used on anything other than an occasional and transient basis by small numbers of foraging/ commuting common species of bats. Further bat surveys of this habitat were therefore scoped out.

- b. **Reptiles:** none of the habitats within the Site Boundary have been found to be suitable for reptiles, as they lack the diverse habitat mosaic and varied topography favoured by species of reptiles for basking, refuge and hibernation. The ditches are mainly dry and therefore unsuitable for grass snake, with the exception of the main drain at the foot of the flood embankment. When considered in context with the lack of known reptile populations in this part of Lincolnshire, it is reasonable to conclude that they are likely to be absent. The low risk of presence of grass snake on the main drain at the foot of the flood embankment would be addressed through a precautionary approach/ method statement for vegetation clearance during Project construction and included within the Final CEMP.
- c. **White-clawed crayfish:** none of the ditches within the Site Boundary are suitable for this species. Most of the ditches dry out regularly, making them wholly unsuitable for white-clawed crayfish. Others are managed drains with poor potential for refuges and the drain near the coast has some brackish influence. Therefore, no further survey is needed as the species is likely to be absent.

## 8.6 Baseline Conditions

### Current Baseline

- 8.6.1 A Phase 1 Habitat survey and preliminary ecological appraisal of land within the Site was undertaken in 2022 (see **Appendix 8.B [TR030008/APP/6.4]**). As the Project design has evolved throughout 2022 and 2023, the Phase 1 Habitat survey has been extended to ensure that all terrestrial areas within the Site Boundary (and within the relevant zones of influence) have been subject to an appropriate level of survey to inform this EclA.
- 8.6.2 Ecological receptors are valued in accordance with the standard EclA methodology as set out in **Appendix 8.A [TR030008/APP/6.4]**.
- 8.6.3 The following Phase 2 ecology surveys were undertaken to inform the EclA, following the completion of preliminary ecological assessment work:
  - a. Woodland ground flora – reported in **PEA Report (Appendix 8.B [TR030008/APP/6.4])**.
  - b. Badger – reported in **PEA Report (Appendix 8.B [TR030008/APP/6.4])**.
  - c. Bats (foraging/commuting activity) - detailed method, scope and results reported in **Bat Survey Report (Appendix 8.C [TR030008/APP/6.4])**.
  - d. Bats (roosting) - detailed method, scope and results reported in **Bat Survey Report (Appendix 8.C [TR030008/APP/6.4])**.
  - e. Otter and water vole - detailed method, scope and results reported in **Otter and Water Vole Survey Report (Appendix 8.D [TR030008/APP/6.4])**.
  - f. Great crested newt eDNA” survey - detailed method, scope and results reported in **Great Crested Newt Survey Report (Appendix 8.E [TR030008/APP/6.4])**.



### *Statutory Designated Sites*

- 8.6.4 There are no statutory designated sites with IRZ that overlap the Site Boundary and that have qualifying interest features of relevance to this terrestrial ecology assessment.
- 8.6.5 The marine elements of the Project (see **Chapter 2: The Project [TR030008/APP/6.2]**) are located within the Humber Estuary EMS which encompasses the Humber Estuary SPA, SAC, Ramsar and SSSI designations. The qualifying interest features (including subtidal and intertidal habitats, marine species and ornithology features) are outside the scope of this ES chapter. Given this, no further consideration is given to the Humber Estuary EMS in this chapter. Both the direct and indirect impacts on the designated habitats and features are instead considered within **Chapter 9: Nature Conservation (Marine Ecology) [TR030008/APP/6.2]** and **Chapter 10: Ornithology [TR030008/APP/6.2]**.

### *Non-statutory Designated Sites*

- 8.6.6 The desk study identified one non-statutory designated site within 2km of the Project, namely the Laporte Road Brownfield Site Local Wildlife Site (“LWS”) which is located approximately 150m south-east of the Site Boundary (the nearest part of which is the proposed temporary construction compound off Laporte Road, **Work No. 9**). This site is of County nature conservation value. No pathways by which this LWS could be affected by the Project have been identified and therefore no further consideration is given to it within this chapter.

### *Habitats*

- 8.6.7 A summary of the habitats identified within the Habitat Survey Area is provided in **Table 8-4**.
- 8.6.8 Most habitats within the Habitat Survey Area are of low ecological value, with the exception of the mature broad-leaved deciduous woodland of Long Strip (within the Pipe Rack and Jetty Access Road site) as shown on **Figure 2 in Appendix 8.B (Preliminary Ecological Appraisal) [TR030008/APP/6.3]**. All habitats within the Habitat Survey Area except the woodland are therefore evaluated as being of Site nature conservation value only.
- 8.6.9 The woodland habitat within Long Strip is representative of the UK Priority Habitat type ‘lowland mixed deciduous woodland’ and the Local Biodiversity Action Plan (“BAP”) habitat ‘trees and woodland’. Lincolnshire is noted to be ‘...one of the least wooded counties in Britain’ with the predominance of agricultural cultivation meaning that woodlands have become reduced in extent and fragmented throughout the county’s landscape (Ref 8-13). The woodland is also subject to a TPO which applies to the whole woodland block (including the area on the south side of Laporte Road, which is outside the Site Boundary). Interrogation of freely available historic maps indicates that “Long Strip” woodland was present on the 1889 Ordnance Survey Map where it was a continuous strip of woodland (Laporte Road having not been constructed at that time). It is therefore likely that this area has been wooded from at least the middle of the 19<sup>th</sup> century, most likely planted as a shelterbelt. The Forestry Commission, in its response to the first statutory consultation on the Project

recommended that the woodland be treated as ‘Long Established Woodland’<sup>2</sup> given that there is evidence of it having been in existence for a relatively long period of time. Given its rarity within the wider local area and the period of time for which the woodland has been established, but taking into account the fact that it is not subject to any local nature conservation designations (other than the TPO), this habitat is evaluated in this assessment as being ‘Long Established Woodland’ which is of Borough nature conservation value.

**Table 8-4: Summary of Habitats within Habitat Survey Area**

Habitat	Brief Description
Semi-improved grassland	The dominant habitat on the West Site (Work No. 7) having originated from three abandoned arable fields (abandoned from agricultural cultivation approximately ten years ago). The grassland comprises tall swarded poor semi-improved grassland and tall ruderals dominated by false oat-grass ( <i>Arrhenatherum elatius</i> ) with tall fescue ( <i>Schedonorus arundinaceus</i> ), tufted hair-grass ( <i>Deschampsia cespitosa</i> ) and meadow foxtail ( <i>Alopecurus pratensis</i> ).
Scrub	Self-seeded goat willow ( <i>Salix caprea</i> ) scrub has become established in the western and eastern parts of the West Site (Work No. 7).  Dense areas of self-seeded silver birch ( <i>Betula pendula</i> ) and bramble are present around a central cleared area in the East Site (Work No. 3 and 5).
Hedgerow	The former arable field boundaries in the West Site (Work No. 7) are marked by overgrown species-poor hawthorn ( <i>Crataegus monogyna</i> ) hedgerows with parallel ditches choked with common reed ( <i>Phragmites australis</i> ).
Arable	The proposed Temporary Compound Area off Laporte Road (Work No. 9) would occupy a large arable field (approximately 15ha) fronting the estuary, which was under a wheat crop at the time of the Phase 1 Habitat survey in March 2022.
Hardstanding	Areas of hard-standing are scattered throughout the Survey Area and are associated with the existing port road network and land currently in use for port-related storage.
Broad-leaved woodland	The Pipe Rack and Jetty Access Road (Work No. 2) would be constructed within a narrow band of mature woodland on the north side of Laporte Road referred to as ‘Long Strip’. The canopy is dominated by pedunculate oak ( <i>Quercus robur</i> ) and ash ( <i>Fraxinus excelsior</i> ), with an understorey of mature hawthorn, elder ( <i>Sambucus nigra</i> ) and some areas of denser bramble scrub.  This habitat is representative of the UK Priority Habitat type ‘lowland mixed deciduous woodland’.

<sup>2</sup> Definition of Long Established Woodland as set out in *Keepers of time: ancient and native woodland and trees policy in England (2022)* (Ref 8-19): “Woodlands that have been on the Ordnance Survey Epoch 1 Map series since 1893 and have been wooded continuously until today. All ancient woodland is long established, however not all long-established woodland is ancient”.

Habitat	Brief Description
	<p>This habitat would fall within the 'trees and woodland' Local BAP habitat type for which an action plan has been prepared.</p> <p>The woodland is not listed on the Ancient Woodland Inventory and the species recorded in the woodland were not indicators of ancient woodland, with only two species recorded from the LWS list of woodland indicator species (<b>Appendix 8.B, Annex E Table E3 [TR030008/APP/6.4]</b>). For the purposes of assessment it is considered to be 'Long Established Woodland' in accordance with Forestry Commission guidance.</p>
Ephemeral/ short perennial	<p>Part of the East Site – Ammonia Storage site (Work No. 3) has been in use for ad-hoc overflow parking and storage of construction arisings/equipment; the central area comprises crushed and levelled aggregate material that has become colonised with ephemeral/ short perennial vegetation.</p> <p>This habitat does not support a sufficiently diverse mosaic of species-rich areas, wetlands and varied topography to fall within the definition of the UK Priority Habitat type 'open mosaic habitat on previously developed land'.</p> <p>The habitat is also considered insufficiently diverse to meet the Local BAP definition of 'brownfield' habitat, although there are elements of the habitat that may be considered representative of this habitat type such as the bare ground/ loose substrates that are becoming colonized by vegetation.</p>
Ditches	<p>There are several ditches within the West Site (Work No. 7); some are of recent origin having been constructed approximately five years ago as part of development enabling works for access to the land off Kings Road. There are other ditches in the West Site (Work No. 7) associated with the overgrown hedgerows that formerly marked the field boundaries. All of the ditches are heavily overgrown with common reed and hold virtually no water.</p> <p>There is a drainage ditch that runs along the western boundary of Long Strip Woodland (Work No. 2), and which is culverted beneath Laporte Road. The stretch south of Laporte Road, and approximately three quarters of the ditch north of Laporte Road was dry when surveyed in Spring and supported no evidence of aquatic/marginal vegetation so is unlikely to regularly hold water. The northernmost section held some water but supported no vegetation due to substantial shading from shrubs on the banks.</p> <p>A large man-made drainage ditch is present at the base of the flood embankment (Work No. 1); this is regularly maintained by the Environment Agency. The ditch is approximately 5m wide and supports areas of dense common reed.</p> <p>North Beck Drain flows adjacent to the eastern boundary of the Temporary Compound Area off Laporte Road (Work No. 9).</p>
Ponds	<p>There are no ponds within the Site Boundary.</p> <p>Four ponds were identified through desk study as present within 250m of the Site Boundary. These are discussed in further detail below in respect of their potential to support great crested newt.</p>

### *Badger*

8.6.10 The desk study returned no records of badger from within the Desk Study Area.

- 8.6.11 No field signs indicating the presence of badger were found within the Site Boundary during surveys undertaken in 2022 or 2023. There is some potentially suitable habitat in grassland, woodland and areas of scrub for foraging and commuting badgers, but these habitats are not well connected to suitable habitat for badgers in the wider local area. Within the Site Boundary, the woodland habitat in Long Strip (Work No. 2) offers the highest potentially suitable habitat for badgers; however, the woodland is relatively heavily disturbed by pedestrians/dog walkers (there is a public bridleway along the eastern edge of the woodland) with evidence of fly-tipping within the woodland area, and no signs of badger were found.
- 8.6.12 Limited vegetation clearance for Ground Investigation (“GI”) work, related to the Project, was undertaken under the supervision of an Ecological Clerk of Works (“ECoW”) in the East Site – Ammonia Storage site (Work No. 3) in winter 2022/23. No evidence of badger setts or badger activity on this part of the Site was uncovered in the areas cleared.
- 8.6.13 Although it is difficult to confirm the absence of this species, given that it is a common, widespread and wide-ranging mammal, but given the lack of desk study records and the lack of field evidence, the presence of badger on anything other than a transient and occasional basis within the Site Boundary is considered unlikely. This species is therefore not considered further in this assessment.
- 8.6.14 Precautionary mitigation would be implemented during the Project construction phase to address the low residual risk of encountering badger during vegetation clearance activities.

#### *Bats*

- 8.6.15 The desk study returned no records of bats from within the Desk Study Area.
- 8.6.16 Most habitats within the Site Boundary are of low quality for foraging/commuting bats due to the open nature of the land and the lack of botanical species diversity to provide large numbers of insect prey. These habitats were not scoped into the survey for foraging bats.
- 8.6.17 The woodland habitat in Long Strip (Work No. 2) offers the highest potential for suitable habitat for foraging and commuting bats; however, surveys completed to date have only recorded common pipistrelle (*Pipistrellus pipistrellus*) during both the walked transects and the static remote detector deployment periods. It is concluded that the relative isolation of the woodland habitat from other suitable areas of scrub/woodland in the wider local area due to the operational port and other industrial uses, results in low numbers of bats being present.
- 8.6.18 The walked transects also covered the young woodland/scrub habitat in the East Site – Ammonia Storage site (Work No. 3) due to its connectivity to Long Strip woodland, but again the surveys undertaken indicated the presence of only low numbers of common species of bat foraging/commuting within the habitats.

- 8.6.19 An assessment of Potential Roost Features (“PRFs”) of all mature trees to be removed for development (see also **Appendix 8.F**) identified two trees with high bat roost potential and 16 with moderate bat roost potential, as well as one tree with a confirmed bat roost (T32; confirmed through the observed presence of bat droppings outside the tree cavity feature). These trees are undergoing further dusk emergence/dawn swarming surveys in accordance with standard methodology in summer 2023, and the surveys are due to be completed by the end of August/early September (weather dependent). However, based on the results of the transect surveys it is reasonable to assume that there would be, at most, transient summer usage of tree roosts by single or small numbers of common pipistrelle bat. There was no evidence within the data collected during the activity surveys to suggest that the trees within the woodland supported large numbers of roosting (or breeding) common pipistrelle bats, and no rare species of bats were recorded.
- 8.6.20 The habitats within the Site Boundary are therefore considered to be of Local value to roosting, foraging and commuting bats.
- 8.6.21 Further details on the scope, method and results of the bat surveys are provided in **Appendix 8.C [TR030008/APP/6.4]**.

*Otter*

- 8.6.22 The desk study returned one recent record of otter within the Desk Study Area (location withheld). Otter surveys of the West Site (Work No. 7) in 2011 and 2013 (excluding the newer ditches around the new road infrastructure, which had not been created at that time), which were the most recent surveys undertaken in West Site prior to the AECOM surveys in 2022/23, for a previous planning application (NELC reference DM/1027/13/OUT) did not record any evidence of this species.
- 8.6.23 It is possible that otters visit habitats within the Site Boundary as a place for rest or shelter given that they are likely present in the nearby Humber Estuary, but no sign of their presence or suitable breeding features were identified within terrestrial habitats closest to the estuary (e.g. Long Strip woodland). The large ditch at the base of the flood embankment (within Work No. 1) has the potential to provide foraging habitat for otter (particularly given its proximity and connectivity to the estuary) although no signs of otter were recorded during a survey undertaken in October 2022.
- 8.6.24 North Beck Drain, which runs along the eastern boundary of the temporary compound (Work No. 9) off Laporte Road, also provides suitable foraging and resting habitat for otter. This watercourse was not surveyed for otter as it is outside the Site Boundary and will not be directly impacted.
- 8.6.25 All the other ditches within the Site Boundary are considered unsuitable for otter. The ditches within the West Site (Work No. 7) (both the ditches associated with the original hedgerow boundaries, and those created in recent years as part of the consented development enabling works) are shallow and likely to be predominantly dry most of the time (due to being heavily overgrown with common reed) and therefore would not be expected to support sufficient fish to provide prey for foraging otter. The West Site is surrounded by roads and otters are



vulnerable to road traffic injury or fatality, therefore reducing the likelihood of otter being present. No evidence of otter was recorded on these ditches during an otter survey undertaken in October 2022, and it is concluded that the species is likely absent from these parts of the Site Boundary.

- 8.6.26 Despite the lack of otter field signs recorded during an otter survey of ditches within the Site Boundary undertaken in October 2022, given the recorded presence of otter in the Desk Study Area, it is reasonable to conclude that this species will likely use suitable habitats within and adjacent to the Site Boundary for foraging and passage on an occasional basis. The areas of occasional usage are likely to include North Beck Drain (adjacent to Work No. 9) and the large ditch at the base of the flood embankment (Work No. 1), as well as the estuary frontage/ intertidal mudflats (Work No. 1). This is a wide-ranging species that is likely to be found in suitable habitats throughout the Humber catchment, and it is therefore evaluated that these habitats within the Site Boundary are of Local value to populations of otter.
- 8.6.27 Further details on the scope, method and results of the otter survey are provided in **Appendix 8.D [TR030008/APP/6.4]**.

#### *Water Vole*

- 8.6.28 The desk study returned two recent records of water vole within the Desk Study Area, the closest of which was associated with a ditch on the north side of Kings Road approximately 55m north of the Site Boundary (West Site, Work No. 7).
- 8.6.29 Water vole surveys of the ditches on the West Site (Work No. 7) in 2011 and 2013 (excluding the newer ditches around the new road infrastructure, which had not been created at that time), conducted for a previous planning application (North East Lincolnshire Council planning reference DM/1027/13/OUT) did not record any evidence of this species. Those were the most recent surveys undertaken on West Site (Work No. 7) prior to the AECOM surveys in 2022/ 23.
- 8.6.30 The LWS citation for Laporte Road Brownfield Site LWS, which is approximately 150 m south of the Temporary Compound Area (Work No. 9) refers to a “*thriving population*” of water vole in North Beck Drain<sup>3</sup>.
- 8.6.31 North Beck Drain, which runs along the eastern boundary of the Temporary Compound Area (Work No. 9) off Laporte Road, provides suitable potential habitat for water vole, and it is noted from the desk study that the species has previously been reported from this drain. This drain was not accessible for the water vole survey undertaken in October 2022; however, it will not be directly impacted by the Project.

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<sup>3</sup> The LWS was originally surveyed by the local nature partnership in August 2008, and was most recently surveyed in May 2015 – it is not stated in the LWS citation on which survey the water vole population was identified.

- 8.6.32 The large ditch at the base of the flood embankment (Work No. 1) has the potential to provide habitat for water vole and has habitat connectivity via the drainage network to North Beck Drain, which has previously been recorded to support water vole. Surveys undertaken in 2022 recorded water vole field signs on the large ditch at the base of the flood embankment and the species is confirmed to be present. Given that there are desk study records of water vole on North Beck Drain, and the watercourse is connected to the ditch referred to above, it is reasonable to conclude that it also supports this species.
- 8.6.33 All the other ditches within the Site Boundary are considered unsuitable for water vole. The ditches within the West Site (Work No. 7) (both the ditches associated with the original hedgerow boundaries, and those created in recent years as part of the consented development enabling works) are shallow and likely to be predominantly dry most of the time (due to being heavily overgrown with common reed) and therefore would not be expected to support water vole. The ditches were surveyed for water vole in May 2022 and no evidence of water vole was found. These ditches were re-surveyed for water vole in October 2022 and no evidence of the species was found. It is therefore concluded that the species is likely absent from these ditches and they are not considered further in respect of this species.
- 8.6.34 Water vole is listed on the Local BAP (Ref 8-13) as 'widespread' within the county, which is noted to be a population stronghold within the UK despite the national trend for a significant decline in this species. It is therefore evaluated that the water vole population identified within the Study Area is of County nature conservation value. Although the ditch within the Site Boundary is of relatively low quality, it provides additional habitat to support this population.
- 8.6.35 Further details on the scope, method and results of the water vole survey are provided in **Appendix 8.D [TR030008/APP/6.4]**.

*Great Crested Newt*

- 8.6.36 The desk study returned no recent records of great crested newt within the Desk Study Area. Surveys of the wetland complex in the landfill site (Pond 3) adjacent to West Site (Work No. 9) conducted in 2011 and 2013 for a planning application (NELC planning reference DM/1027/13/OUT) did not record great crested newt.
- 8.6.37 There are no ponds within the Site Boundary. Four ponds have been identified within 250m of the Site Boundary, and these are considered in further detail below:
- Pond 1 (TA 211 155) – approximately 10m from Site Boundary – this is a large fire water storage lagoon within the Associated Petroleum Terminal site, which lies to the immediate west of the jetty landfall site (Work No. 1 and Work No. 2). The pond is partially shaded by woodland along the southern bank and supports stands of common reed to its margins.
  - Pond 2 (TA 210 154) – approximately 95m from the Site Boundary – aerial photography indicates this is a square lagoon within the Associated Petroleum Terminal site; however, this structure is an emergency storage bund providing capacity for spillages from the Associated Petroleum Terminal

site. This 'pond' is therefore discounted as a potentially suitable habitat for great crested newt as it does not regularly hold water such that it could support breeding amphibians, and was therefore scoped out of the eDNA surveys.

- c. Pond 3 (TA 198 141) – approximately 100m from Site Boundary – this is a complex of ponds used for drainage within the landfill site that lies to the south of West Site (Work No. 9). It is assumed that the waterbodies are relatively transient due to the nature of the site, resulting in change/ disturbance to their location and extent. The ponds were not accessible for survey. As great crested newt was not recorded in previous surveys, and there are major barriers<sup>4</sup> to great crested newt dispersal onto the landfill site, there is no reasonable likelihood of great crested newt being present at this location.
- d. Pond 4 – approximately 10m from Site Boundary – this is a process lagoon within the Associated Petroleum Terminal site that is regularly drained and therefore is not suitable for breeding amphibians, and was scoped out of the eDNA surveys.

8.6.38 An eDNA survey of Pond 1 was undertaken in June 2023 and returned a negative result for great crested newt. It is therefore reasonable to conclude that this species is likely absent from the waterbody, and will not be present in terrestrial habitats within 250m of the waterbody. No further consideration is therefore given to this species within this assessment.

8.6.39 The large drainage ditch at the base of the flood embankment (within Work No. 1) was considered to represent potentially suitable habitat for great crested newt, although saline influences could not be ruled out given its proximity to the estuary and its potential interactions with the marine environment. The ditch was subject to eDNA sampling in June 2022, which returned an 'inconclusive' result, which is often a result of chemical contamination of a watercourse. It is concluded that this habitat is likely unsuitable for great crested newt given its likely contamination and saline influence, and therefore it is not considered further in the assessment. This conclusion is further strengthened by the negative eDNA result from Pond 1, which is very close (within 10m) to the ditch. If great crested newts had been present in Pond 1 then it would have been more likely that they could also be present in the ditch.

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<sup>4</sup> The following constitute major barriers to dispersal and are unlikely to be traversed by great crested newts: rivers and larger streams; main roads such as A-roads, motorways or any other road with high traffic volume (i.e. high traffic volume during the night when great crested newt are more likely to be dispersing/ commuting); and major urban infrastructure including extensive areas of hardstanding and buildings and dense networks of minor roads with little green space.



- 8.6.40 The other drainage ditches within the Site Boundary are subject to seasonal fluctuations in water levels and have been observed during the course of other surveys to regularly dry out in the Spring/early Summer. They are therefore unsuitable for breeding great crested newt because they do not regularly hold sufficient water or aquatic vegetation to enable successful breeding activity (the larvae of this species are entirely aquatic until late Summer).
- 8.6.41 Further details on the scope, method and results of the great crested newt survey are provided in **Appendix 8.E [TR030008/APP/6.4]**.

*Terrestrial Invertebrates*

- 8.6.42 The desk study returned ten recent records of notable species including the white-letter hairstreak butterfly (*Satyrrium w-album*), which is a UK Priority Species. Elms (*Ulmus* spp.), the larval foodplant of white-letter hairstreak, are scattered throughout the Long Strip woodland (see **Appendix 8.F [TR030008/APP/6.4]**), and this butterfly species is noted to be present within the Long Strip Woodland north of Laporte Road (Work No. 2).
- 8.6.43 A walkover survey of the habitats within the Site Boundary was undertaken by a terrestrial invertebrate specialist in July 2022 and it was concluded that the habitats were unsuitable to support any significant populations of rare and/or notable terrestrial invertebrate species. It was concluded that the habitats within the Site Boundary are of Site value only to terrestrial invertebrate species, and further detailed invertebrate surveys of the habitats were not warranted. No further consideration is therefore given to terrestrial invertebrates in this assessment.
- 8.6.44 Further details on the scope, method and results of the terrestrial invertebrate habitat appraisal are provided in **Appendix 8.B [TR030008/APP/6.4]**.

*Protected Species Summary*

- 8.6.45 A summary of the protected species surveys undertaken to inform the EclA and the results obtained are presented in **Table 8-5**.

**Table 8-5: Protected Species Summary and Evaluation**

Species	Desk Study Records	Field Survey Result	Evaluation of Nature Conservation Value	Scoped into Assessment?
<b>Badger</b>	No records from study area.	<ul style="list-style-type: none"> <li>No evidence of badger presence.</li> <li>May be present on transient and occasional basis.</li> </ul>	Site	No
<b>Bats</b>	No records from study area.	<ul style="list-style-type: none"> <li>Majority of habitats are of low quality for foraging/ commuting bats due to the open nature of the land and the</li> </ul>	Local	Yes

Immingham Green Energy Terminal  
Environmental Statement Chapter 8: Nature Conservation (Terrestrial Ecology)

Species	Desk Study Records	Field Survey Result	Evaluation of Nature Conservation Value	Scoped into Assessment?
		<p>lack of botanical species diversity to provide large numbers of insect prey.</p> <ul style="list-style-type: none"> <li>• Long Strip woodland (Work No. 2) is of slightly higher value to foraging/commuting bats as it provides a sheltered habitat corridor and might also be utilised by roosting bats.</li> <li>• In woodland to be cleared for (Work No. 2); one confirmed bat tree roost (T32) within Long Strip woodland, two trees with high bat roost potential and 16 with moderate bat roost potential, which may support single/low numbers of roosting common pipistrelle (transient summer roosts).</li> </ul>		
<b>Otter</b>	<p>One record in study area (location withheld).</p> <p>Likely to be present in Humber Estuary.</p>	<ul style="list-style-type: none"> <li>• No evidence of this species recorded during survey.</li> <li>• Otter assumed likely present occasionally foraging/on passage on North Beck Drain (outside site boundary adjacent to Work No. 9) and ditch at base of flood embankment (Work No. 1), as well as along estuary frontage (Work No. 1).</li> <li>• All other ditches unsuitable for otter, and no evidence of the species was recorded during surveys.</li> </ul>	Local	Yes
<b>Water vole</b>	<p>One record from Kings Road area approximately 55m from the Site Boundary.</p>	<ul style="list-style-type: none"> <li>• Water vole presence confirmed in ditch at base of flood embankment (Work No. 1), and also likely to be present in North Beck Drain (outside site boundary).</li> <li>• All other ditches unsuitable for water vole, and no evidence of the species was recorded during surveys.</li> </ul>	County	Yes
<b>Great Crested Newt</b>	<p>No records within study area.</p>	<ul style="list-style-type: none"> <li>• No ponds within Site Boundary.</li> <li>• Pond 1 (within Associated Petroleum Terminal site adjacent to Work No. 2) returned negative eDNA sample.</li> <li>• Ponds 2 and 4 (within Associated Petroleum Terminal site adjacent to Work No. 2) unsuitable for GCN.</li> </ul>	Not applicable	Not applicable

Species	Desk Study Records	Field Survey Result	Evaluation of Nature Conservation Value	Scoped into Assessment?
		<ul style="list-style-type: none"> <li>• Pond 3 (wetland complex in landfill site south of Work No. 7) was not accessible for survey but was surveyed in 2011 and 2013 and great crested newt was not recorded.</li> <li>• Most ditches within Site Boundary are regularly dry in late Spring and are therefore unsuitable for breeding great crested newt.</li> <li>• Species considered likely absent based on negative eDNA survey results and lack of desk study records.</li> </ul>		
<b>Terrestrial invertebrates</b>	Ten recent records of notable species including white-letter hairstreak.	<ul style="list-style-type: none"> <li>• Habitats considered to be of low importance for terrestrial invertebrates.</li> </ul> <p>White-letter hairstreak butterfly records in Long Strip Wood; this species, along with other terrestrial invertebrate species recorded in the woodland, has been assessed with respect to the loss of woodland habitat supporting a terrestrial invertebrate assemblage.</p>	Site	No

#### *Invasive Non-native Plants*

8.6.46 No non-native invasive plant species were recorded within the Site Boundary during site surveys undertaken in 2022 and 2023.

#### **Future Baseline**

8.6.47 As set out in **Chapter 5: EIA Process**, the following future baseline scenarios have been considered; short term (2025); medium term (2042) and long term (2060).

8.6.48 In the short term, in the absence of the Project, and assuming a continuation of port operations associated with the East Site – Ammonia Storage (Work No. 3), and continued absence of development of West Site (Work No. 7), it is concluded that the limited suite of semi-natural habitats recorded would not change significantly. It is therefore reasonable to conclude that there would continue to be negligible potential for protected species to occur within that part of the Project footprint.

- 8.6.49 In the medium to long term, in the absence of the Project and other development, the habitats within the West Site (where Work No. 7 is proposed) and East Site – Ammonia Storage (Work No. 3) would be expected to become further overgrown and encroached by the invading willow scrub, reducing the prevalence of grassland habitat. These habitats may provide additional nesting opportunities for breeding birds, and in the longer term, roosting opportunities for bats.
- 8.6.50 Similarly, in the absence of the Project within the East Site – Ammonia Storage (where Work No. 3 is proposed), pioneer vegetation communities on the bare substrate areas would become further established and could increase its ecological value in terms of the niches and habitats provided for plant species and invertebrates. Over an approximate five to 15 year timeframe, it is reasonable to assume that a mosaic of habitats may become sufficiently well established to meet all the criteria for open mosaic habitat (“OMH”) UK Priority Habitat or have otherwise been replaced by other habitat types e.g. loss to scrub invasion. Similarly, areas of scrub and trees would mature further and may provide additional nesting opportunities for breeding birds and roosting opportunities for bats in the absence of any development.
- 8.6.51 The woodland within Long Strip (where Work No. 2 is proposed) is not expected to change significantly over the short or medium term in the absence of the Project, as it is not subject to any substantial management/ commercial timber extraction. Biodiversity enhancement works have taken place previously and maintenance is undertaken as required to maintain clear access to the bridleway. Given the presence of mature ash, the woodland is at potential risk of losing specimens to ash dieback disease, which is spreading in the UK. This may result in the loss of some specimens and an opening up of the canopy layer in the short to medium term scenario, which would increase the abundance of the ground flora and may encourage the development of more diverse ground flora species, at least until the canopy closes again. The presence of additional deadwood may also attract a greater diversity of terrestrial invertebrates and fungi to increase the biodiversity of the woodland.
- 8.6.52 The continuation of agricultural cultivation of the arable field in the Temporary Construction Area (where Work No. 9 is proposed) is not anticipated to result in any changes to the ecological baseline of the habitats in the short, medium or long-term scenarios.

## 8.7 Development Design and Impact Avoidance

### **Embedded Mitigation Measures**

- 8.7.1 The Project has been designed, as far as possible, to avoid and minimise impacts and effects to terrestrial ecology through the process of design development, and by embedding mitigation measures into the design.
- 8.7.2 Impacts on woodland within Long Strip have been minimised as far as possible in the design of the jetty access road, pipe-rack and associated buildings and plant which comprise Work No. 2. However, the permanent loss of woodland within the Long Strip requires that compensatory measures be agreed with the local planning authority. Policy 41 (1D) of the North East Lincolnshire Local Plan 2018

states that the council will seek to specifically “*minimise the loss of biodiversity features, or where loss is unavoidable and justified ensure appropriate mitigation and compensation measures are provided*”. The commitment to a compensation strategy for woodland loss is secured by a DCO Requirement and an **Outline Woodland Compensation Strategy [TR030008/APP/6.8]** has been prepared.

- 8.7.3 Opportunities for landscape planting within the terrestrial parts of the operational site are limited. This is a function of both the security and operational requirements of a hydrogen production facility, as well as the limited space available within the footprint of the works. However, the **Outline LEMP [TR030008/APP/6.9]** defines the opportunities which are available within the operational site boundaries to provide landscape and ecological measures to enhance the operational layout. The measures which are proposed include:
- Wildflower grassland creation in peripheral areas of the site to provide ecological niches for terrestrial invertebrates and feeding habitat for birds,
  - Planting of native trees, shrubs and hedgerows in peripheral areas of the site to create nesting habitat for birds (once matured) and to provide sources of berries for overwintering birds,
  - Installation of bird and bat boxes.
- 8.7.4 Surface water discharge from the operational Site would be attenuated to green-field run-off rates as set out in the **Drainage Strategy** appended at **Appendix 18.B [TR030008/APP/6.4]** and therefore there would be unlikely to be any changes in the flow rates within the adjacent drainage ditches.
- 8.7.5 The operational Project design aims to minimise lighting impacts beyond the Site Boundary, for example by minimising light overspill and directing lighting away from adjacent habitats, as set out in the **Lighting Assessment Report** appended at **Appendix 2.B [TR030008/APP/6.4]**.
- 8.7.6 Mitigation for protected species to ensure legislative compliance would be in place and is covered in the assessment sections below as relevant. Protected species mitigation would be secured through the appropriate licensing requirements as summarised below:
- Water vole – given that the length of bank from which water vole would be displaced for the Project (within Work No. 1) is less than 50 m, mitigation through a Water Vole Class Licence approach will be adopted for the construction phase; this requires sensitive timing of vegetation clearance to achieve natural displacement of water voles through habitat manipulation under the supervision of an ecologist holding a Water Vole Class Licence from Natural England.
  - Bats – any trees to be removed that support confirmed bat roosts, following completion of emergence surveys in summer 2023, will be removed under the supervision of an ecologist holding a Bat Low Impact Class Licence from Natural England. This is on the basis that the woodland is likely to only support, at most, up to three ‘low conservation status’ roosts (i.e. feeding, day, night and transitional roosts) based on the very low numbers of bats recorded during walked transects undertaken over spring, summer and



autumn 2022, and therefore tree removal would fall within the remit of a Low Impact Class Licence. In the event that a higher number of confirmed roost trees, and/ or the roosts are not considered to be low conservation status, then a European Protected Species Mitigation (“EPSM”) derogation licence would be obtained from Natural England. Where mature trees within the Long Strip woodland with low bat roost potential would be impacted and cannot reasonably be avoided, trees will be soft-felled under ECoW supervision.

### Standard Mitigation Measures

- 8.7.7 Construction of the Project would be subject to measures and procedures defined within a Construction Environmental Management Plan (“CEMP”), which would be produced prior to the commencement of construction by the Principal Contractor and would be based on, and incorporate, the contents and requirements of the **Outline CEMP [TR030008/APP/6.5]**.
- 8.7.8 The CEMP would include measures for prevention of surface and ground water pollution, fugitive dust management and noise prevention or amelioration. Measures to be included in the CEMP will include the following:
- a. An Environmental or ECoW will be present during construction as appropriate to oversee implementation of impact avoidance commitments.
  - b. Precautionary working methods would be adopted to manage any residual risk of protected species being encountered e.g. reptiles and badger, and a Precautionary Working Method Statement (“PWMS”) will be prepared as part of the CEMP. These measures would include staged removal of potentially suitable vegetation under the supervision of an ecologist, and the covering of excavations overnight to prevent animals becoming trapped.
  - c. Precautionary measures will be implemented to prevent trapping wildlife in construction excavations, in order to ensure compliance with animal welfare legislation. Any excavations would be covered overnight, or where this is not practicable, a means of escape would be fitted (e.g. battered soil slope or scaffold plank situated at or below a 45 degree angle), to allow animals (e.g. otter, badger, hedgehog, amphibians) to vacate excavations should they fall in. Where excavations had to be left uncovered overnight they would be checked for presence of animals prior to infilling.
  - d. Construction temporary lighting will be arranged so that glare would be minimised outside the construction site. Measures to minimise the impact of construction lighting would be detailed in the Final CEMP.
- 8.8 **Assessment of Likely Impacts and Effects**
- 8.8.1 The assessment identifies that construction, operation and decommissioning of the Project has the potential to result in adverse effects on terrestrial ecology.

- 8.8.2 This section describes the impacts and effects during the construction, operation and decommissioning of the Project on the relevant ecological features. It should be noted that the impact is described under the first stage of the Project which is relevant even if the impact is maintained for later phases (e.g. habitat loss).
- 8.8.3 To enable focussed impact assessment, only impact pathways that have the potential to result in significant effects on ecological features have been screened into the impact assessment. Those impacts that are considered unlikely to result in significant effects are scoped out and are not considered further.
- 8.8.4 The assessment considers development design and mandatory and embedded mitigation measures as set out in **Section 8.7**.

### **Construction**

- 8.8.5 This section provides an assessment of the potential construction impact pathways on nature conservation (terrestrial ecology) which might arise during the construction phase of the project. The following pathways have been scoped into the impact assessment:
- a. Loss of woodland habitat within Long Strip (Borough nature conservation value).
  - b. Loss of bat roosts (Site nature conservation value).
  - c. Noise/visual disturbance to otter (Local nature conservation value).
  - d. Damage/loss of habitat supporting water vole and noise/visual disturbance (County nature conservation value).

#### *Loss of Woodland Habitat*

- 8.8.6 Construction of Work No. 2 which constitutes the pipe-rack line from the jetty and the new jetty access road would result in direct impacts on Long Strip woodland (the section on the north side of Laporte Road), a mature semi-natural woodland of Borough nature conservation value. The construction footprint and permanent land take has been minimised as far as practicable in the design of the jetty access road, pipe-rack and related plant and buildings (refer to the description of the Project in **Chapter 2: The Project [TR030008/APP/6.2]** and **Chapter 3: Needs and Alternatives [TR030008/APP/6.2]**). However, permanent loss of woodland results in a conflict with Local Planning Policy 41, which states that the council will seek to minimise the loss of biodiversity features, in the absence of appropriate mitigation/compensation.
- 8.8.7 Approximately 0.64ha of woodland would be removed within the northern section of the Long Strip woodland, associated with the construction of Work No. 1 and Work No. 2. This is approximately 40% of the area of woodland within that part of the Long Strip TPO boundary north of Laporte Road. This tree loss would have a large impact on the woodland and its role in the local network of green infrastructure, although the veteran ash tree and a strip of woodland would be retained along the eastern boundary of Work No.2 (and the terrestrial part of Work No. 1), meaning that woodland habitat connectivity to the ditch/ flood embankment to the north would be retained in part, rather than resulting in severance from this feature. Mature deciduous woodland is already reduced in



extent and fragmented in the county due to the predominance of agricultural cultivation. Further, in this part of North East Lincolnshire there is very little woodland present due to the presence of the operational port of Immingham and the surrounding industrial land use.

- 8.8.8 Reduction in the woodland size could expose it to increased impacts from adjacent land-use e.g. agricultural inputs (both biocides and/ or nutrient enrichment) from neighbouring fields, which could affect a greater proportion of the remaining woodland, leading to changes in woodland composition and structure. This would also affect the distribution and number of breeding birds and terrestrial invertebrate species within the woodland, as their respective ecological niches would be reduced and/or changed due to the edge effect resulting from the woodland loss.
- 8.8.9 The permanent loss of woodland of this age and structure can only be compensated over the medium to long term. Compensatory woodland planting, secured under the **Outline Woodland Compensation Strategy [TR030008/APP/6.8]**. The Strategy sets out the approach to off-site planting of trees in the Immingham area, as well as enhancement of existing retained on-site woodland, to ensure that the tree loss from the Long Strip is appropriately compensated as described in **Section 8.7**. This permanent loss of woodland would compromise the structure and function and/ or conservation status of Long Strip woodland, including the species it supports (which include nesting birds and terrestrial invertebrates such as white-letter hairstreak butterfly). Therefore, the effect is assessed as meaningful at the Borough level and is therefore defined as **moderate adverse** and **significant**.

*Loss of Bat Roosts*

- 8.8.10 At least one tree supporting a bat roost (likely to be common pipistrelle) would be lost to development associated with the woodland loss described above. It is assumed that some of the trees present could be suitable for use by roosting bats. However, the very limited bat activity recorded during the bat foraging surveys indicates that even if roosts are present, they are only likely to be used by small numbers of common bat species i.e. relatively low value roost types (Site value) that could be readily compensated through standard good practice embedded mitigation. In the absence of mitigation, it is assessed that the loss of trees supporting a small number of common species of roosting bats of Site value would be **minor adverse** and **not significant**.

*Damage/Loss of Habitat Supporting Otter, and Related Construction Noise/ Visual Disturbance*

- 8.8.11 Otter is likely to be present occasionally on North Beck Drain and the ditch at the base of the flood embankment and may be affected by noise and visual disturbance arising from Project construction. If this disturbance affects locations used as resting places, then this would result in potential conflicts with legal protection afforded to this species under The Conservation of Habitats and Species Regulations 2017 (as amended). However, otter is a wide-ranging species that is likely to be found in suitable habitats throughout the Humber catchment. Therefore, it is not likely to be specifically dependent, for resting or

foraging, on the North Beck Drain and/or the ditch i.e. these habitats are of up to Local value. Even if part of an otter territory is present within or adjacent to the Site, there is likely to remain sufficient unaffected habitat for otter within its wider territory for foraging and breeding to be unaffected. Applying the precautionary principle however, the effect of noise/visual disturbance is assessed as meaningful at the Local level and is therefore assessed as **minor adverse** and **not significant**).

- 8.8.12 Standard mitigation during construction to protect watercourses that may support otter, and will ensure there is no pollution to the watercourses, and these measures are incorporated in the CEMP, as well as embedded mitigation to reduce run-off to green field rates. No adverse effects on watercourses that may support foraging/transient otter are therefore predicted during construction, and this pathway is assessed as resulting in a **negligible** effect (**not significant**) effect on otter.

*Damage/Loss of Habitat Supporting Water Vole, and Related Construction Disturbance*

- 8.8.13 This species is present on the ditch at the base of the flood embankment and riparian habitats supporting this species may be directly impacted by Project construction activities for Work No. 2 (the pipe-rack and jetty access road), which require a crossing of this ditch.
- 8.8.14 However, direct habitat impacts would be minor in extent and would not affect large retained areas of habitat. There could also be indirect impacts on habitats e.g. construction works may temporarily reduce the water supply to ditches leading to the drying out of ditch habitat earlier in the year than usual. Noise and visual disturbance could also disturb water voles. However, these impacts are only likely to displace a small number of individual water voles within the impacted section of the ditch, and not the entire population at the Site.
- 8.8.15 North Beck Drain is also likely to support water vole given the habitat connectivity to the ditch at the base of the flood embankment. However, other than the crossing of the adjacent channel with a small scaffold bridge to enable the diversion for Bridleway 36 (see **Chapter 2: The Project [TR030008/APP/6.2]**), this watercourse will not be affected by construction activities within the temporary construction compound (Work No. 9) off Laporte Road, which would border the watercourse. Standard mitigation during construction to protect watercourses will ensure there is no pollution to the watercourses, and these measures are incorporated in the CEMP. As a result of the existing flood embankment at this location, which would be retained throughout, a buffer zone would be demarked between the watercourse and the proposed construction compound (Work No. 9). It is not considered that there is any potential for indirect effects on water vole e.g. due to noise and visual impacts during construction.
- 8.8.16 The water voles present at the Site are likely to be part of a more widely distributed population within the Study Area and the conservation status of the population is not likely to be affected. Applying the precautionary principle, however, the effect is assessed as meaningful at the County level and is assessed as **minor adverse** and **not significant**).

### *Impact Pathways Scoped Out*

- 8.8.17 The following impact pathways during Project construction have been scoped out of this assessment:
- a. Loss of habitats other than woodland – all other habitats within the Site Boundary are of Site nature conservation value only and are not relevant ecological features for the purposes of ecological impact assessment.
  - b. Lighting disturbance/ disruption to foraging bats – the impacted habitats are used by very low numbers of foraging bats, which are evaluated to be of Site nature conservation value only and are therefore not relevant ecological features for the purposes of ecological impact assessment.
  - c. Dust emissions – standard measures to control fugitive dust emissions have been incorporated into the CEMP (see **Chapter 6: Air Quality [TR030008/APP/6.2]** for further details) for legislative compliance and therefore there would be no potential for dust smothering to adjacent higher value habitats within Laporte Road Brownfield Site LWS.
  - d. Road traffic emissions – the predicted number of construction vehicle movements on Queens Road, Immingham and Cleethorpes Road, Grimsby exceeds Institute of Air Quality Management (“IAQM”) and Environmental Protection UK (“EPUK”) screening guidance and therefore this pathway has been scoped into the air quality impact assessment (see **Chapter 6: Air Quality [TR030008/APP/6.2]**). However, there are no designated sites for terrestrial ecology within 200 m of the Affected Road Network (“ARN”). On all other local roads, the predicted number of construction vehicle movements does not exceed the IAQM threshold below which a road traffic impact is unlikely to contribute to a significant effect on local air quality. No related impacts on ecological receptors are therefore predicted.
  - e. Surface water pollution – standard measures to control surface water run-off during construction have been incorporated into the CEMP for legislative compliance and therefore there would be no potential for pollution to impact adjacent higher value habitats such as North Beck Drain and Laporte Road Brownfield Site LWS, or any watercourses supporting otter and/ or water vole.

### **Operation**

- 8.8.18 The following section provides the assessment of the potential operational impact pathways on nature conservation (terrestrial ecology) arising during operational phase of the project. As noted above, those impacts related to habitat loss, which arise during the construction phase, would also be relevant to this phase. The following impact pathways have been scoped into the impact assessment for the operational phase:
- a. Lighting disturbance to foraging bats (Site nature conservation value).
  - b. Noise/visual disturbance to otter (Local nature conservation value).
  - c. Noise/visual disturbance to water vole (County nature conservation value).
- 8.8.19 These three impact pathways are considered in greater detail below.

### *Lighting Impacts on Foraging Bats*

- 8.8.20 Operation of the Project requires new external lighting at the East Site (Works No. 3 and No. 5) and West Site (Work No. 7). Operational lighting can be detrimental for bats if poorly designed and located in proximity to habitats of importance for bats e.g. important foraging habitats or movement corridors providing access to important foraging habitats. Light spill and glare can deter bats from accessing affected preferred habitats, and by so doing force bats to use habitats that are less suitable for foraging or expend more energy to go around the lit areas to access foraging habitats.
- 8.8.21 Given the existing very low levels of bat activity, the habitats present are considered to be of Site value only for bats. The **Lighting Assessment Report** appended at **Appendix 2.B [TR030008/APP/6.4]** includes a commitment to include sensitive design of external artificial lighting to minimise light spill to retained habitats. This is secured by way of a DCO Requirement. Accordingly, there is no reasonable likelihood of an impact on the conservation status of bats as a result of operational lighting.
- 8.8.22 Applying the precautionary principle and taking into account the embedded mitigation in the Lighting Strategy for sensitive lighting design, the effect is assessed as meaningful at the Site level and is therefore assessed as **minor adverse** and **not significant**.

### *Noise/Visual Disturbance to Otter*

- 8.8.23 Routine operational activities are not likely to disturb Otters. Otters are regularly encountered in association with urban watercourses and areas of industrial activity, indicating that once the peak disturbance arising from construction is completed, any otters present are likely to habituate to operational regimes. It is therefore assessed that operational noise and visual disturbance will result in a **negligible** effect on otter which is **not significant**.

### *Noise/Visual Disturbance to Water Vole*

- 8.8.24 The rationale for otter is equally applicable to water vole. This species is likely to occur if suitable habitats are present regardless of operational activities on adjacent land. Even if there is operational disturbance in the vicinity of the jetty (Work No. 1) and the pipe-rack/jetty access road (Work No. 2) at levels that could disturb water voles, this has the potential to result in only very localised disturbance/ displacement of water voles from the eastern end of the ditch at the base of the flood embankment. This would only impact a very small numbers of voles, and it is reasonable to assume that there is sufficient habitat adjacent to the east (on the same ditch) and further east associated with North Beck Drain, to accommodate any individual water voles displaced from the short section within the vicinity of the operational area. It is therefore assessed that operational noise and visual disturbance will result in a **minor adverse** effect on water vole which is **not significant**.

### *Impact pathways Scoped Out*

- 8.8.25 The following impact pathways during the operational phase of the project have been scoped out of the assessment:
- Road traffic emissions – the predicted number of operational vehicle movements is lower than the IAQM and EPUK screening guidance (see **Chapter 6: Air Quality [TR030008/APP/6.2]**), below which a road traffic impact is unlikely to contribute to a significant effect on local air quality.
  - Surface water pollution – standard measures to control surface water run-off during operation are embedded within the Project design for legislative compliance, and therefore there would be no potential for pollution to impact adjacent higher value habitats such as North Beck Drain and Laporte Road Brownfield Site LWS.

### **Decommissioning**

- 8.8.26 The likely impacts arising from decommissioning of the terrestrial elements of the project would be of similar magnitude and scale to those described for the construction phase, with the exception that the woodland loss would already have occurred in the construction phase (and no further loss would be required).
- 8.8.27 The potential for adverse decommissioning impacts and effects on habitats and species would be limited by the nature of the proposed decommissioning activities. It is assumed that decommissioning would remove all above ground infrastructure and that buried pipelines etc would be made safe and left in situ. Therefore, there would be no requirement to remove or disturb habitats to remove buried infrastructure, and no species associated with these habitats would be affected.
- 8.8.28 On this basis, it is concluded that there would be no likely significant effects on terrestrial ecology receptors anticipated as a result of decommissioning.

## 8.9 Mitigation and Enhancement Measures

### **Loss of Woodland Habitat**

- 8.9.1 In order to compensate for tree loss from the Long Strip associated with the construction of the jetty access road and the pipe-rack [Work No. 2 and Work No 1 (terrestrial elements only)], the following approach is proposed:
- Enhancement of retained parts of the Long Strip TPO woodland north of Laporte Road; and
  - Off-site woodland creation and management in an approximate 2ha area of land within the Applicant's ownership off Manby Road (within the port area), which has been identified as being suitable for this purpose.
- 8.9.2 An **Outline Woodland Compensation Strategy** has been prepared [TR030008/APP/6.8] to outline these commitments. The Strategy sets out the approach to off-site planting of trees in the Immingham area, as well as enhancement of existing retained on-site woodland, to ensure that the tree loss from the Long Strip is appropriately compensated. The Strategy has been discussed with the local planning authority and is secured by DCO Requirement



to ensure compliance with Local Planning Policy 41, which states that the council will seek to “..*minimise the loss of biodiversity features, or where loss is unavoidable and justified ensure appropriate mitigation and compensation measures are provided.*”.

- 8.9.3 Mitigation will be implemented during construction to ensure the protection of retained trees with appropriate root protection areas, and these will be clearly marked in the CEMP.

#### **Loss of Bat Roosts**

- 8.9.4 A licence would be needed from Natural England to ensure compliance with the Habitats Regulations to permit the loss of the known roost(s) in the Long Strip woodland. It is reasonable to assume that works could proceed under a Bat Low Impact Class Licence (which is held by a suitably experienced bat ecologist) for ‘low conservation value roosts’ i.e. for removal of up to three roosts used by small numbers of common species of bats as transient day, night or feeding roosts. Standard mitigation would be employed during the construction phase as necessary to meet the terms of the bat licence e.g. tree removal in the winter months, during October to March (which would also be required as standard mitigation for breeding birds). In the event that ongoing surveys identify more than three confirmed tree roosts and/or that the roosts support species not considered common for the purposes of the Low Impact Class Licence (i.e. any species other than common pipistrelle, soprano pipistrelle, brown long-eared, whiskered, Brandt’s, Daubenton’s or Natterer’s bats), a European Protected Species Mitigation (“EPSM”) development licence will be obtained from Natural England.

#### **Damage/Loss of Habitat Supporting Water Vole**

- 8.9.5 A licence to damage/disturb water vole habitat would be required from Natural England for works to the drainage ditch at the base of the flood embankment (Ditch 5). Given the limited extent of the works (<50m of ditch bank affected), it is considered that the activities would fall within the remit of undertaking works under the supervision of an ecologist with a Natural England Class Licence. No fenced exclusions or translocations of water voles are proposed.
- 8.9.6 The mitigation approach would require appropriate seasonal timing of habitat clearance works to displace water voles prior to damage/destruction of habitats within Ditch 5, and as such initial vegetation clearance works would be limited to the period 15 February to 15 April and/or 15 September to 31 October. Subsequent works to maintain the cleared area can be undertaken after this initial seasonally restricted clearance period to ensure the habitats remain unsuitable for water vole prior to the commencement of construction. Construction works to the ditch would not be seasonally constrained following the completion of the initial vegetation clearance works under the Class Licence, assuming the banks are maintained as unsuitable for water vole in the period between the initial clearance and the commencement of construction activities at this location.
- 8.9.7 A water vole method statement would be prepared, in due course, by the Contractor, as part of the Final CEMP.



## 8.10 Assessment of Residual Effects

### Construction

#### *Loss of Woodland Habitat*

- 8.10.1 The permanent loss of woodland of this age and structure can only be compensated over the medium to long term. Compensatory woodland planting will be secured under the **Outline Woodland Compensation Strategy [TR030008/APP/6.8]** described in **Section 8.7**. However, for the purposes of this assessment, even with compensation in place, given the time taken for the compensatory habitat to mature, the loss of woodland habitat is considered to be permanent and irreversible. It is therefore assessed that the residual effect remains moderate adverse (**significant**).

#### *Loss of Bat Roosts*

- 8.10.2 The requirement for a Natural England licence would provide a legally enforceable mechanism to ensure that there is no significant adverse effect on bat populations. The required mitigation under this licence would involve routine measures that can be expected to be successful.
- 8.10.3 On this basis, given legal requirements would need to be and can be met, the potential residual effect on roosting bats is precautionarily assessed as remaining as minor adverse (**not significant**). This is on the basis that any required mitigation would ensure compliance with UK Wildlife Legislation but would not reduce the magnitude or severity of the impact on individual roosting bats.

#### *Noise/Visual Disturbance to Otter*

- 8.10.4 No mitigation requirements have been identified. The residual effect on otter is therefore assessed as meaningful at the Local level and as minor adverse (**not significant**).

#### *Damage/Loss of Habitat Supporting Water Vole*

- 8.10.5 The requirement for a Natural England licence would provide a legally enforceable mechanism to ensure that there is no significant adverse effect on water vole populations. The required mitigation under this licence would involve routine measures that can be expected to be successful.
- 8.10.6 On this basis, given legal requirements would need to be and can be met, the potential residual effect on the conservation status of water voles is precautionarily assessed as remaining as minor adverse (**not significant**). This is on the basis that any required mitigation would ensure compliance with UK Wildlife Legislation but would not reduce the magnitude or severity of the impact on individual water voles.

### Operation and Decommissioning

- 8.10.7 No significant residual operational or decommissioning effects on terrestrial ecology receptors are predicted.

## 8.11 Summary of Assessment

- 8.11.1 **Table 8-6** provides a summary of the likely significant terrestrial ecology effects associated with the Project.
- 8.11.2 This ecological impact assessment identifies limited potential for significant adverse effects on terrestrial ecology features. This is because the Project generally coincides with land of low biodiversity value, and consequently there is (a) little potential for protected and notable species to occur, and (b) surveys have concluded the minimal presence or likely absence of such species.
- 8.11.3 One significant (moderate adverse) terrestrial ecology effect is predicted. This relates to the permanent loss of UK Priority deciduous woodland habitat during Project construction as a result of the routing of the pipeline and jetty access road (Work No. 2) through the Long Strip woodland. This impact would result in a conflict with planning policy, as well as being adverse for nature conservation at the Borough level. The loss of parts of this mature woodland would be compensated by the delivery of the **Outline Woodland Compensation Strategy [TR030008/APP/6.8]**. However, compensation for the loss of mature woodland would not be achieved over the operational life of the terrestrial elements of the Project and the residual effect would remain significant over the long term.
- 8.11.4 No other likely significant ecological effects on designated nature conservation sites, habitats or species are predicted during Project construction, operation or decommissioning.

**Table 8-6: Summary of Assessment –Likely Significant Effects**

Receptor	Impact Pathway	Effect Significance	Mitigation Measures	Residual Effect	Confidence
<b>Construction Phase</b>					
Mature deciduous woodland	Pipe-rack and jetty access road construction resulting in loss of/damage to woodland habitat	Moderate adverse (Significant)	Design of pipe rack and jetty access road has minimized the woodland loss as far as possible.  <b>A Woodland Compensation Strategy [TR030008/APP/6.8]</b> is secured by a DCO Requirement but does not mitigate effect of permanent woodland loss.	Moderate adverse (Significant)	High
Bat roosts	Loss of minor tree roosts during Pipe-rack and jetty access road construction	Minor adverse (Not significant)	EPSM licence or Low Impact Class Licence	Minor adverse (Not significant)	High
Otter (foraging)	Noise and visual disturbance	Minor adverse (Not significant)	Buffer zone from edge of North Beck Drain secured under the Water Vole. Natural England Class Licence.  Sensitive temporary lighting design to minimise spill (CEMP).	Minor adverse (Not significant)	High
	Habitat damage/loss to habitats that may support foraging/ transient otter	Negligible (Not significant)	<b>Drainage Strategy</b> appended at <b>Appendix 18.B [TR030008/APP/6.4]</b>	Negligible (Not significant)	High

Immingham Green Energy Terminal  
Environmental Statement Chapter 8: Nature Conservation (Terrestrial Ecology)

Receptor	Impact Pathway	Effect Significance	Mitigation Measures	Residual Effect	Confidence
			includes embedded mitigation to reduce run-off to green field rates.		
Water vole	Habitat damage/loss to ditch supporting water voles that will be culverted for the jetty access road.	Minor adverse (Not significant)	Displacement of water voles from affected habitats under Natural England Class Licence.  <b>Drainage Strategy</b> appended at <b>Appendix 18.B [TR030008/APP/6.4]</b> includes embedded mitigation to reduce run-off to green field rates.	Minor adverse (Not significant)	High
	Noise and visual disturbance	Minor adverse (Not significant)	Buffer zone from edges of North Beck Drain secured under the Natural England Class Licence.  Sensitive temporary lighting design to minimise spill (CEMP).	Minor adverse (Not significant)	High
<b>Operational Phase</b>					
Bats (foraging)	Lighting disturbance	Minor adverse (Not significant)	The Lighting Strategy includes sensitive permanent lighting design to minimize spill to adjacent habitats	Minor adverse (Not significant)	High

Immingham Green Energy Terminal  
Environmental Statement Chapter 8: Nature Conservation (Terrestrial Ecology)

Receptor	Impact Pathway	Effect Significance	Mitigation Measures	Residual Effect	Confidence
Otter (foraging)	Noise and visual disturbance	Negligible (Not significant)	Buffer zone from edge of North Beck Drain.  The Lighting Strategy includes sensitive permanent lighting design to minimize spill to adjacent habitats	Negligible (Not significant)	High
Water vole	Noise and visual disturbance	Minor adverse (Not significant)	Buffer zone from edge of North Beck Drain.  The Lighting Strategy includes sensitive permanent lighting design to minimize spill to adjacent habitats	Minor adverse (Not significant)	High
<b>Decommissioning Phase</b>					
Otter (foraging)	Noise and visual disturbance	Minor adverse (Not significant)	Buffer zone from edges of watercourses.  Sensitive temporary lighting design to minimise spill (Decommissioning Environmental Management Plan (“DEMP”)).	Minor adverse (Not significant)	High
	Habitat damage/loss to habitats that may support foraging/ transient otter	Negligible (Not significant)	Protective measures to maintain water quality and levels (DEMP).	Negligible (Not significant)	High

Immingham Green Energy Terminal  
Environmental Statement Chapter 8: Nature Conservation (Terrestrial Ecology)

Receptor	Impact Pathway	Effect Significance	Mitigation Measures	Residual Effect	Confidence
Water vole	Habitat damage/loss	Minor adverse (Not significant)	Displacement of water voles (if confirmed present following updated survey work prior to decommissioning) from affected habitats under Natural England Class Licence (where necessary based on licensing requirements at the time of decommissioning).	Minor adverse (Not significant)	High
	Noise and visual disturbance	Minor adverse (Not significant)	Buffer zone from edges of watercourses if water voles confirmed present following updated survey work prior to decommissioning.  Sensitive temporary lighting design to minimise spill (DEMP).	Minor adverse (Not significant)	High



## 8.12 References

- Ref 8-1 The Conservation of Habitats and Species Regulations 2017 (as amended) (SI 2017/1072). London: The Stationery Office.
- Ref 8-2 Wildlife and Countryside Act 1981 (as amended) (SI 1981 c. 39). London: The Stationery Office.
- Ref 8-3 Natural Environment and Rural Communities Act 2006 (SI 2006 c. 16). London: The Stationery Office.
- Ref 8-4 Protection of Badgers Act 1992 ((SI 1992 c. 51)). London: The Stationery Office.
- Ref 8-5 The Hedgerow Regulations 1997 (SI 1997/1160). London: The Stationery Office.
- Ref 8-6 The Invasive Alien Species (Enforcement and Permitting) (Amendment) Order 2019 (SI 2019 No. 1213).
- Ref 8-7 Department for Transport (2012) National Policy Statement for Ports. London: The Stationery Office.
- Ref 8-8 Department of Energy & Climate Change (2011) Overarching National Policy Statement for Energy (EN-1). London: The Stationery Office.
- Ref 8-9 Ministry of Housing, Communities & Local Government (2021) National Planning Policy Framework. London: Ministry of Housing, Communities and Local Government.
- Ref 8-10 Natural England and Defra (2022) Protected Species and Development: Advice for Local Planning Authorities.
- Ref 8-11 Forestry Commission and Natural England (2018). Ancient woodland, ancient trees and veteran trees: protecting them from development
- Ref 8-12 Lincolnshire Biodiversity Partnership (2011) Lincolnshire Biodiversity Action Plan 2011-2020 (3<sup>rd</sup> Edition). Horncastle: Lincolnshire Biodiversity Partnership.
- Ref 8-13 Natural England (2022) Multi-Agency Geographic Information for the Countryside (MAGIC) website.
- Ref 8-14 Natural England (2022) Designated site website. Available online at <https://designatedsites.naturalengland.org.uk/>
- Ref 8-15 Joint Nature Conservation Committee (2016) Handbook for Phase 1 habitat survey – a technique for environmental audit. Peterborough: Joint Nature Conservation Committee.

- Ref 8-16 Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). London: The Bat Conservation Trust.
- Ref 8-17 Dean, M., Strachan, R., Gow, D. & Andrews, R., (2016) The Water Vole Mitigation Handbook. London: The Mammal Society.
- Ref 8-18 Amphibian and Reptile Groups of the United Kingdom (2010) ARG UK Advice Note 5 Great Crested Newt Habitat Suitability Index. Amphibian and Reptile Groups of the United Kingdom.
- Ref 8-19 Department for Environment, Food & Rural Affairs (2022) Keepers of time: ancient and native woodland and trees policy in England
- Ref 8-20 CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland – terrestrial, Freshwater, Coastal and Marine. CIEEM, Winchester.
- Ref 8-21 North East Lincolnshire Council (2018). North East Lincolnshire Local Plan.