

# **Environmental Statement**

Chapter 22 Onshore Ornithology
Volume 3 Appendices





Company:	Outer Dowsing Offshore Wind	Asset:	Whole Asset
Project:	Whole Wind Farm	Sub Project/Package: Whole Asset	
Document Title or Description:	6.3.22.4 Breeding Bird Survey 2023		
Internal Document Number:	PP1-ODOW-DEV-CS-SUR-0003	3 <sup>rd</sup> Party Doc No (If applicable):	N/A

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Rev No.	Date	Status / Reason for Issue	Author	Checked by	Reviewed by	Approved by
1.0	March 2024	DCO Application	SLR	GoBe	Shepherd and Wedderburn	Outer Dowsing





# Volume 3, Appendix 22.4: Breeding Bird Survey 2023

**Outer Dowsing Offshore Wind Environmental Statement** 

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SLR Project No.: 410.V05356.00013

1 March 2024

Revision: 1.0

#### **Revision Record**

Re	evision	Date	Prepared By	Checked By	Authorised By
1.0	)	1 March 2024	SLR	GoBe	ODOW

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# **Acronyms and Abbreviations**

BoCC	Birds of Conservation Concern		
CBC	Common Bird Census		
CIEEM	Chartered Institute of Ecology and Environmental Management		
DCO	Development Consent Order		
ECC	Export Cable Corridor		
EcIA	Ecological Impact Assessment		
EIA	Environmental Impact Assessment		



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GB	Great Britain			
NERC	Natural Environment and Rural Communities			
NGSS	National Grid Substation			
ODOW	Outer Dowsing Offshore Wind (The Project)			
OnSS	Onshore Substation			
PEIR	Preliminary Environmental Information Report			
SSSI	Site of Special Scientific Interest			
SPA	Special Protection Area			

# **Terminology**

Term	Definition	
400kV cables	High-voltage cables linking the OnSS to the NGSS.	
400kV cable corridor	The 400kV cable corridor is the area within which the 400kV cables connecting the onshore substation to the NGSS will be situated.	
Connection Area	An indicative search area for the NGSS.	
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for a Nationally Significant Infrastructure Project (NSIP)	
Effect	Term used to express the consequence of an impact. The significance of an effect is determined by correlating the magnitude of the impact with the sensitivity of the receptor, in accordance with defined significance criteria.	
Environmental Impact Assessment (EIA)	A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Regulations, including the publication of an Environmental Statement (ES).	
Environmental Statement (ES)	The suite of documents that detail the processes and results of the EIA.	
Export cables	High voltage cables which transmit power from the Offshore Substations (OSS) to the Onshore Substation (OnSS) via an Offshore Reactive Compensation Platform (ORCP) if required, which may include one or more auxiliary cables (normally fibre optic cables).	
Impact	An impact to the receiving environment is defined as any change to its baseline condition, either adverse or beneficial.	
Landfall	The location at the land-sea interface where the offshore export cables and fibre optic cables will come ashore.	
Mitigation	Mitigation measures are commitments made by the Project to reduce and/or eliminate the potential for significant effects to arise as a result of the Project. Mitigation measures can be embedded (part of the project design) or secondarily added to reduce impacts in the case of potentially significant effects.	
National Grid Onshore Substation (NGSS)	The National Grid substation and associated enabling works to be developed by the National Grid Electricity Transmission (NGET) into which the Project's 400kV Cables would connect.	



Term	Definition			
Onshore Export Cable Corridor (ECC)	The Onshore Export Cable Corridor (Onshore ECC) is the area within which, the export cables running from the landfall to the onshore substation will be situated.			
Onshore Infrastructure	The combined name for all onshore infrastructure associated with the Project from landfall to grid connection.			
Onshore substation (OnSS)	The Project's onshore HVAC substation, containing electrical equipment, control buildings, lightning protection masts, communications masts, access, fencing and other associated equipment, structures or buildings; to enable connection to the National Grid.			
Outer Dowsing Offshore Wind (ODOW)	The Project.			
Order Limits	The area subject to the application for development consent, the limits shown on the works plans within which the Project may be carried out.			
Preliminary Environmental Information Report	The PEIR was written in the style of a draft Environmental Statement (ES) and provided information to support and inform the statutory consultation process during the pre-application phase.			
The Project	Outer Dowsing Offshore Wind, an offshore wind generating station together with associated onshore and offshore infrastructure.			
Receptor	A distinct part of the environment on which effects could occur and can be the subject of specific assessments. Examples of receptors include species (or groups) of animals or plants, people (often categorised further such as 'residential' or those using areas for amenity or recreation), watercourses etc.			

# **Reference Documentation**

Document Number	Title		
6.1.3	Project Description		
6.1.22	Onshore Ornithology		



# 22.0 Breeding Bird Survey

## 22.1 Introduction

- Outer Dowsing Offshore Windfarm (ODOW) is a Nationally Significant Infrastructure
  Project (NSIP). An Environmental Impact Assessment (EIA) has been undertaken, the
  findings of which are presented within an Environmental Statement (ES), which
  accompanies a Development Consent Order (DCO) application under the Planning Act,
  2008.
- 2. SLR Consulting (SLR) was commissioned by GoBe Consultants Ltd, whom has been instructed by GT R4 Limited (trading as Outer Dowsing Offshore Wind), to undertake a suite of ornithological surveys of those relevant parts of the Project site that may be affected by the onshore aspects of the Project. The onshore ornithology assessment is presented in Volume 1, Chapter 22: Onshore Ornithology (document reference 6.1.22).
- 3. This report presents the scope and results of the breeding bird survey undertaken to inform the EIA and supports Volume 1, Chapter 22: Onshore Ornithology (document reference 6.1.22).

# 22.2 The Project

- 4. The Project will include both offshore and onshore infrastructure including an offshore generating station (windfarm) located approximately 54km from the Lincolnshire coastline, export cables to landfall, onshore cables, an onshore substation, connection to the electricity transmission network, and ancillary and associated development (see Volume 1, Chapter 3: Project Description 6.1.3 (document reference 6.1.3) for full details).
- 5. The ES references the Project's 'Order Limits' which comprises the extent of the land for which the DCO application has been made. Onshore it reflects the landfall, the Onshore Export Cable Corridor (a typically 80m wide corridor around a centre line totalling approximately 70km in length) the Onshore substation (OnSS), a 400kV cable corridor connecting the OnSS to the Connection Area (an indicative search zone for the National Grid substation (NGSS) into which the project will ultimately connect.
- 6. Due to the linear footprint of the Project, the Survey Area for some receptors is relatively large-scale, therefore, to assist with the interpretation and explanation of associated



data, the Order Limits have been split into segments. The extent of these segments has been aligned with key geographical features such as roads or rivers which cross the Order Limits.

- 7. The Order Limits is split into the following segments:
  - ECC 1 Landfall to A52 Hogsthorpe (the landfall area);
  - ECC 2 A52 Hogsthorpe to Marsh Lane;
  - ECC 3 Marsh Lane to A158 Skegness Road;
  - ECC 4 A158 Skegness Road to Low Road;
  - ECC 5 Low Road to Steeping River;
  - ECC 6 Steeping River to Fodder Dike Bank/Fen Bank;
  - ECC 7 Fodder Dike Bank/Fen Bank to Broadgate;
  - ECC 8 Broadgate to Ings Drove;
  - ECC 9 Ings Drove to Church End Lane;
  - ECC 10 Church End Lane to The Haven;
  - ECC 11 The Haven to Marsh Road:
  - ECC 12 Marsh Road to Fosdyke Bridge;
  - ECC 13 Fosdyke to Surfleet Marsh Onshore Substation (OnSS)/Marsh Drove; and
  - ECC 14 Surfleet Marsh OnSS/Marsh Drove to the Connection Area.

#### 22.2.1 Evidence of Technical Competence and Experience

- 8. Surveys were carried out by Edmund Austin, a Senior Field Ecologist at SLR with over ten years' experience in undertaking bird surveys and by Carl Platt, a Senior Ecologist at SLR, Associate member of the Chartered Institute of Ecology and Environmental Management (ACIEEM) with over ten years' experience in undertaking bird surveys.
- 9. This report has been authored by Pawel Gullett, an Associate Consultant at SLR with a specialism in ornithology and over ten years of environmental consulting experience. The report has been reviewed by James Wilson MA MCIEEM, a Technical Director at SLR, with 15 years' experience as a professional Ecologist.



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## 22.3 Methodology

#### 22.3.1 Survey Area

- 10. Surveys were conducted based on the Project's boundary as detailed in the Preliminary Environmental Information Report (PEIR), which covered two alternative onshore ECC routings. Details of the alternative onshore ECC routing can be found in the PEIR. The PEIR boundary was approximately 300m in width and the width of the Order Limits is typically 80m in width, which means that the surveys covered more ground than the required minimum buffer of 100m of the Order Limits (up to 320m).
- 11. For the ES, the Project's boundary was refined to the Order Limits, the Project Description is detailed in Volume 1, Chapter 3 Project Description (document reference 6.1.3). The Survey Areas relative to the Order Limits is shown on Figure 22.4.1 in Annex A.1. Although ornithological data were collected from a wider area, including sections of the onshore ECC routings no longer being taken forward, the results presented in this report are collated only for the Order Limits and associated buffer zone.
- 12. Two distinct areas are referred to in this report:
  - Survey Area this comprised of a 100m buffer around the PEIR boundary and was what the surveys were based on (targeting certain habitats as described below); and
  - Core Survey Area this comprises of a 100m buffer around the Order Limits and has been used as the basis for the analysis presented herein.
- 13. Potential impacts on breeding birds need to be considered beyond the Order Limits owing to the potential for disturbance of protected and priority species. Therefore, the Survey Area covered the PEIR Boundary (which was current at the time the surveys were undertaken) and extended to a minimum 100m buffer, where:
  - Specially protected species could occur, i.e., those listed on Schedule 1 of the Wildlife and Countryside Act, as amended, and those listed on Annex I of the EC Birds Directive;
  - wetland, scrub and woodland habitats potentially supporting sensitive and declining species, such as breeding waders or notable wildfowl, and turtle dove could occur; and
  - permanent above ground infrastructure will be built (such as the OnSS).
- 14. The locations of the latter two features are illustrated in Figure 22.4.1 in Annex A.1.



#### 22.3.2 Target Species

- 15. The surveys targeted Annex I (of the EC Birds Directive) and Schedule 1 (of the Wildlife and Countryside Act 1981 as amended) species as well as Natural Environment and Rural Communities (NERC)<sup>1</sup> Section 41 and Birds of Conservation Concern (BoCC)<sup>2</sup> Red listed species (however all bird species encountered during the surveys were recorded).
- 16. During a desk study, the following Annex I and/or Schedule 1 species were identified as potentially occurring and/or breeding within the Survey Area: avocet, barn owl, bearded tit, bittern, black redstart, Cetti's warbler, crossbill, firecrest, hobby, kingfisher, little ringed plover, marsh harrier, peregrine, quail, red kite, turtle dove and woodlark. The majority of those species are only likely to nest within wetland, scrub or woodland habitats, and only some are likely to occur or breed within the Survey Area.

## 22.3.3 Breeding Bird Surveys

#### 22.3.3.1 Common Birds Census

- 17. Breeding bird surveys, using an adapted version of the Common Birds Census (CBC) methodology (Gilbert *et al.*, 1998³) with four survey visits, were undertaken between early April and July 2023. Bird Survey Guidelines⁴ published online in 2021 adopt a default position that a minimum of six survey visits should be carried out during the breeding season, unless a robust justification can be made as to why fewer visits are required. In this case, given that most effects on breeding bird species will be temporary in nature and given also the very large scale of the survey area, four visits were conducted between early April and July. The four-visit approach and detailed methodology was consulted on with Natural England in a letter dated 6 March 2023.
- 18. Surveys typically commenced between half an hour before sunrise and half an hour after sunrise, and they were conducted largely within the morning hours (on one occasion the survey lasted till the afternoon). Surveys were timed to avoid poor weather, e.g., high

<sup>&</sup>lt;sup>4</sup> Bird Survey & Assessment Steering Group. (2022) Bird Survey Guidelines for assessing ecological impacts, v.1.0.0. https://birdsurveyguidelines.org [accessed 02 October 2023]



<sup>&</sup>lt;sup>1</sup> Natural Environment and Rural Communities Act 2006 (as amended).

<sup>&</sup>lt;sup>2</sup> Birds of Conservation Concern 5. Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021) The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747.

<sup>&</sup>lt;sup>3</sup> Gilbert, G., Gibbons, D.W. & Evans, J. (1998) Bird Monitoring Methods. RSPB, Sandy.

winds or rain. Survey dates, times and weather conditions are provided in Annex A.2. During each visit a survey transect was walked at a slow, ambling pace, stopping to scan priority habitat/features with binoculars where appropriate.

19. All bird species sighted or heard were recorded on a map using British Trust for Ornithology (BTO) standard codes<sup>5</sup>. Behavioural notations were also recorded; flying, calling, alarm calling, singing, birds with material for nests, or carrying food to provision young, fledged young and any nests observed. These behavioural observations were used to establish the breeding status of each species recorded within the Survey Area.

#### 22.3.3.2 Annex I and Schedule 1 Species Surveys

- 20. Additional survey effort in areas of potentially suitable nesting habitat was expended towards Annex I and Schedule 1 species. Surveys for these species followed the respective species methodologies detailed in Gilbert *et al.*, 1998<sup>3</sup> and Hardey *et al.*, 2013<sup>6</sup>. These surveys included both walkover of key areas of potential suitability for selected species as well as static watches from vantage points.
- 21. For avocet, bearded tit, bittern, Cetti's warbler, kingfisher, little ringed plover, marsh harrier, peregrine and red kite, potentially suitable nesting habitats were identified from the desk study and checked over the course of two morning visits in April and May to determine occupancy. Any occupied site was subject to follow up surveys. No suitable breeding habitat was found for black redstart, red kite, turtle dove and woodlark and no follow up visits were conducted for these species. Some species known to be potentially breeding in the wider area (for instance, bearded tit, bittern, little ringed plover and peregrine) were not recorded during the surveys.

#### 22.3.3.3 Barn Owl Surveys

22. The barn owl survey was based on standard methods (Hardey *et al.*, 2013<sup>6</sup> and Shawyer *et al.*, 2011<sup>7</sup>) with an initial search for potential or active nest and roost sites during the site visits in April and May and a separate follow up inspection later in the season (July) for those identified sites (with inspections conducted under a Schedule 1 survey licence). No nest boxes were inspected without prior authorisation of the farmer or, where they

<sup>&</sup>lt;sup>7</sup> Shawyer, C. R. (2011) Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment: Developing Best Practice in Survey and Reporting. IEEM, Winchester.



<sup>&</sup>lt;sup>5</sup> https://www.bto.org/sites/default/files/u16/downloads/forms\_instructions/bto\_bird\_species\_codes.pdf

<sup>&</sup>lt;sup>6</sup> Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B., Thompson, D. and Scottish Natural Heritage (2013) Raptors: A field guide for surveys and monitoring, (3rd edition). The Stationery Office, Edinburgh.

are part of the regional monitoring scheme, they were not checked to avoid duplicate visits. Based on the available information and access, the sites monitored during the follow up visit were classed as occupied breeding sites, potential nest sites and active roost sites. The search for barn owl sites was conducted within 400m around the PEIR boundary where features suitable for nesting or roosting barn owls were identified.

23. Furthermore, a data request on breeding and roosting barn owl was submitted to Wildlife Conservation Projects (which coordinate and have exclusive rights to monitor a network of artificial nest sites for this species installed throughout Lincolnshire), however the collation of data is still ongoing.

#### 22.3.4 Territory Mapping Analysis

- 24. Upon completion of the last survey visit, records from all visits were combined and analysed in ArcGIS to estimate the location of breeding territories, based upon the territory analysis method outlined in Bibby *et al.*, 2000<sup>8</sup>. This method used the following principles:
  - For resident bird species and summer migrants alike, a minimum of two registrations from two separate visits were required to generate a 'cluster'. This cluster was considered to represent a territory;
  - Where a nest with eggs or young chicks was recorded, this record on its own constituted a cluster and hence a breeding territory;
  - For species without marked territories or which move widely outside their territories, e.g., starling, or larger bird species with large territories, e.g., marsh harrier, more diffuse clusters were treated as territories;
  - For colonial or semi-colonial species, e.g., hirundines such as swallow, some finches such as linnet and sparrows such as tree sparrow, clusters were identified representing groups of territories. Within each group cluster, the number of breeding pairs was based on the second highest count of males within a single visit (or half the total count of individuals for species that are not sexually dimorphic);
  - Where clusters were mapped overlapping the edge of the Survey Area, the breeding territory represented by this cluster was counted as being within the Survey Area; and
  - Where there were too few records to generate a cluster, with no evidence of any breeding behaviour, the individuals were not included in estimates for number of territories.

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<sup>&</sup>lt;sup>8</sup> Bibby, C. J., Burgess, N. D., Hill, D. A. & Mustoe, S. (2000) Bird Census Techniques. Second Edition. Academic Press, London.

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- 25. Specifically, birds were considered to be confirmed as breeding if:
  - They were observed displaying, singing or repeatedly alarm calling upon more than one visit;
  - Nests, eggs, or young were identified;
  - Adults were seen carrying food for young or faecal sacs;
  - Distraction displays were seen; and/or
  - Territorial disputes were observed.
- 26. Birds were considered to be probably (i.e., unconfirmed) breeding if:
  - Elusive, cryptic and difficult to detect species (such as cuckoo or grey partridge) were observed displaying or singing during a single visit (with the exception of obvious passage migrants in spring); or
  - A pair of birds was observed in suitable habitat for nesting.
- 27. Other records were considered to be of non-breeding birds, failed breeders, birds loafing, foraging or on passage to other areas.
- 28. The territory mapping analysis was conducted for the Core Survey Area. However, when available, bird registrations from within a 1km buffer of the Order Limits were also considered in the analysis to identify clusters for Schedule 1 species, as well as for all other species where it was helpful in identifying clusters close to the Core Survey Area. In some rare instances, where a territory straddles the 100m buffer but its centre falls outside the buffer, a conservative approach was taken, counting such a territory as occurring within the Core Survey Area.

#### 22.3.5 Survey Limitations

#### 22.3.5.1 Inherent Survey Assumptions

- 29. The adapted CBC survey method, in common with other territory mapping techniques, has several inherent assumptions about the data collected. These are as follows:
  - Birds live in fixed, discrete and non-overlapping ranges;
  - There is a reasonable chance of detecting a territory-holding bird;
  - Records are plotted accurately; and
  - Surveyors are proficient at detecting and identifying birds.
- 30. Where possible, the majority of these survey assumptions were mitigated by the use of experienced SLR Ecologists, each with many years of bird survey experience.



## 22.3.5.2 Specific Survey Constraints

- 31. Due to the large size of the Survey Area, each survey visit was necessarily carried out over multiple days, increasing the potential risk of double counting of individual birds. This was mitigated by the consistent use of two surveyors (a third surveyor was utilised on visit 1) who were vigilant to the risk of double counting.
- 32. A marginally small section of the Core Survey Area in ECC 1 has not been covered during the surveys due to changes to the Project boundary, as illustrated in Figure 22.4.1. Additionally, a construction compound, the western edge of the OnSS, and the area between the OnSS and the NGSS (where the 400kV cable corridor is located) were not covered during the surveys. However, for the majority of the Survey Area the ground covered a larger buffer than 100m from the Order Limits, including the Lincolnshire Node Onshore Substation and the ECC route south of the A52, which have since been deselected from the Project.
- 33. Due to landowner access restrictions some land parcels within the Survey Area were not covered directly, although in practice all boundary features were walked by surveyors.
- 34. On two occasions during the surveys the wind speed exceeded Force 5 (Beaufort scale), however for the majority of surveys the wind speed stayed within an optimal surveying window.
- 35. Bird registrations cluster well within a wider area rather than a narrow corridor, as is evident in the landfall areas (ECC 1) and in the last two segments: ECC 13 and 14 (the wider OnSS and NGSS areas). In some segments (i.e., 4, 6, and 8) no breeding territories were identified despite birds being recorded there.

### 22.4 Results

36. A total of 92 species were recorded during the surveys, of which territory mapping analysis was conducted for 36 species of high conservation concern (Annex I, Schedule 1, NERC 41 and/or BoCC Red listed). Seventeen species were confirmed breeding within the Core Survey Area, with a further two species probably breeding. A detailed account of species breeding within the Core Survey Area is presented in Table 22.1. The approximate territory locations are presented in Figure 22.4.2, Annex A.2. The locations of territories and nests (where known) for Annex I and Schedule 1 species are presented



in Volume 3, Appendix 22.2: Confidential Ornithology Desk Study (document reference 6.3.22.2).

37. A further seventeen species recorded within the Core Survey Area were considered to be non-breeders. Table 22.2: lists the non-breeding species; these were either foraging, roosting or passing individuals.

Table 22.1: Species confirmed breeding or probably breeding within the Core Survey Area during the 2023 breeding bird surveys

(in bold are territories where a nest was found)

Species	BTO code	Conservati on status*	Confirmed territories**	Probable territories	ECC Section where breeding
Avocet	AV	Ann I, Sch.1, AL	2	2	See Volume 3, Appendix 22.5: Confidential Breeding Bird Survey 2023 (document reference 6.3.22.5)
Barn owl	ВО	Sch.1	1	3	See Appendix 22.5 (document reference 6.3.22.5)
Cuckoo	CK	RL, S41	2	2	ECC 1, 6, 11
Corn bunting	СВ	RL, S41	2	0	ECC 14
Cetti's warbler	CW	Sch.1	6	0	See Appendix 22.5 (document reference 6.3.22.5)
Dunnock	D.	AL, S41	6	1	Widely recorded
Grasshopp er warbler	GH	RL, S41	1	0	ECC 1
Greenfinch	GR	RL	2	5	Widely recorded
House sparrow	HS	RL, S41	2 (9)	0	ECC 11, 12
Lapwing	L.	RL, S41	1	1	ECC 1
Linnet	LI	RL	8	0	Widely recorded
Marsh harrier	MR	Ann I, Sch.1, AL	<b>2</b> + 1	0	See Appendix 22.5 (document reference 6.3.22.5)
Grey partridge	G.	RL, S41	0	1	ECC 13
Reed bunting	RB	AL, S41	9	0	Widely recorded
Skylark	S.	RL, S41	11	0	Widely recorded
Starling	SG	S41	0	1	ECC 3
Song thrush	ST	AL, S41	4	0	Widely recorded
Yellowham mer	Y.	S41	5	0	Widely recorded



Species			Confirmed territories**		ECC Section where breeding
Yellow wagtail	YW	S41	1	0	ECC 3

<sup>\*</sup>Sch.1 = listed on Schedule 1 of the Wildlife and Countryside Act, as amended; Ann I = listed on Annex I of the EC Birds Directive; RL = UK BoCC Red-listed species; AL = UK BoCC Amber-listed species; S41 = listed under Section 41 of the 2006 Natural Environment and Rural Communities (NERC)

Table 22.2: The non-breeding species recorded within the Survey Area during the 2023 breeding bird surveys

Species	BTO code	Conservation status*	Visit when recorded	Total count of individuals	ECC Section where recorded
Black-tailed godwit	BW	Sch.1, RL, S41	1, 4	16	ECC 1
Common tern	CN	Ann I, AL	3	16	ECC 13
Curlew	CU	RL, S41	1	139	ECC 1, 4, 10
Dunlin	DN	Ann I, RL	2	6	ECC 1
Little egret	ET	Ann I	1, 2, 3, 4	12	ECC 1, 4, 9, 10, 11, 13, 14
Greenshank	GK	Sch.1, AL	2	4	ECC 1
House martin	НМ	RL	4	12	ECC 2
Herring gull	HG	RL, S41	1, 2, 3	190	ECC 3, 4
Kingfisher	KF	Ann I, Sch.1, AL	3	1	ECC 6
Mistle thrush	M.	RL	2	1	ECC 6
Mediterranean gull	MU	Ann I, Sch.1, AL	1, 4	3	ECC 11, 14
Spoonbill	NB	Ann I, Sch.1, AL	1, 2	5	ECC 1
Quail	Q.	Sch.1, AL	4	1	ECC 10
Ringed plover	RP	RL	2	3	ECC 1, 11
Ruff	RU	Ann I, Sch.1, RL	1, 2	107	ECC 1
Swift	SI	RL	2, 3	17	ECC 1, 6
Whimbrel	WM	Sch.1, RL	2	18	ECC 4

<sup>\*</sup>Sch.1 = listed on Schedule 1 of the Wildlife and Countryside Act, as amended; Ann I = listed on Annex I of the EC Birds Directive; RL = UK BoCC Red-listed species; AL = UK BoCC Amber-listed species; S41 = listed under Section 41 of the 2006 Natural Environment and Rural Communities (NERC).

#### 22.4.1 Summary of Species

38. Fifteen Annex I and/or Schedule 1 species were recorded during the surveys within the Core Survey Area, of which four species were confirmed breeding (avocet, marsh harrier, barn owl and Cetti's warbler).



<sup>\*\*</sup>Number in brackets indicates the number of nests for colonial and semi-colonial species at any given location (colony)

- 39. Furthermore, birds recorded within the Core Survey Area included nineteen species that are red-listed birds of conservation concern, of which nine were confirmed breeders (grey partridge, lapwing, corn bunting, cuckoo, grasshopper warbler, greenfinch, house sparrow, linnet and skylark).
- 40. Further details are provided in the following sections.

#### 22.4.1.1 Annex I and Schedule 1 Species

- 41. Annex I and/or Schedule 1 species from the following bird groups were recorded during the surveys within the Survey Area:
  - Herons (little egret);
  - Waders (avocet, spoonbill, black-tailed godwit, dunlin, greenshank, ruff and whimbrel);
  - Gulls and terns (common tern and Mediterranean gull);
  - Raptors and owls (marsh harrier and barn owl);
  - Gamebirds (quail);
  - · Kingfisher; and
  - Passerines (Cetti's warbler).
- 42. Detailed information on four Annex I and/or Schedule 1 species that were confirmed breeding is in Confidential Appendix 22.5.

#### 22.4.1.2 Other Notable Breeding Species

#### 22.4.1.2.1 Grey partridge

- 43. Grey partridge is a common but declining resident, especially in the southern Lincolnshire. The number of territories in Great Britain (GB) is estimated at 37,000.
- 44. Only three records were made of grey partridge, all from ECC 13 and ECC 14, with a pair of birds recorded on visits 2 and 4 (850m apart) in suitable nesting habitat. This constitutes two probable territories.

#### 22.4.1.2.2 Lapwing

45. Lapwing is a common but declining breeding species, and very common passage migrant in Lincolnshire. The breeding population in GB is estimated at 96,500 pairs.



46. Two territories (confirmed and probable) were found in the landfall area (ECC 1). Further lapwing records relate to the non-breeding birds: foraging individuals were recorded in ECC 3 (visit 2) and in ECC 11 (visit 3). One calling individual was recorded in ECC 6 (visit 2) and 17 roosting birds were seen at the Haven (ECC 11) on visit 4.

#### 22.4.1.2.3 Cuckoo

- 47. A fairly common but declining summer visitor in Lincolnshire, in GB cuckoo is estimated at 17,000 pairs.
- 48. There were two confirmed territories in ECC 6, and two probable territories in the ECC 1 and 11.

#### 22.4.1.2.4 **Passerines**

- 49. Six BoCC red-listed species were found breeding in the Core Survey Area:
  - Corn bunting a fairly common but somewhat localised and declining resident in Lincolnshire (11,000 territories in GB) was recorded scarcely with two confirmed territories in ECC 14.
  - **Grasshopper warbler** a scarce summer visitor and passage migrant in Lincolnshire (9,750 territories in GB) and was scarcely recorded with only one confirmed territory in the landfall area (ECC 1).
  - Greenfinch a common but declining resident in Lincolnshire (760,000 pairs in GB) and was widely recorded across the Core Survey Area with two confirmed and five probable territories.
  - House sparrow an abundant resident and partial migrant in Lincolnshire (with the GB population of 5.15 million pairs) was confirmed breeding at two locations. Based on the second highest count of males within a single visit, a total of nine nests were estimated (three nests in ECC 11 and six nests in ECC 12). However, this species was more widely recorded outwith the 100m buffer therefore the actual number of breeding house sparrows in the area is likely to be higher.
  - Linnet a very common resident with the GB breeding population of 530,000 territories and was widely recorded across the Core Survey Area with eight confirmed territories. As this is a semi-colonial species, the actual number of breeding pairs is likely to be higher.
  - **Skylark** a very common resident breeder however recently declining in Lincolnshire (1.5 million territories in GB) and was the most abundant breeding species recorded within the Core Survey Area with 11 confirmed territories. This species utilises arable fields, many of which were not within the area selected for surveys, and therefore the actual number of territories will be higher.
- 50. Six Section 41 species were found breeding in the Core Survey Area:



- 1 March 2024 SLR Project No.: 410.V05356.00013
- **Dunnock** a very common resident and partial migrant in Lincolnshire with the GB breeding population of 2.35 million pairs, and the species was widely recorded across the Core Survey Area with six confirmed and one probable territories.
- Reed bunting a very common resident and passage migrant in Lincolnshire with the GB breeding population of 255,000 pairs, and was also a relatively abundant species across the Core Survey Area with eight confirmed territories.
- **Starling** a very common resident and passage migrant in Lincolnshire with 1.65 million pairs breeding in GB, and was sporadically recorded across the Core Survey Area with one probable breeding location identified in ECC 3.
- Song thrush a very common resident with the GB breeding population of 1.2 million pairs, and was widely recorded across the Core Survey Area with four confirmed territories.
- Yellowhammer a very common resident with 685,000 breeding pairs in GB and was rather scarcely recorded across the Core Survey Area with five confirmed territories.
- Yellow wagtail a common summer visitor and passage migrant in Lincolnshire with the GB breeding population of 19,500 and was recorded only three times and one territory was confirmed in ECC 3.

## 22.4.1.3 Other Notable Non-Breeding Species

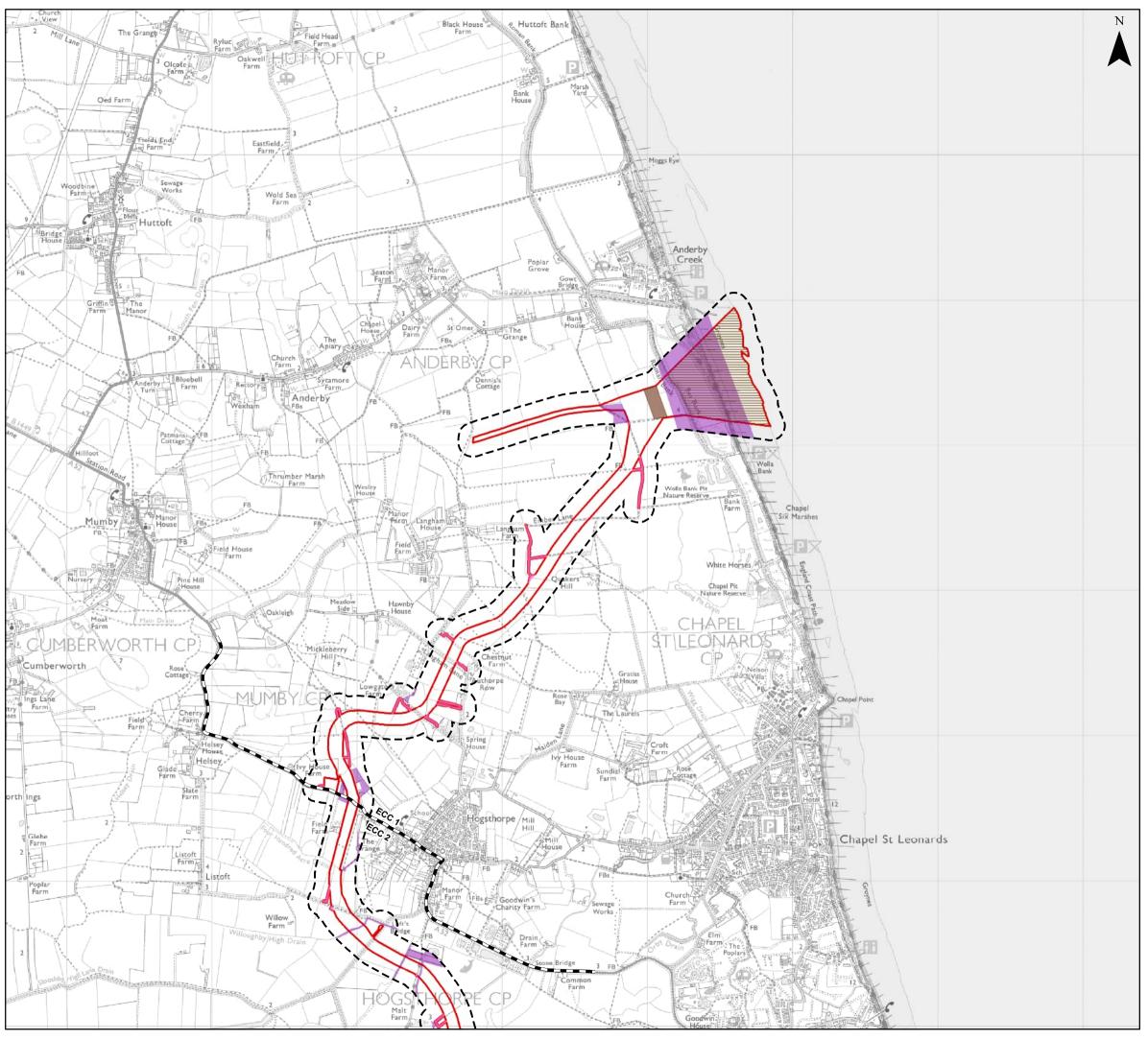
- Waders such as black-tailed godwit, curlew, whimbrel, dunlin, ruff, greenshank, spoonbill and ringed plover were recorded mainly at the beginning of the breeding season (during visits 1 and 2) largely within the landfall area (ECC 1), which suggest that these were birds on passage. They were recorded foraging, sometimes in large numbers (a total of 139 curlew were recorded in April in the ECC 1, 4 and 10 as well as 102 ruff recorded in May in ECC 1). Of all these species, none were recorded during visit 3, and only black-tailed godwit (12 birds) were recorded during visit 4.
- The most commonly recorded gull species was **herring gull**, with a total of 190 individuals recorded on fields in ECC 3 and 4. Two records of **Mediterranean gull** were made during visits 1 and 4 (in ECC 11 and 14).
- Little egret is now a fairly common breeding bird and increasingly common resident in Lincolnshire (more than 1,100 pairs are estimated to be breeding in the UK). It was a commonly encountered species with a total of 12 individuals recorded foraging in the ECC 1, 4, 9, 10, 11, 13 and 14 segments (across all four visits). This suggests that this is a breeding species in the locality, although not within the Core Survey Area.
- Species such as house martin or mistle thrush were recorded only sporadically, and these common species are also local breeders, however they were not identified as breeding within the Core Survey Area (although nine house martin nests were identified at a single location just outwith the Core Survey Area).

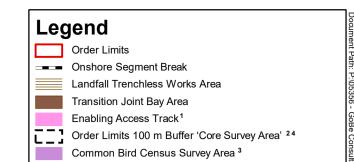


#### 22.5 Discussion

- 51. The breeding bird surveys included targeted survey for Annex I and Schedule 1 species, especially those identified during the desk study (Doc Ref 6.3.22.1 and 22.1A) as potentially occurring or breeding in the Survey Area: avocet, barn owl, bearded tit, bittern, black redstart, Cetti's warbler, crossbill, firecrest, hobby, kingfisher, little ringed plover, marsh harrier, peregrine, quail, red kite, turtle dove and woodlark. Four of the targeted species were confirmed breeding within the Core Survey Area: avocet, marsh harrier, barn owl and Cetti's warbler, whereas some were not recorded at all: bearded tit, bittern, black redstart, crossbill, firecrest, red kite, hobby, little ringed plover, peregrine, turtle dove and woodlark. Additional information relating to Annex I and Schedule 1 breeding birds is provided in the desk study (Doc Ref 6.3.22.1) and confidential desk study (Doc Ref 6.3.22.1A).
- 52. Along with three Annex I and Schedule 1 species, lapwing, linnet, reed bunting, grasshopper warbler and cuckoo were found breeding in the landfall area. In total, there were eighteen breeding territories/nests from eight species in the landfall area.
- 53. In addition to the landfall area, another hotspot was identified in an area around the Haven (ECC 10 and 11). No breeding territories were found in ECC 4, 6 and 8. Nineteen breeding territories from eight species were recorded across the ECC 13 and 14 segments.







#### Notes:

<sup>1</sup> Areas within the 100m buffer directly associated with either enabling accesses or highways alterations have been excluded from ornithological assessment.

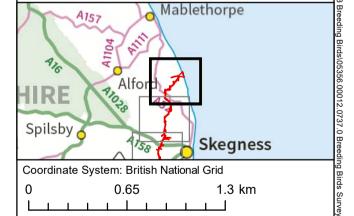
from ornithological assessment.

<sup>2</sup> 100m buffer of the Order Limits is referred to as 'Core Survey Area' in Appendix 22.4 and has been used as the basis for analysis.

- <sup>3</sup> The Common Bird Census Survey Area was targeted where: - wetland, scrub and woodland habitats potentially supporting sensitive and declining species, such as breeding waders or notable wildfowl, and turtle dove could occur; and
- permanent above ground infrastructure will be built (e.g. Onshore Substation).

<sup>4</sup> Surveys for Specially protected species, i.e., those listed on Schedule 1 of the Wildlife and Countryside Act, as amended, and those listed on Annex I of the EC Birds Directive, were undertaken across the PEIR Boundary 100 m buffer targeted in areas of potential nesting habitat and based on information gained from the desk study. This included checking pylons for nesting peregrines.

Further explanation of the survey area provided in Appendix 22.4.



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Environmental Statement

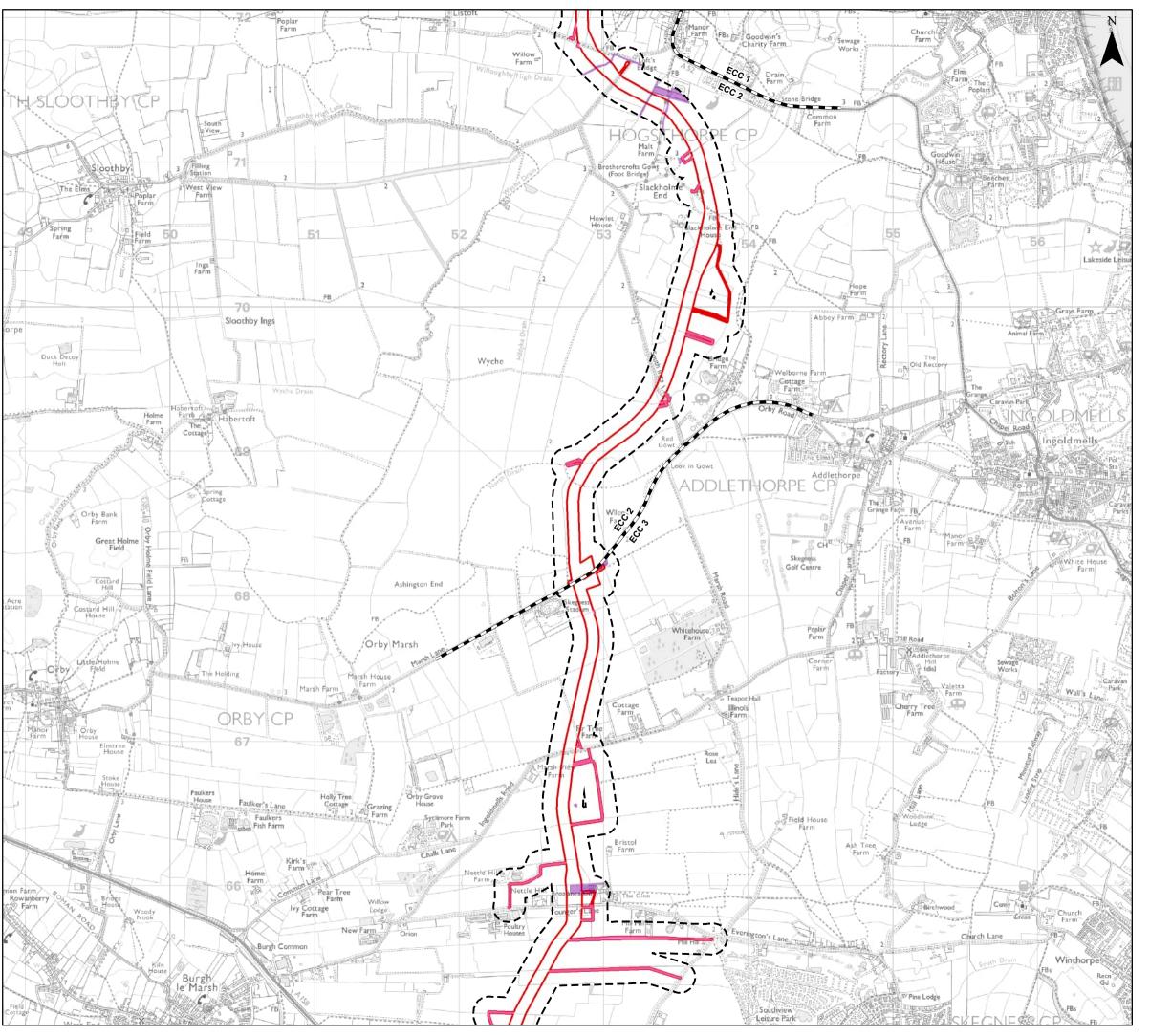
**Breeding Bird Survey Areas** 

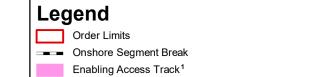
Figure 22.4.1



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Common Bird Census Survey Area <sup>3</sup>

Order Limits 100 m Buffer 'Core Survey Area' 24

<sup>1</sup> Areas within the 100m buffer directly associated with either enabling accesses or highways alterations have been excluded

from ornithological assessment.

2 100m buffer of the Order Limits is referred to as 'Core Survey Area' in Appendix 22.4 and has been used as the basis for analysis.

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Further explanation of the survey area provided in Appendix 22.4.



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**Environmental Statement** 

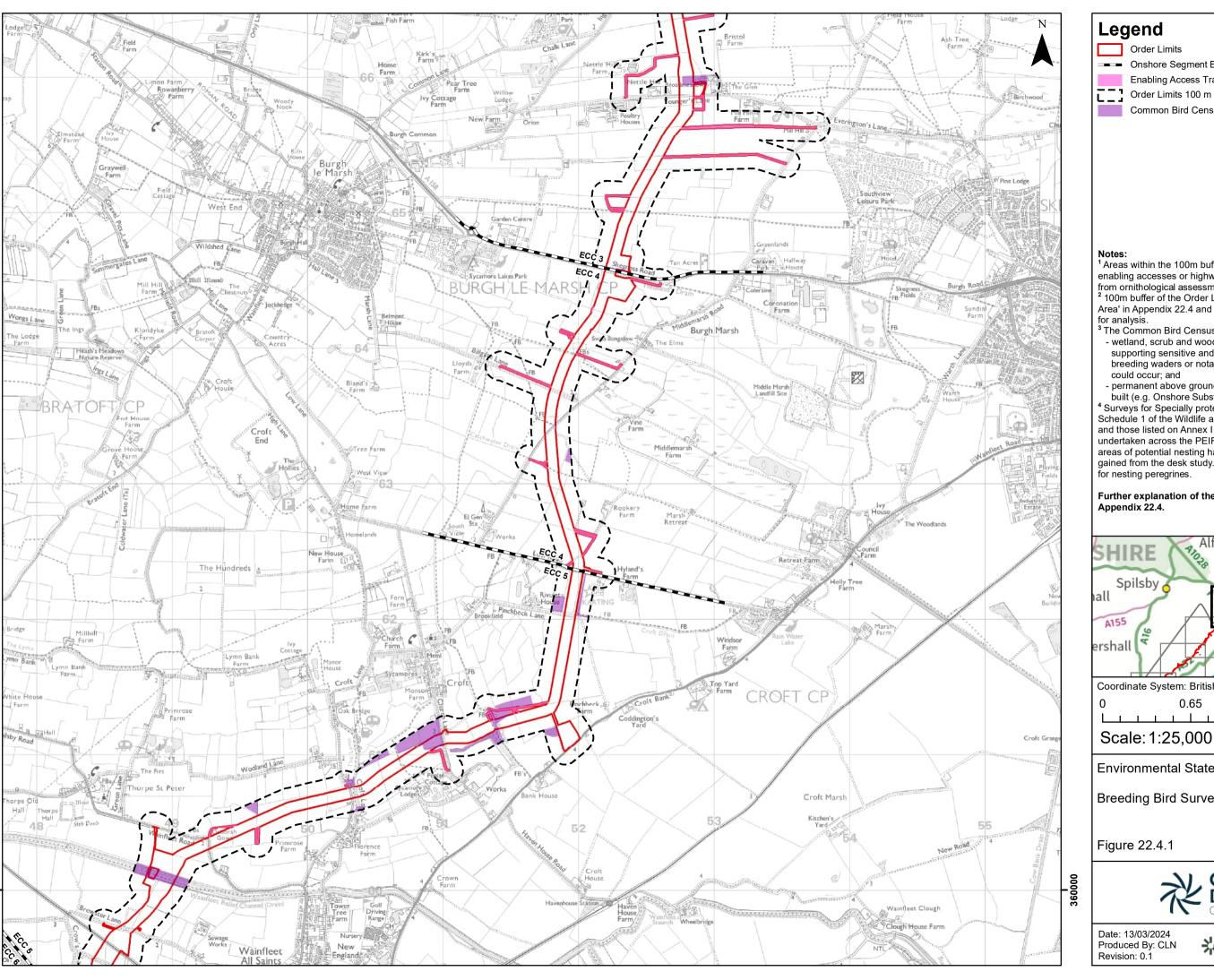
**Breeding Bird Survey Areas** 

Figure 22.4.1



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# Legend Order Limits Onshore Segment Break

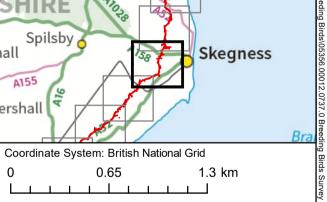
Enabling Access Track<sup>1</sup> Order Limits 100 m Buffer 'Core Survey Area' 24

Common Bird Census Survey Area <sup>3</sup>

- <sup>1</sup> Areas within the 100m buffer directly associated with either enabling accesses or highways alterations have been excluded from ornithological assessment.

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- <sup>3</sup> The Common Bird Census Survey Area was targeted where: - wetland, scrub and woodland habitats potentially supporting sensitive and declining species, such as breeding waders or notable wildfowl, and turtle dove could occur; and
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- <sup>4</sup> Surveys for Specially protected species, i.e., those listed on Schedule 1 of the Wildlife and Countryside Act, as amended, and those listed on Annex I of the EC Birds Directive, were undertaken across the PEIR Boundary 100 m buffer targeted in areas of potential nesting habitat and based on information gained from the desk study. This included checking pylons for nesting peregrines.

Further explanation of the survey area provided in Appendix 22.4.



**Environmental Statement** 

**Breeding Bird Survey Areas** 

Figure 22.4.1

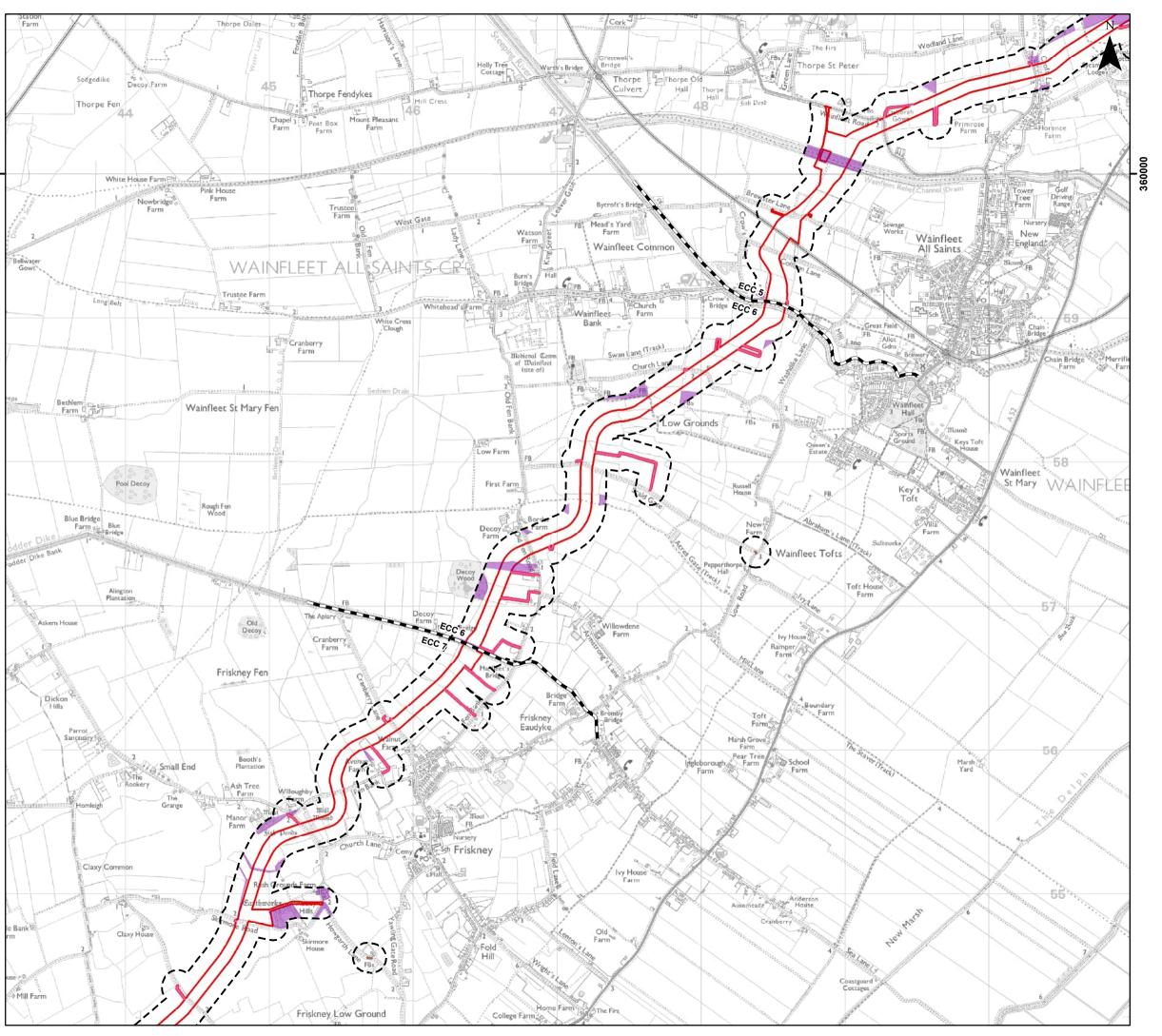


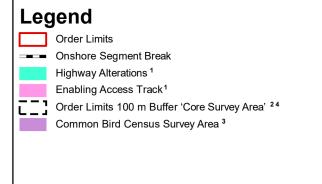
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#### Notes

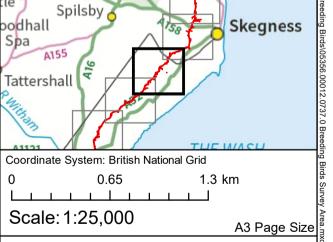
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Further explanation of the survey area provided in Appendix 22.4.



**Environmental Statement** 

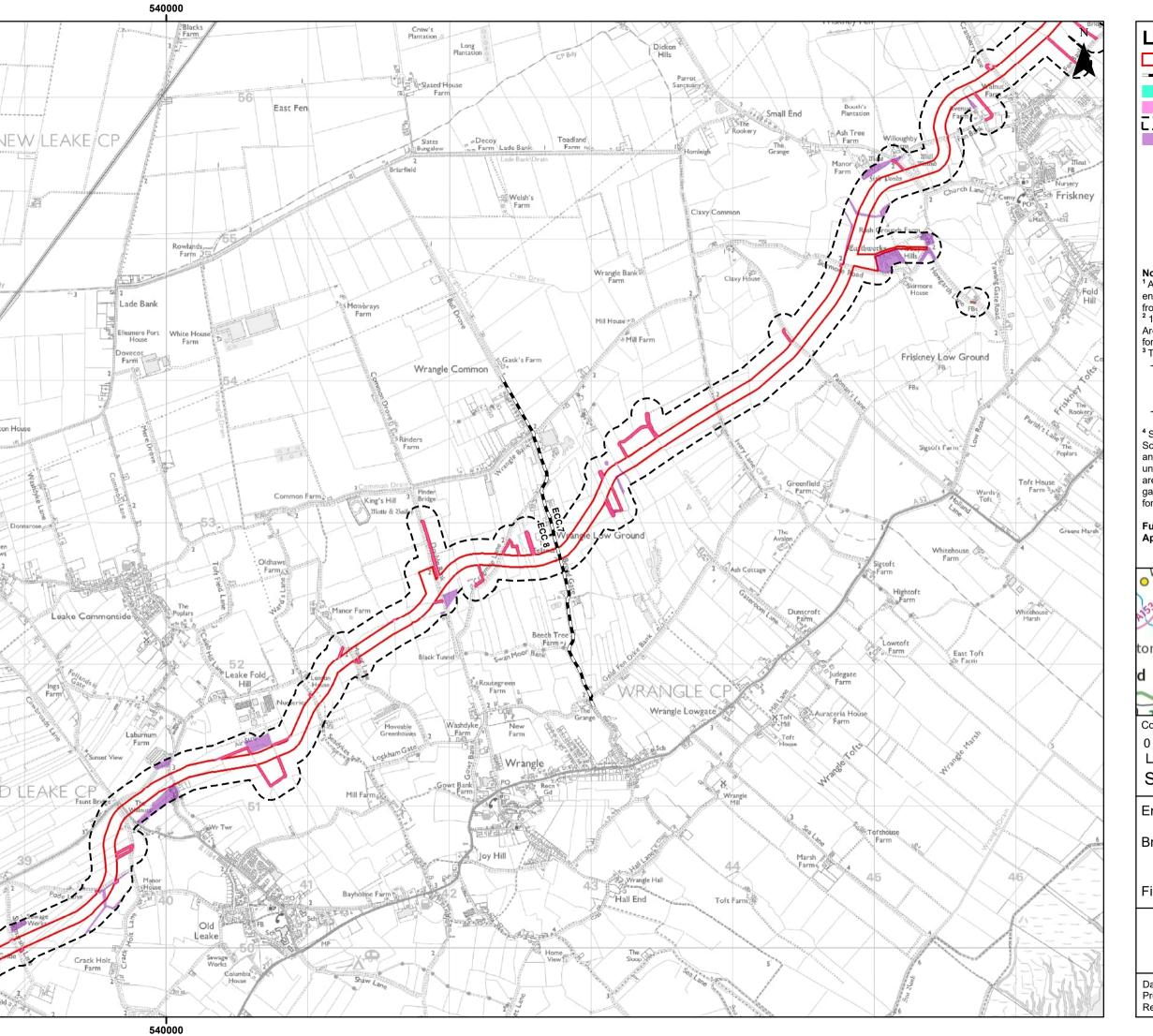
Breeding Bird Survey Areas

Figure 22.4.1



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<sup>1</sup> Areas within the 100m buffer directly associated with either enabling accesses or highways alterations have been excluded from ornithological assessment.

2 100m buffer of the Order Limits is referred to as 'Core Survey

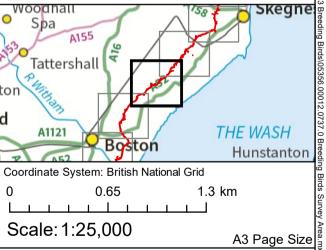
Area' in Appendix 22.4 and has been used as the basis for analysis.

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Further explanation of the survey area provided in Appendix 22.4.



**Environmental Statement** 

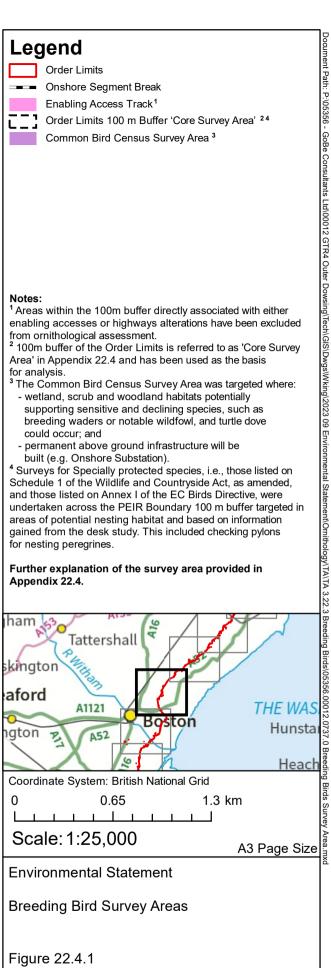
**Breeding Bird Survey Areas** 

Figure 22.4.1



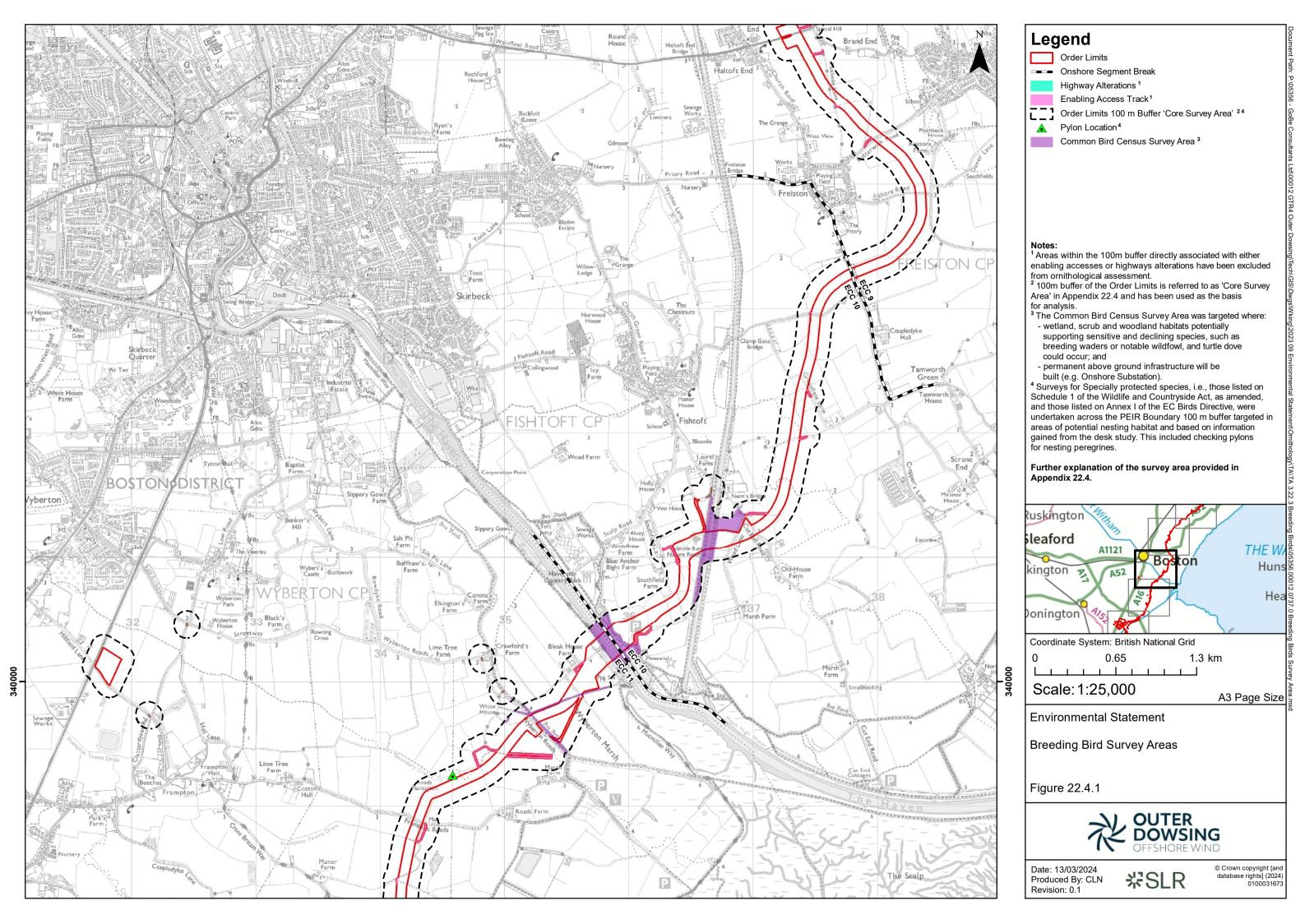
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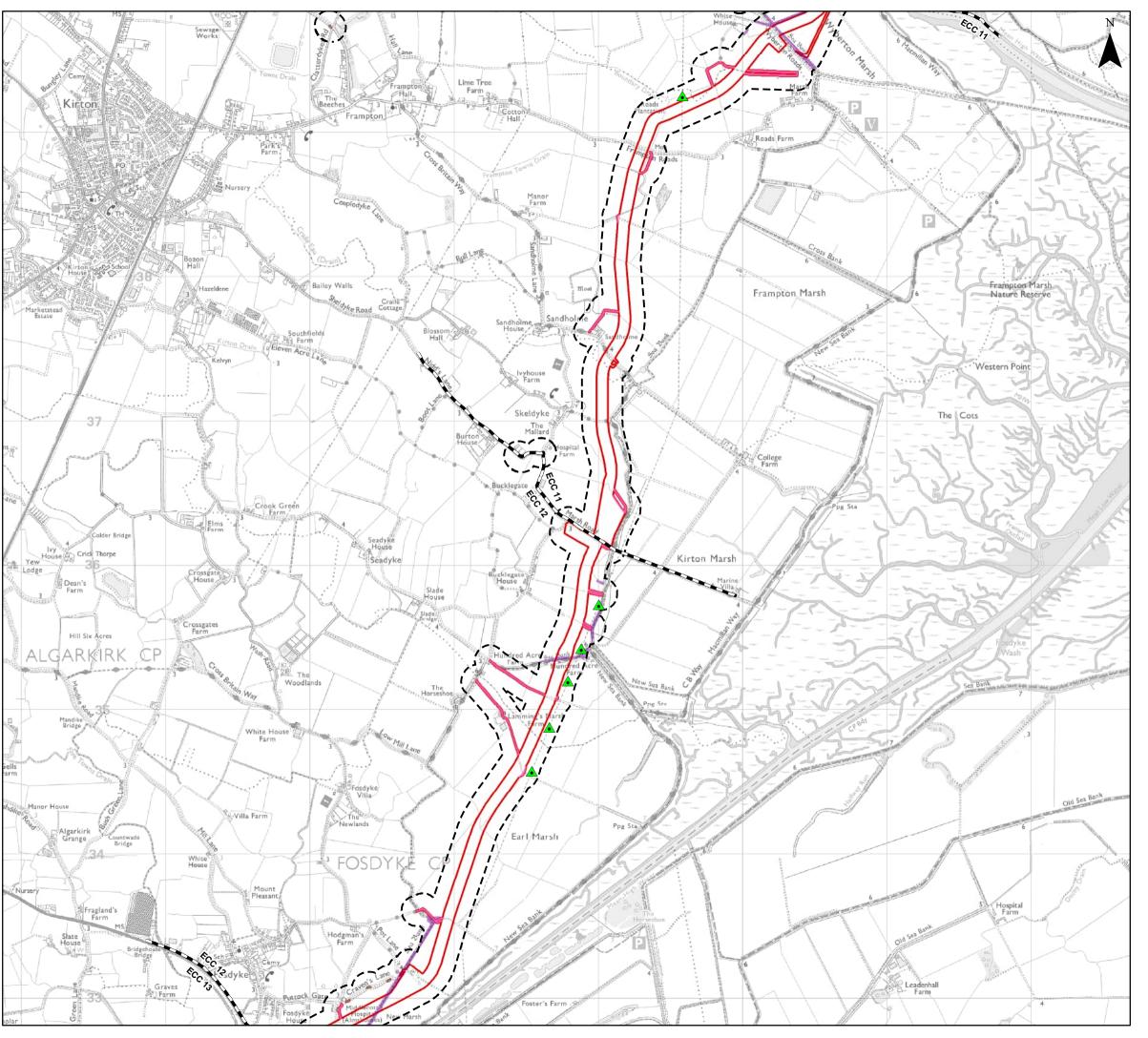


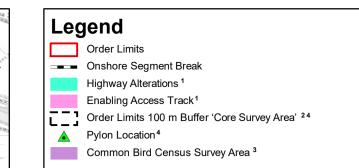


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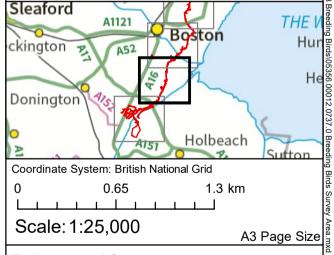
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Further explanation of the survey area provided in Appendix 22.4.



**Environmental Statement** 

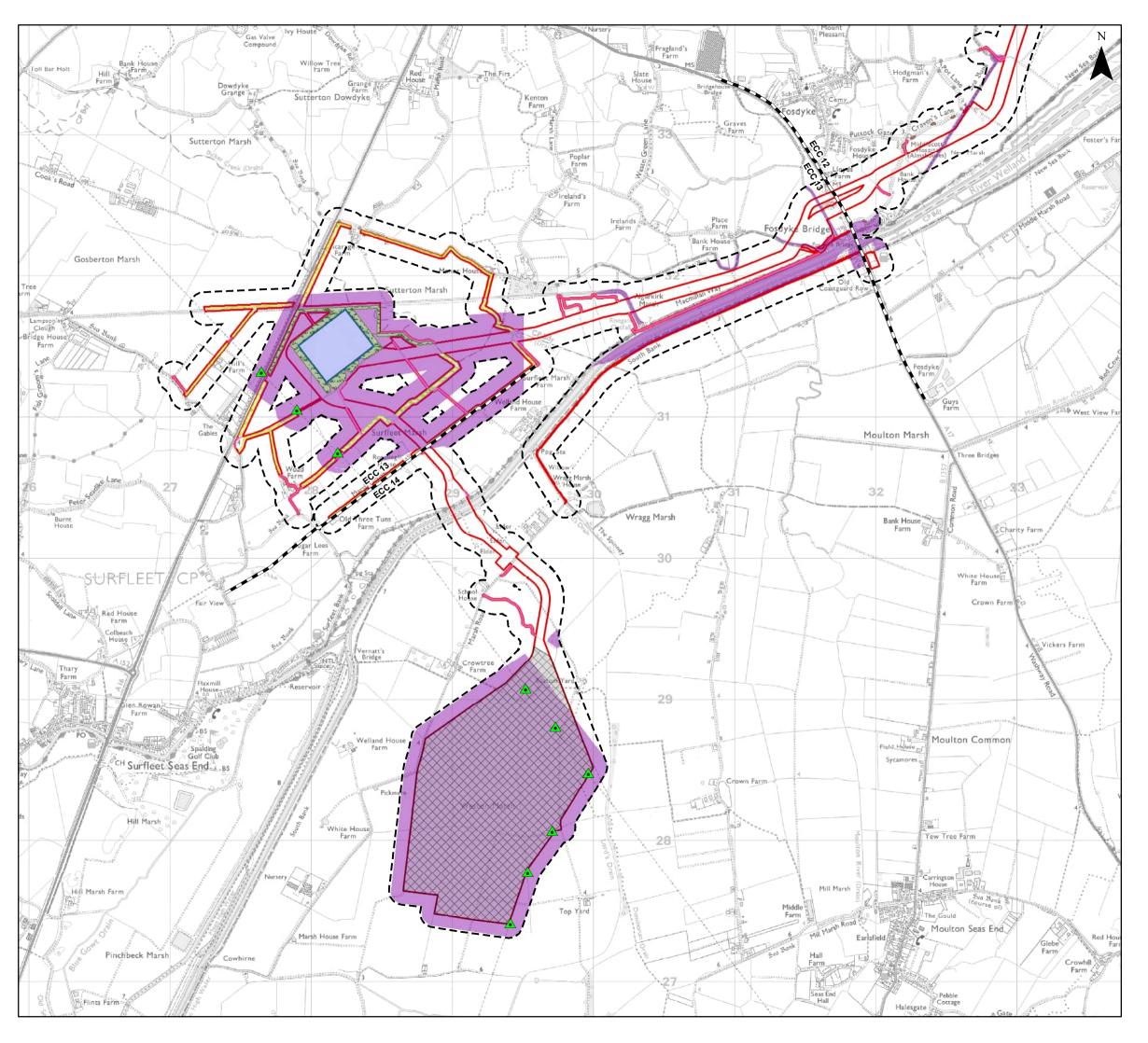
**Breeding Bird Survey Areas** 

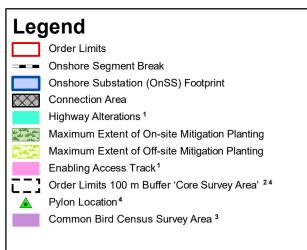
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#### Notes

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Further explanation of the survey area provided in Appendix 22.4.



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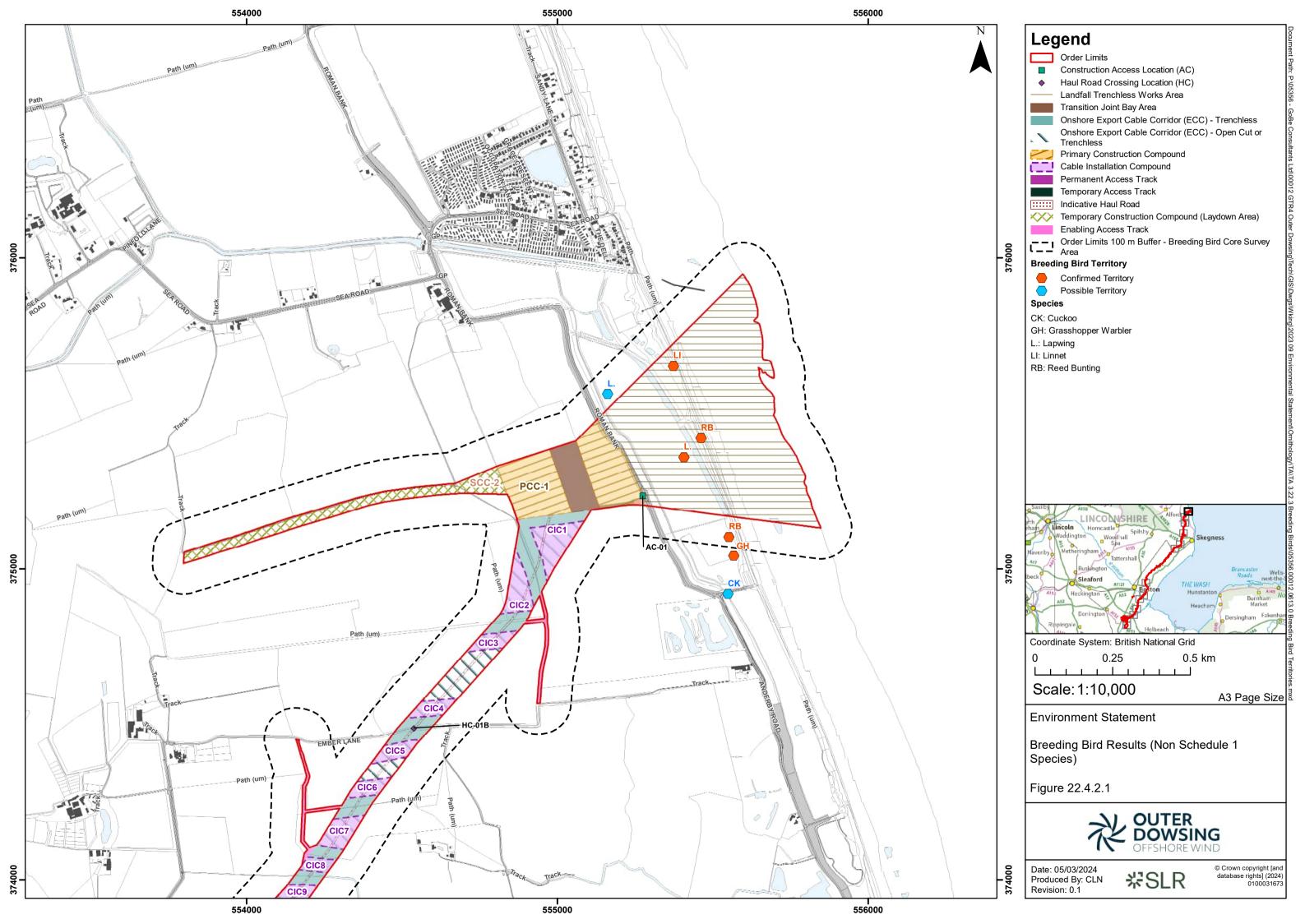
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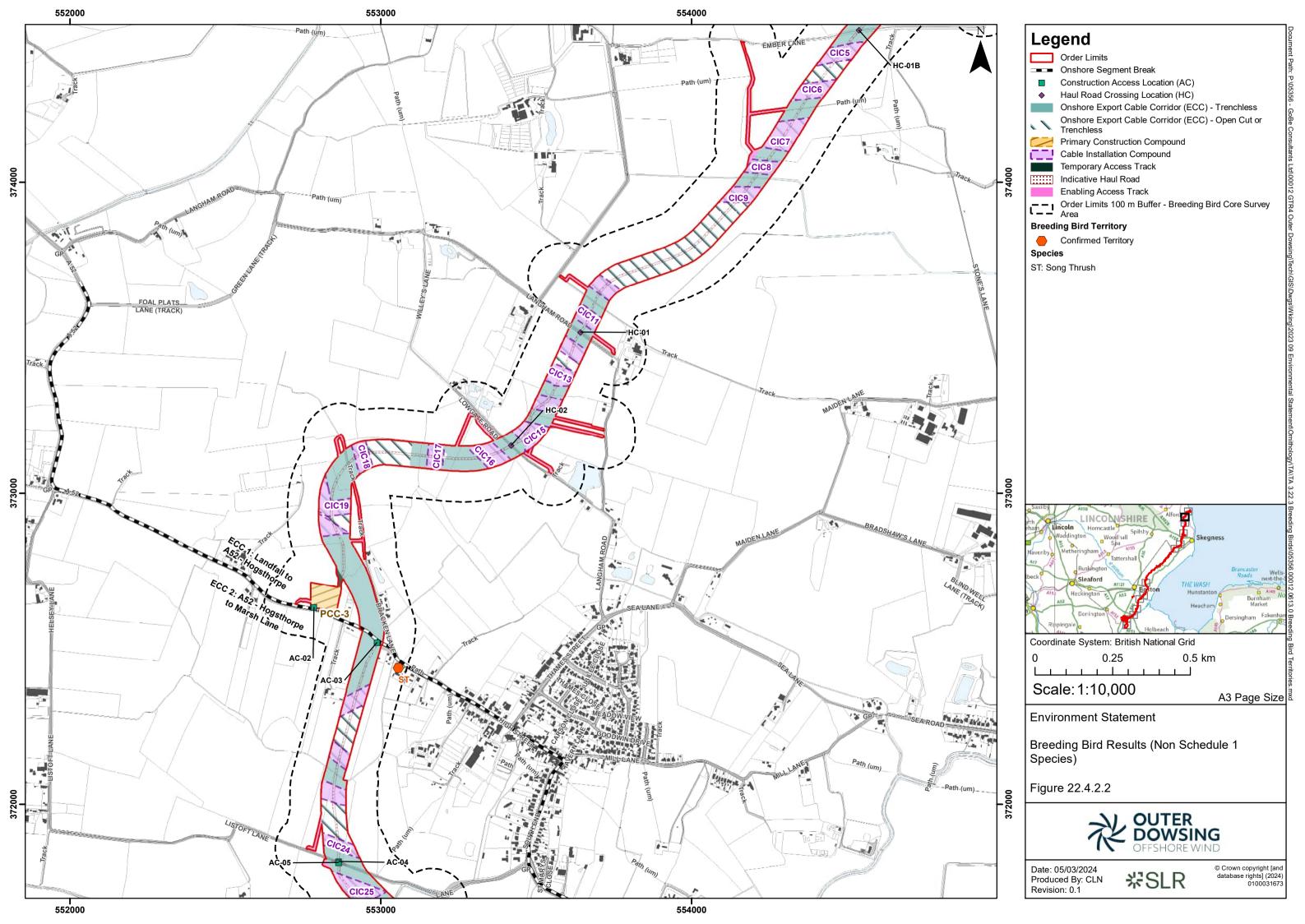
Figure 22.4.1

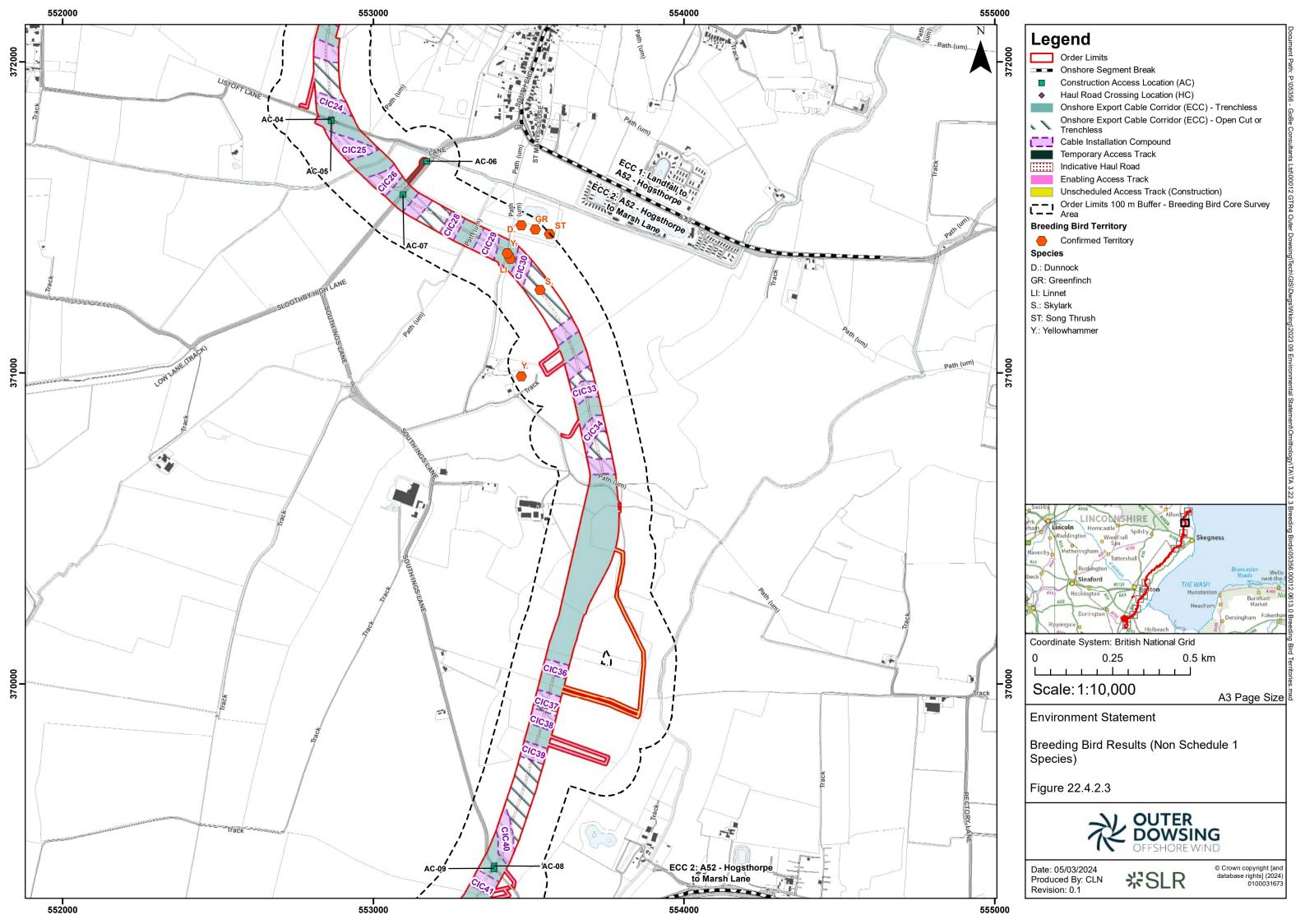


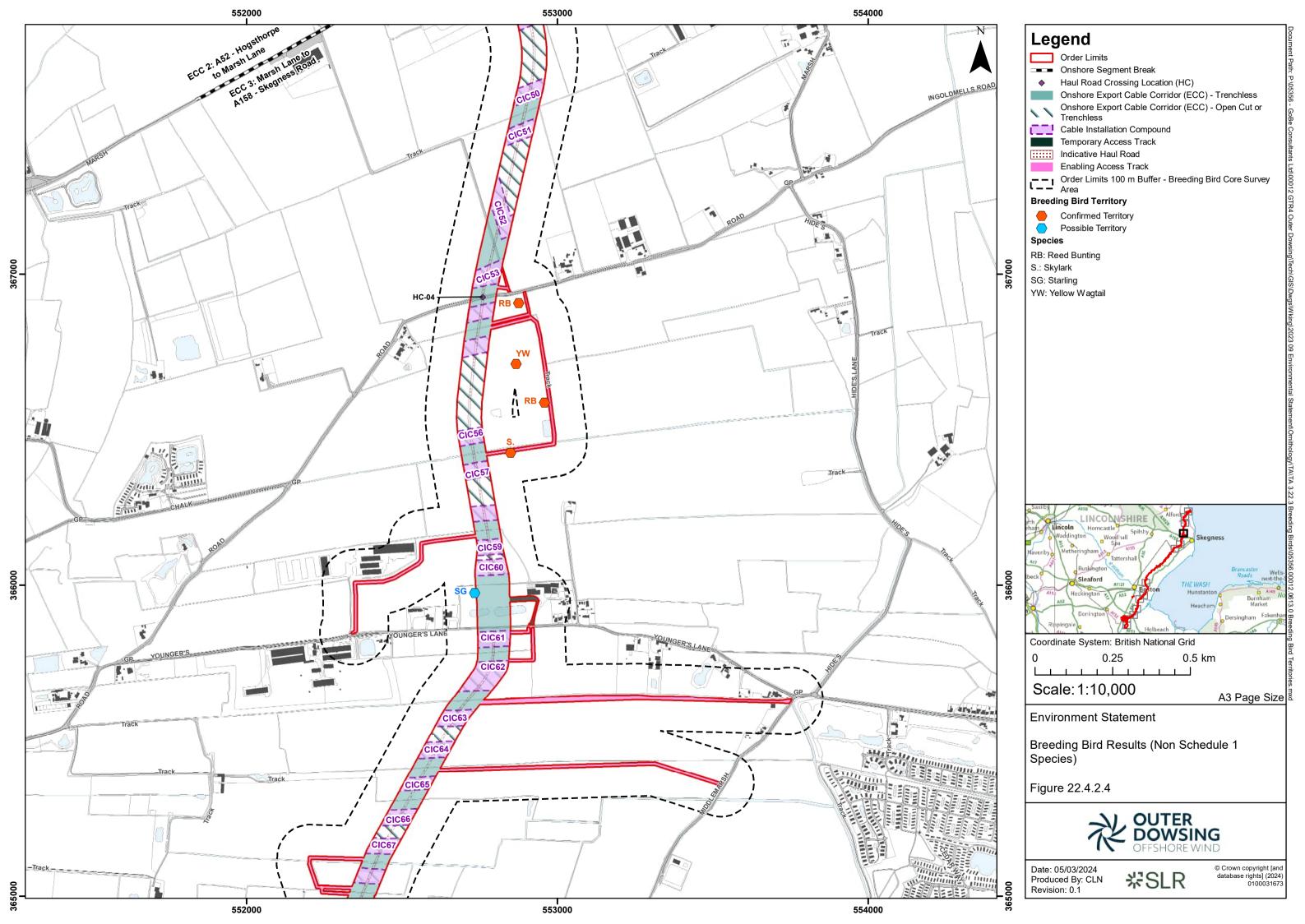
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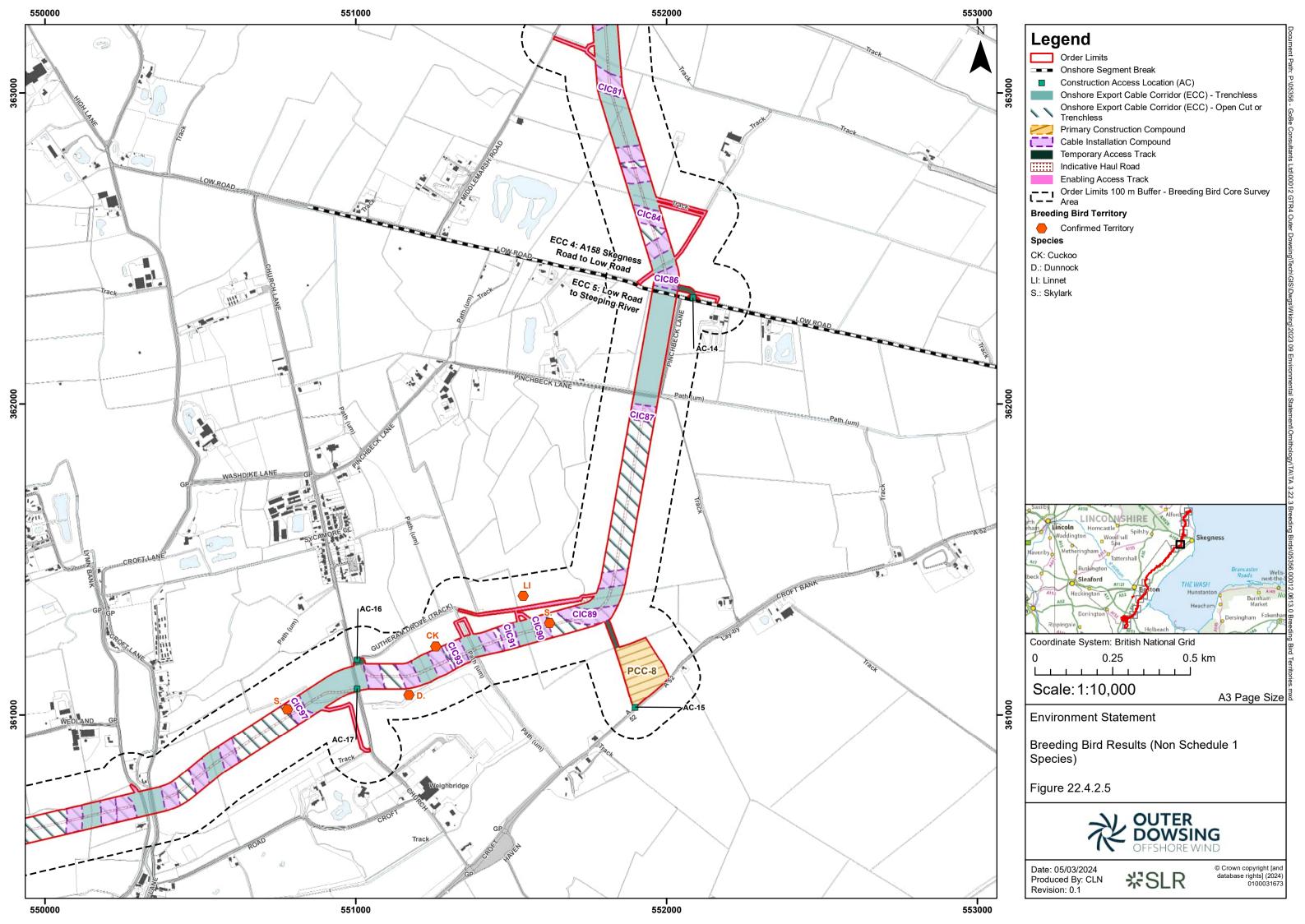


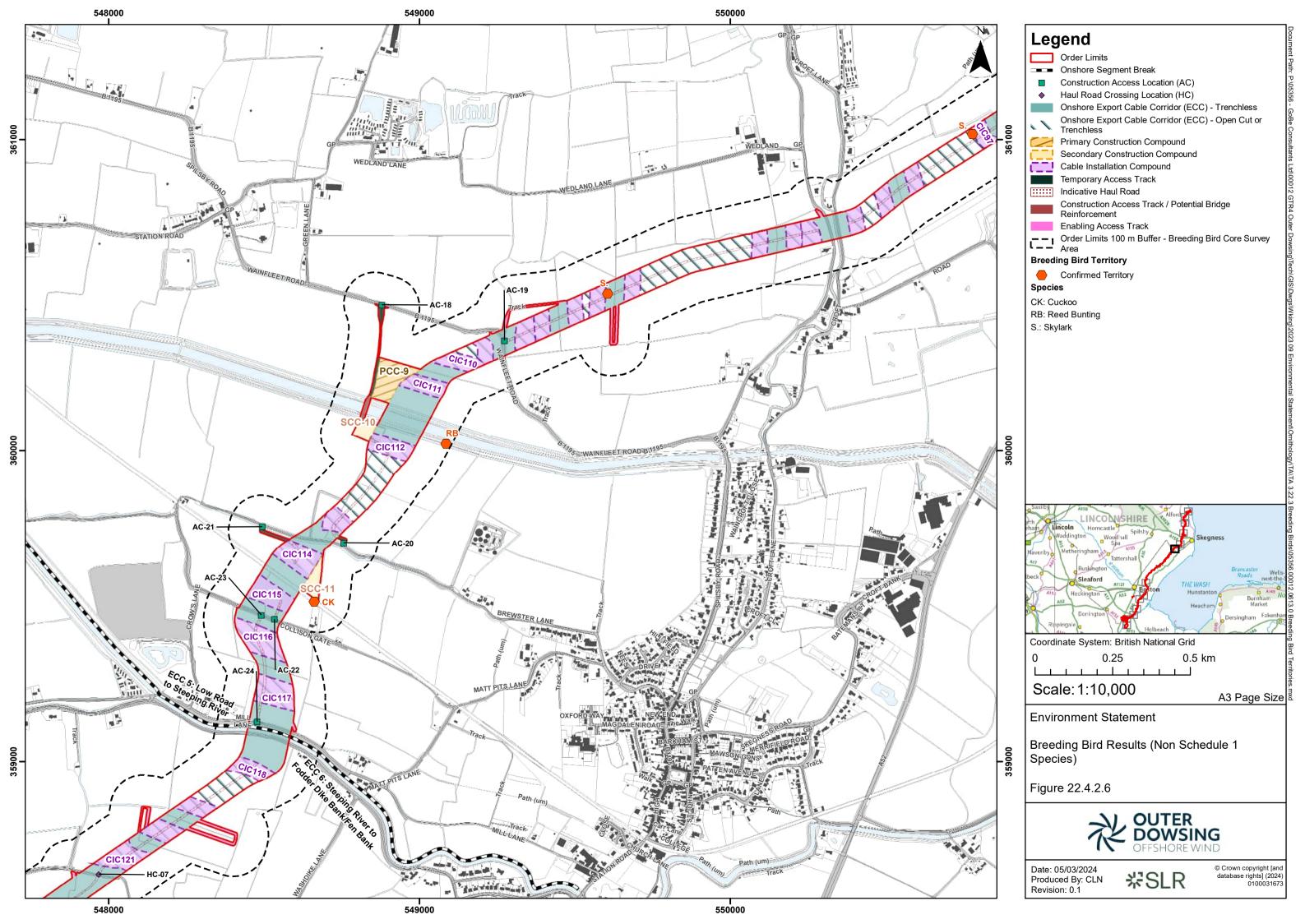


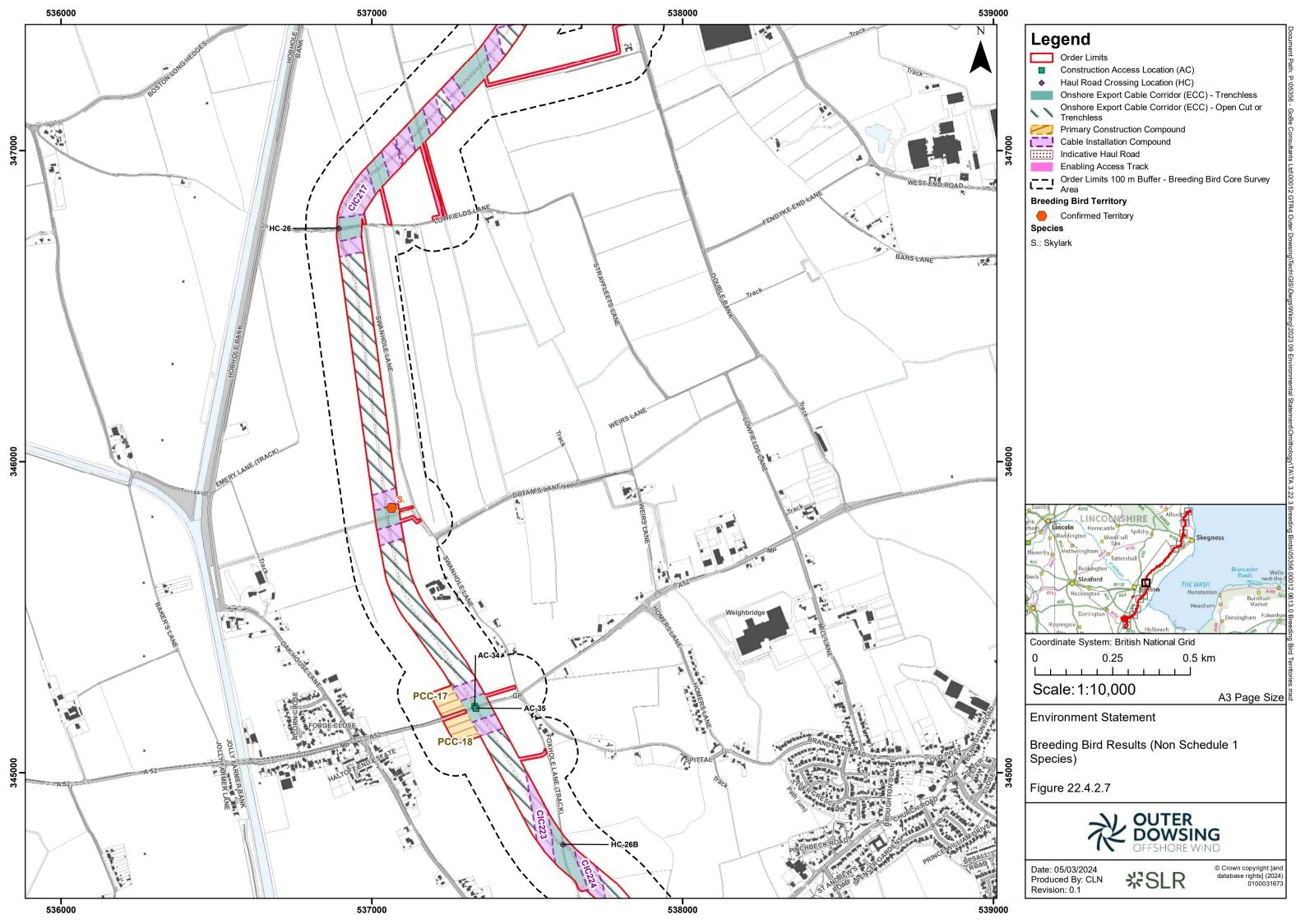


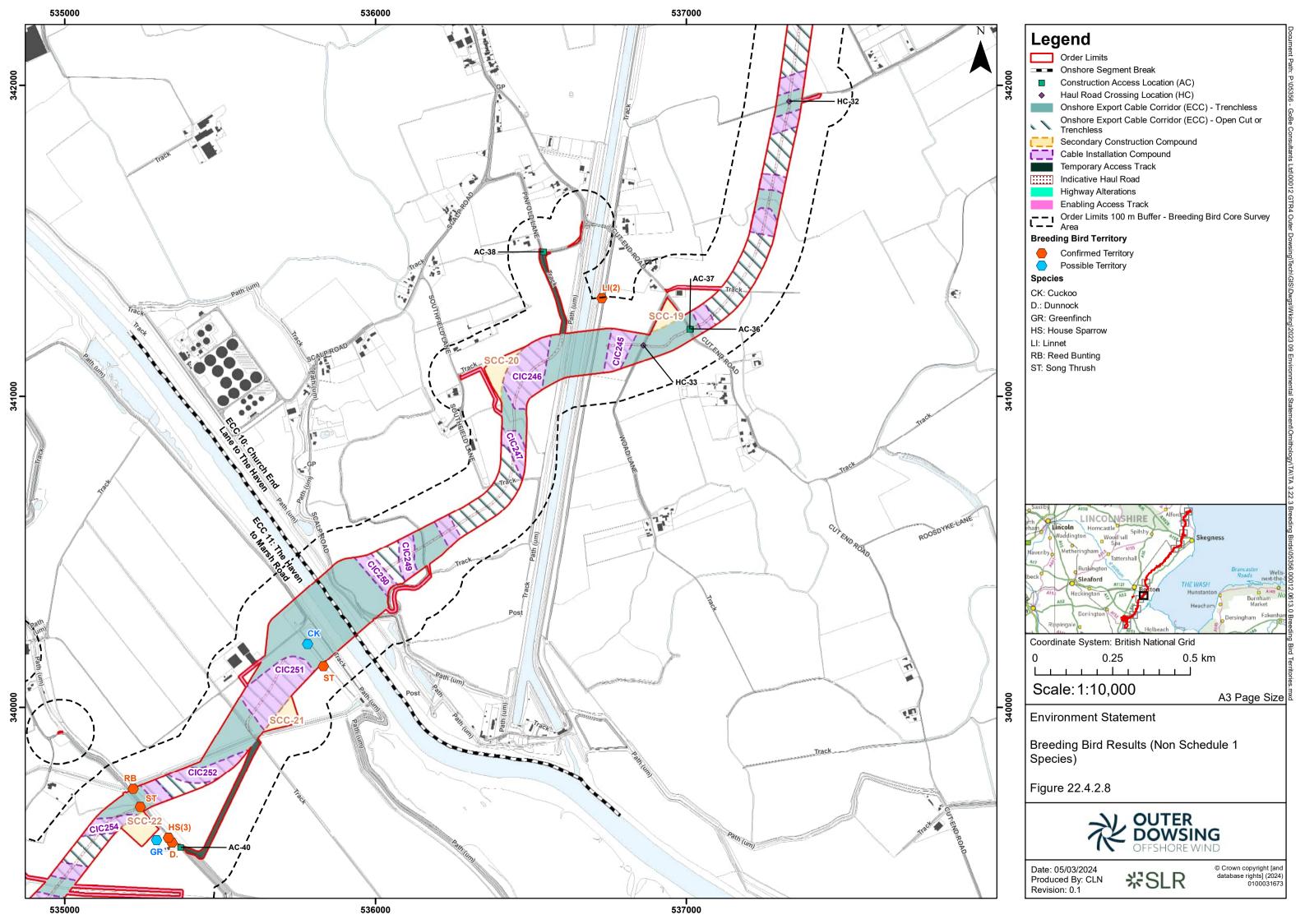


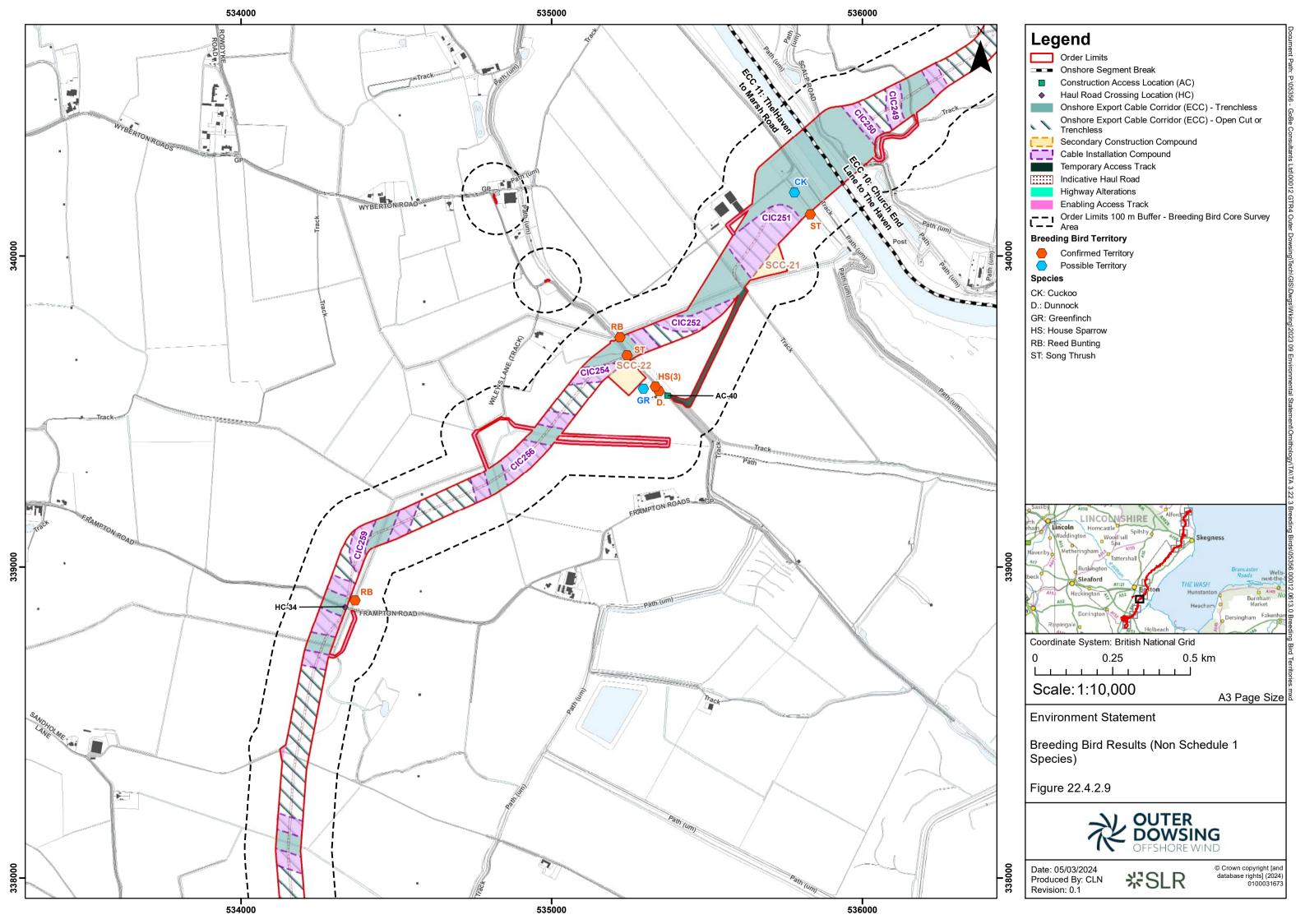


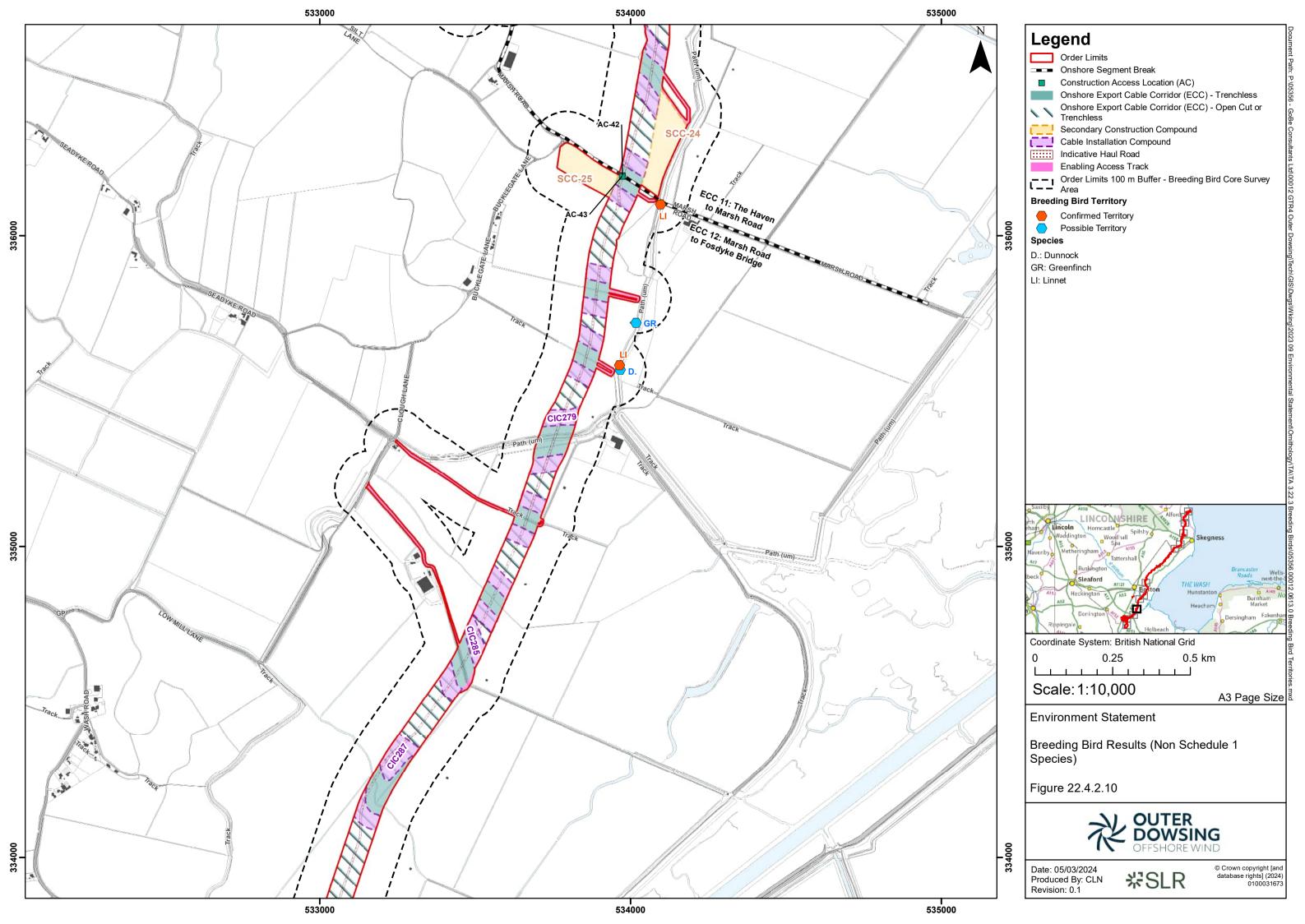


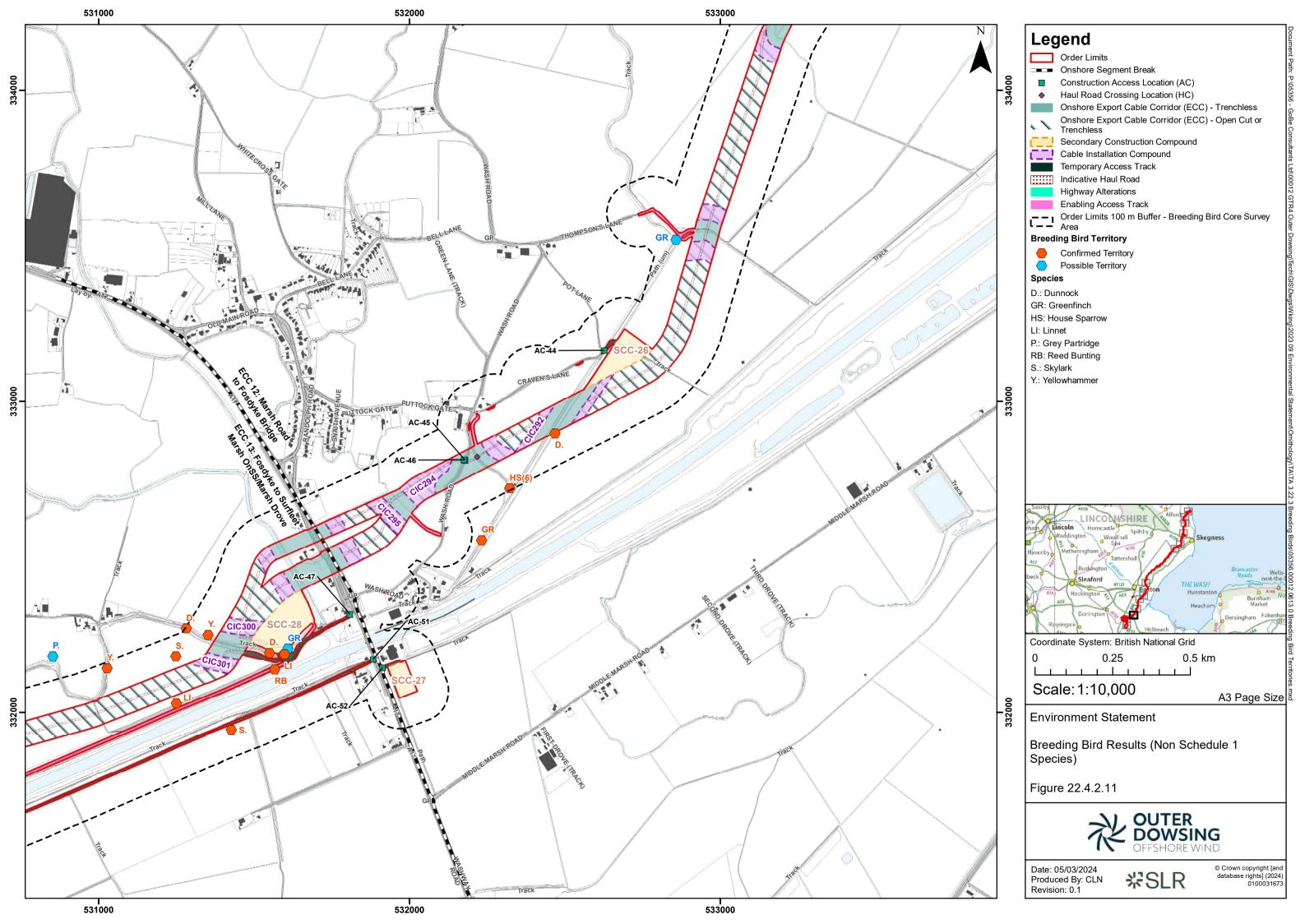


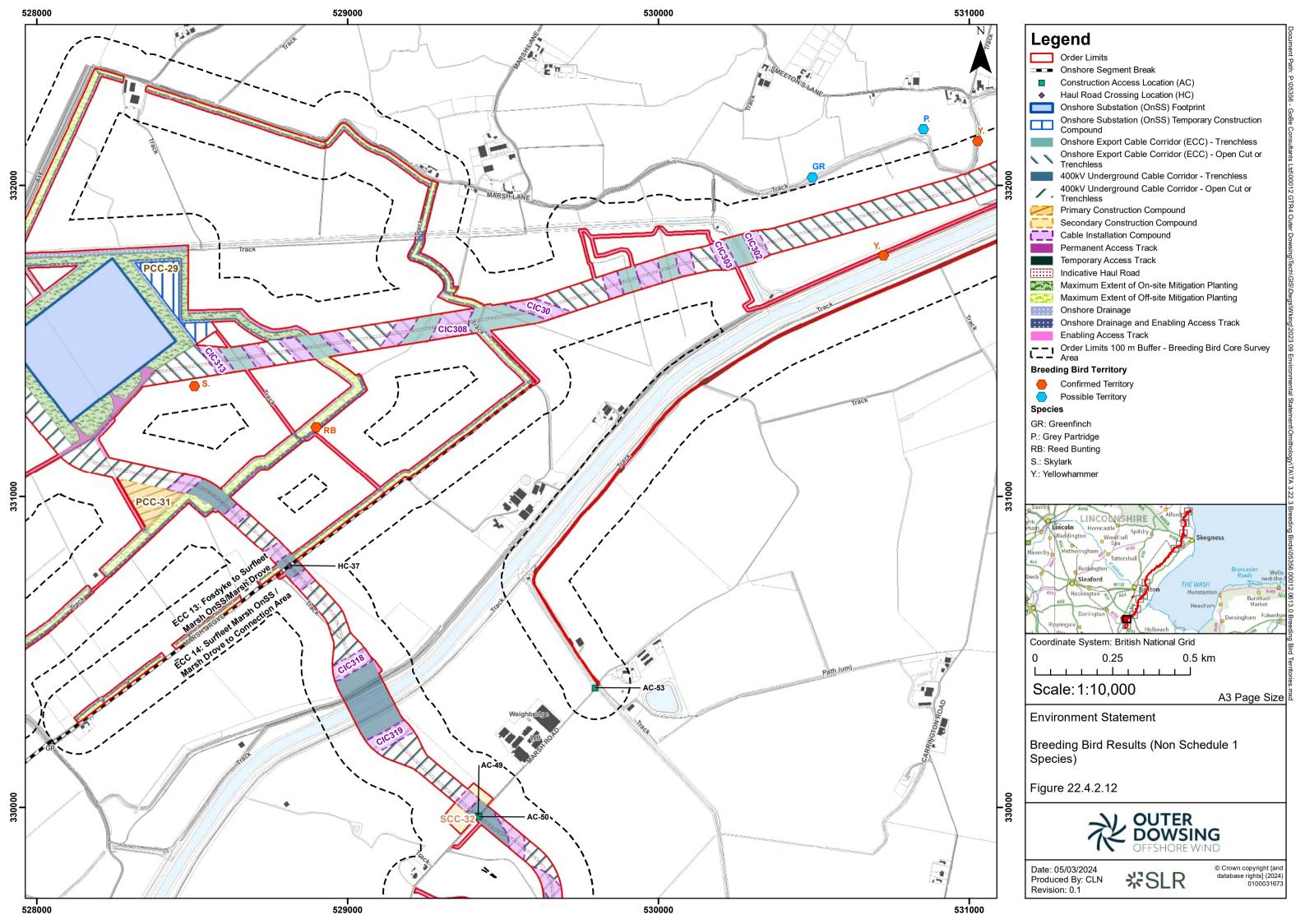


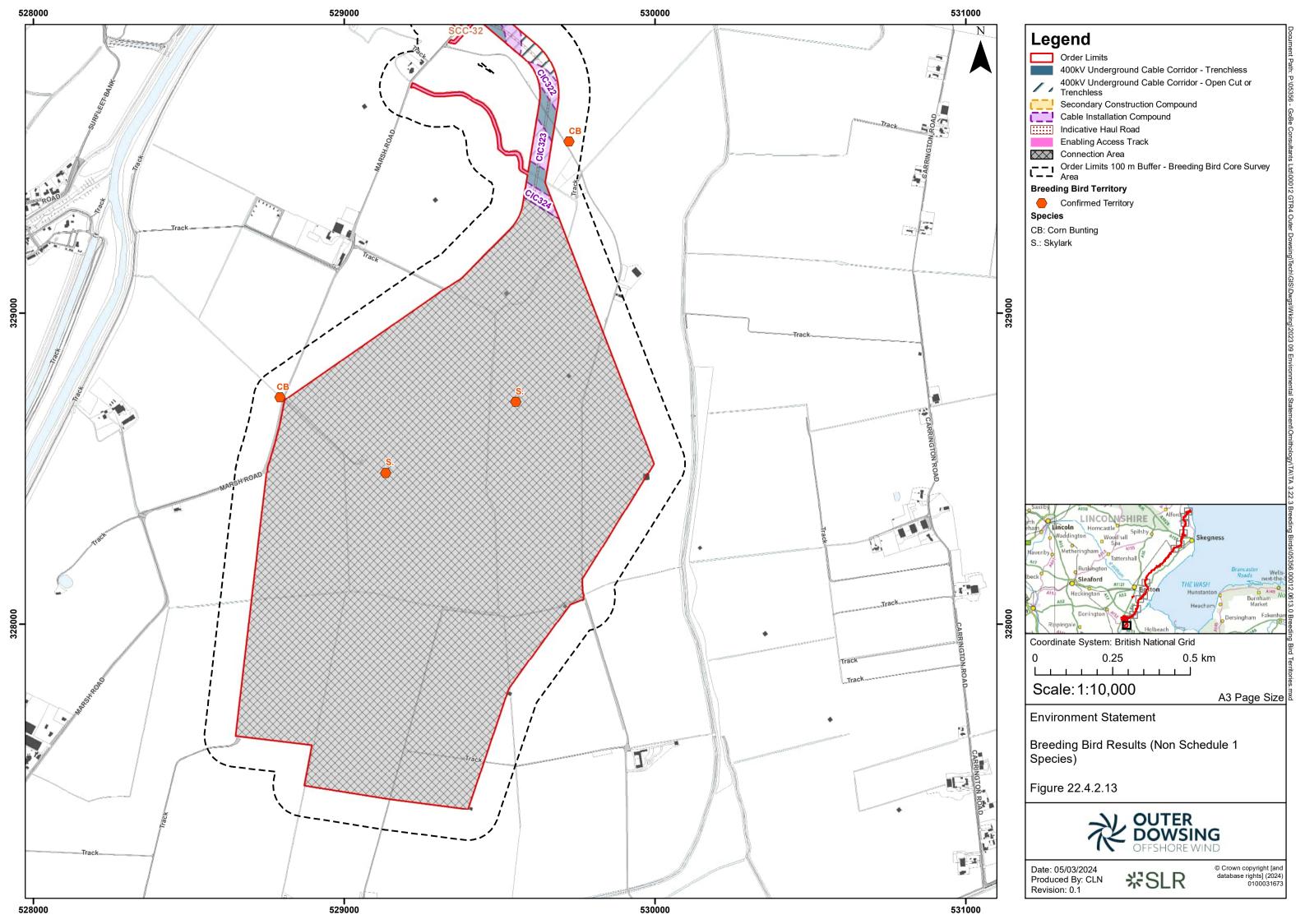












## A.2 Survey details

Table A.1: Adapted Common Birds Census survey details

Visit no.	Date	Time	Sunrise time	Survey area	Surveyor	Weather summary
1	03/04/2023	06:15-11:39	06:28	ECC 1	EA	Wind E-SE 2-3, Dry, Cloud 2-4/8, Visibility >5km.
1	06/04/2023	05:45-10:30	06:18	ECC 11-12	EA	Wind E-ENE 2-3, Dry, Cloud 3-5/8, Visibility >5km.
1	12/04/2023	06:52-09:30	06:07	ECC 1-4	MR	Wind NE-SW 0-5, Dry, Cloud 1/8, Visibility >3km, Temp. 4c.
1	13/04/2023	05:58-08:54	06:05	ECC 10	MR	Wind SW 4-5, Dry, Cloud 4-7/8, Visibility 1-3km to >3km, Temp. 6c.
1	14/04/2023	05:48-10:58	06:03	ECC 5-9	MR	Wind SW 0-3, Dry, Cloud 4-8/8, Visibility 1-3km to >3km, Temp. 4-11c.
1	17/04/2023	05:55-11:00	05:58	ECC 13-14	EA	Wind E-SE 1-2, Dry, Cloud 3-5/8, Visibility >5km.
2	03/05/2023	04:50-11:00	05:21	ECC 1-4	СР	Wind SE-ESE 2-3, Dry, Cloud 2-6/8, Visibility >5km, Temp 6-10c.
2	04/05/2023	04:50-10:50	05:20	ECC 5-9	СР	Wind E 4-6, Dry, Cloud 1-6/8, Visibility >5km, Temp 8-11c.



Visit no.	Date	Time	Sunrise time	Survey area	Surveyor	Weather summary
2	05/05/2023	04:50-09:30	05:18	ECC 1	СР	Wind SSW 2-3, Dry - Light Rain at end, Cloud 6-8/8, Visibility >5km, Temp 10-13c.
2	05/05/2023	04:45-11:00	05:20	ECC 10, 13-14	EA	Wind S-SSW 2-3, Dry, Cloud 4-6/8, Visibility >5km.
2	12/05/2023	04:50-10:30	04:49	ECC 11-12	EA	Wind N-NE 3-4, Dry (brief drizzle), Cloud 6-8/8, Visibility 3-5km and >5km.
3	30/05/2023	09:00-15:00	04:40	ECC 5-7	СР	Wind NNE 3-5, Dry, Cloud 7/8, Visibility >5km, Temp 12-14c.
3	31/05/2023	04:15-10:30	04:39	ECC 1	СР	Wind NE 4-6, Dry with drizzle at end, Cloud 8/8, Visibility >5km to 3-5km, Temp 10-13c.
3	01/06/2023	04:15-10:30	04:38	ECC 1-4	СР	Wind NNE 3-4, Dry, Cloud 7-8/8, Visibility >5km, Temp 9-11c.
3	01/06/2023	04:30-10:45	04:38	ECC 10-12	AE	Wind S-W 2-3, Dry, Cloud 4-6, Visibility >2km, Temp 9-11c.
3	02/06/2023	04:15-09:00	04:37	ECC 5-6	СР	Wind NNE 3-4, Dry, Cloud 5-6/8, Visibility >5km, Temp 10-11c.
3	02/06/2023	04:30-10:45	04:37	ECC 13-14	EA	Wind E-SE 1-2, Dry, Cloud 0-6, Visibility >3km, Temp 10-11c.



Visit no.	Date	Time	Sunrise time	Survey area	Surveyor	Weather summary
4	04/07/2023	04:11-08:54	04:38	ECC 1	СР	Wind W 2-3, Dry, Cloud 1-2, Visibility >5km, Temp 9-15c.
4	04/07/2023	04:20-10:00	04:38	ECC 10	EA	Wind SW 3, Dry, Cloud 0-1/8, Visibility >5km
4	05/07/2023	04:28-08:40	04:39	ECC 2-4	СР	Wind W-NW 2-3, Light shower, Cloud 8, Visibility >3km, Temp 12-13c.
4	05/07/2023	04:25-09:30	04:39	ECC 11-12	EA	Wind W 3, Dry, Cloud 2-4/8, Visibility >5km
4	06/07/2023	04:15-09:45	04:40	ECC 13	EA	Wind SW 2, Dry, Cloud 0-1/8, Visibility >5km
4	07/07/2023	04:23-06:56	04:41	ECC 8-9	СР	Wind SW 2, Dry, Cloud 1, Visibility >3km, Temp 12-16c.



1 March 2024 SLR Project No.: 410.V05356.00013

Table A-2: Annex I and Schedule 1 survey details

VISIT NO.	DATE	TIME	SUNRISE/ SUNSET TIME	TARGETED LOCATIONS	SURVEYOR	WEATHER SUMMARY
1	14/04/2023	05:40-11:15	06:02	Wolla Bank, Anderby Marsh	EA	Wind E-NE 2-3, Dry, Cloud 2-7/8, Visibility >3km, Temp. 8-10c.
1	18/04/2023	05:30-11:00	05:54	Additional Cable Route	EA	Wind N-NE 3-4, Dry, Cloud 0-8/8, Visibility >3km, Temp. 6-11c.
1	19/04/2023	05:40-11:10	05:52	Wainfleet to The Haven/Boston	EA	Wind NNE-NE 4-5, Dry, Cloud 0-2/8, Visibility >3km, Temp. 8-10c.
1	20/04/2023	05:35-10:50	05:59	Hogsthorpe to Wainfleet	EA	Wind NNE-NE 3-4, Dry, Cloud 0/8, Visibility >3km, Temp. 6-11c.
1	21/04/2023	05:30-11:00	05:49	The Haven to Weston Marsh	EA	Wind N-NE 3-5, Dry and Drizzle, Cloud 8/8, Visibility >3km, Temp. 8-9c.
2	16/05/2023	17:30-21:30	20:52	Anderby Marsh	СР	Wind SSW-WSW 1-3, Dry, Cloud 1-2/8, Visibility >5km, Temp 12c.
2	17/05/2023	04:30-12:15	04:57	Youngers Lane, Steeping River, Anderby, Langham Road area	СР	Wind NNW-NNE 2-3, Dry, Cloud 3/8, Visibility >5km, Temp 9-11c.
2	18/05/2023	04:45-08:45	04:55	Anderby Marsh / landfall area	СР	Wind SSW 3-5, Dry, Cloud 3-5/8, Visibility >5km, Temp 9-15c.
2	19/05/2023	04:30-08:30	04:54	RSPB Hide (Gold Fen Dike Bank)	СР	Wind SSW 1-2, Dry, Cloud 6/8, Visibility 3-5km, Temp 10c.
2	19/05/2023	04:45-10:15	04:55	The Haven to Fosdyke Bridge	EA	Wind E-S 1, Dry and Drizzle, Cloud 0-7/8, Visibility >5km.



VISIT NO.	DATE	TIME	SUNRISE/ SUNSET TIME	TARGETED LOCATIONS	SURVEYOR	WEATHER SUMMARY
2	22/05/2023	04:37-10:36	04:51	Fosdyke Bridge to Weston Marsh	EA	Wind N 3, Dry, Cloud 4-6/8, Visibility >5km.
3	19/06/2023	09:00-13:00	04:31	Anderby Marsh	СР	Wind WSW-SSW 3-5, Dry, Cloud 2-6/8, Visibility >5km, Temp 20-24c.
3	20/06/2023	04:00-06:00	04:31	Anderby Marsh	СР	Wind S-SE 1, Dry, Cloud 0/8, Visibility >5km, Temp 16-18c.
3	21/06/2023	07:10-11:10	04:31	Croft Marsh Lane	СР	Wind SW-W 1-2, Dry, Cloud 2-3/8, Visibility >5km, Temp 15-20c.
3	22/06/2023	04:00-08:00	04:31	Steeping River (Wainfleet)	СР	Wind N 2, Dry, Cloud 0-1/8, Visibility >5km, Temp 14-19c.
3	23/06/2023	04:00-08:00	04:32	RSPB Hide (Gold Fen Dike Bank)	СР	Wind E-ESE 0-1, Dry, Cloud 0-1/8, Visibility 3-5km, Temp 13-19c.
4	17/07/2023	08:50-12:50	0.2028	Wainfleet to The Haven/Boston	СР	Wind W 3-4, Dry, Cloud 2-7, Visibility >3km, Temp 15-23c.
4	18/07/2023	04:55-09:55	0.2042	Wainfleet to The Haven/Boston	СР	Wind SW 3, Dry, Cloud 3-4, Visibility >3km, Temp 13-16c.
4	19/07/2023	06:05-09:10	0.2049	Wrangle	СР	Wind SW 3, Drizzle/mist, Cloud 8, Visibility 1-3km, Temp 12-15c.
4	20/07/2023	18:00-20:30	0.2056	Wrangle	СР	Wind W 1-2, Dry, Cloud 4-8, Visibility >3km, Temp 15-17c.
4	21/07/2023	04:50-07:15	0.2069	Volla Bank-Burgh le Marsh	СР	Wind W 2-3, Dry, Cloud 6-7, Visibility >3km, Temp 9-14c.



VISIT NO.	DATE	TIME	SUNRISE/ SUNSET TIME	TARGETED LOCATIONS	SURVEYOR	WEATHER SUMMARY
4	25/07/2023	04:30-10:00	05:05	Staples-The Haven	EA	Wind W 3, Dry and Light Rain, Cloud 6-8/8, Visibility >5km, Temp 10-15c
4	26/07/2023	04:20-09:45	05:08	The Haven-Fosdyke Bridge	EA	Wind S 1-2, Dry, Cloud 3-6/8, Visibility >5km, Temp 9-16c
4	27/07/2023	04:30-09:40	05:09	Fosdyke Bridge-Weston Marsh	EA	Wind SW, Light rain and Drizzle, Cloud 8/8, Visibility >5km, Temp 16-18c



