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Contents

1	Introduction	1
1.1	Background	1
1.2	Brief and Objectives	2
1.3	Study and Survey Area	2
2	Relevant Legislation and Policy	3
2.1	Legal Compliance	3
2.2	Planning Policy	3
3	Methodology	4
3.1	Desk Study	4
3.2	Survey Methodology	7
3.3	Dates of Survey and Personnel	8
3.4	Notes and Limitations	8
4	Results	10
4.1	Overview	10
4.2	Desk Study Results	10
4.3	Habitat Suitability Assessment	18
4.4	Incidental Records	28
5	Conclusion	29

Table A8.6.1	Legal compliance	3
Table A8.6.2	Sources of information	4
Table A8.6.3	Summary of reptile records from NBIS, SBIS and EFC	10
Table A8.6.4	Statutory designated sites	11
Table A8.6.5	Non-statutory designated sites with potential for, or known to support reptiles	13
Table A8.6.6	Summary of reptile records from other NSIPs	15
Table A8.6.7	Summary of reptile records from local planning authority projects	16
Table A8.6.8	Reptile species distribution across the Project	17
Table A8.6.9	Habitat suitability assessment summary	19
Table A8.6.10	Total and peak reptile count from the presence/likely absence surveys	24
Table A8.6.11	Reptile population size class	24
Table A8.6.12	Reptile population density	25
Table A8.6.13	Key reptile sites	25
Table B.1	Habitat suitability assessment summary	B1
Table C.1	Summary of survey weather conditions	C1
Table D.1	Summary of non-statutory designated sites with reptiles	D1

Table E.1	Summary of projects with no supporting information	E1
Table F.1	Summary of projects that de-scoped reptiles	F1
Table G.1	Summary of reptile survey 2024 results	G1
Table H.1	Reptile incidental sightings from non-target surveys	H1

Figure A8.6.1	Reptile Desk study records, and statutory and non-statutory designated sites within 2 km of the Order Limits	A1
Figure A8.6.2	Reptile Survey Locations	A2
Figure A8.6.3	Reptile Survey Results	A3
Figure A8.6.4	Key Reptile Sites	A4

Image A8.6.1	Criteria for Key Reptile Sites, taken from Froglife (1999)	7
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Abbreviation	30
Glossary	31
Bibliography	33

Annex A	Figures
Annex B	Habitat Suitability Assessment
Annex C	Survey Weather Conditions
Annex D	Non-statutory Designated Sites with Reptiles
Annex E	Projects with no Supporting Information
Annex F	Projects that De-scoped Reptiles
Annex G	Reptile Survey 2024 Results
Annex H	Reptile Incidental Sightings from Non-Target Surveys

1 Introduction

1.1 Background

- 1.1.1 This report has been produced as an appendix to Chapter 8: Ecology and Biodiversity (document reference 6.8) ([Revision C](#)) of the Environment Statement (ES) (Volume 6 of the Development Consent Order (DCO) application) for Norwich to Tilbury (the 'Project').
- 1.1.2 The ecological background and the scope for this report is set out in the Environmental Impact Assessment (EIA) Scoping Report (document reference 6.19) and agreed within the EIA Scoping Opinion received from the Planning Inspectorate in December 2022 (document reference 6.20).
- 1.1.3 The EIA Scoping Report (document reference 6.19), issued to the Planning Inspectorate in November 2022, identified the need for reptile surveys as it was anticipated that common reptile species were present within the Order Limits, due to the presence of suitable habitat. The reptile species anticipated to be present within suitable habitat, were adder *Vipera berus*, grass snake *Natrix helvetica*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis*. Reptiles are at risk of impact during construction through habitat loss/fragmentation and in the absence of appropriate mitigation, killing/injury during construction. This would constitute a breach of legislation.
- 1.1.4 The Project has also been sub-divided into eight geographical sections for reader accessibility, based largely on Local Planning Authority boundaries. These comprise:
- Section A – South Norfolk Council
 - Section B – Mid-Suffolk District Council
 - Section C – Babergh District Council, Colchester City Council and Tendring District Council
 - Section D – Colchester City Council
 - Section E – Braintree District Council
 - Section F – Chelmsford City Council and Brentwood District Council
 - Section G – Basildon Borough Council and Brentwood Borough Council (and part of Chelmsford City Council)
 - Section H – Thurrock Council.
- 1.1.5 Results reported in this document reference the Project Section that the habitat is located within.

1.2 Brief and Objectives

- 1.2.1 This report aims to present the overall baseline information for reptiles in respect to the Order Limits including habitat suitability assessment, evaluation, and results of the 2024 reptile surveys.
- 1.2.2 The purpose of the report is to identify whether site specific reptile mitigation strategies were required to avoid significant negative effects on reptiles or whether habitat manipulation to displace reptiles into retained habitat would be sufficient to avoid negative effects.
- 1.2.3 A habitat suitability assessment and evaluation was used to determine the locations of potential Key Reptile Sites (KRSs). A total of fifty-six potential KRSs were identified within the Order Limits for most of these sites habitat manipulation would be suitable to avoid adverse effects on the resident reptile population and targeted surveys for reptiles were not undertaken.
- 1.2.4 In 2024, five potential KRSs were taken forward for survey with the following objectives:
- Establish whether reptiles are present or likely absent within these five survey locations
 - Determine, if present, which species are within these five survey locations as well as the distribution and population of these species
 - Identify whether any of the five survey locations meet the criteria to be classified as a KRS
 - Identify whether site specific reptile mitigation strategies were required to avoid significant negative effects on reptiles or whether habitat manipulation to displace reptiles into retained habitat would be sufficient to avoid negative effects.

1.3 Study and Survey Area

- 1.3.1 The Study Area is defined as the land within the Order Limits and a 2 km buffer.
- 1.3.2 The Survey Area is defined as the five reptile survey locations (numbered 1 to 5) shown on Figure A8.6.2: Reptile Survey Locations in Annex A.

2 Relevant Legislation and Policy

2.1 Legal Compliance

- 2.1.1 Surveys and assessments have been undertaken in accordance with current legislation and planning policy in the context of the Project. A summary of the relevant legislation is provided in Table A8.6.1 below.

Table A8.6.1 Legal compliance

Legislation	Details
Conservation of Habitats and Species Regulations 2017 (as amended in 2019) ('Habitats Regulations')	Sand lizard <i>Lacerta agilis</i> and smooth snake <i>Coronella austriaca</i> are fully protected in the UK under the combined measures of the Conservation of Habitats and Species Regulations 2017. However, the Project is situated outside of the natural range for these species and thus these species are not considered further.
The Wildlife and Countryside Act 1981, as amended (WCA)	Common lizard, slow-worm, grass snake and adder receive partial protection under Schedule 5 of the Wildlife and Countryside Act 1981, and it is an offence to intentionally kill, injure these species. Sand lizard and smooth snake receive full protection under Schedule 5 of the Wildlife and Countryside Act 1981; however, as identified above the Project is situated outside of the natural range for these species and they are not considered further.
The Natural Environment and Rural Communities (NERC) Act 2006	The NERC Act 2006 places a duty upon public bodies to maintain Section 41 (s41) lists of flora, fauna, and habitats and to consider these ecological features as a material consideration in planning. It also requires decision-makers to have regard to the conservation of biodiversity in England, when carrying out their normal functions. Common lizard, slow-worm, grass snake and adder are listed as priority species under s41 of the NERC Act 2006.

2.2 Planning Policy

- 2.2.1 Chapter 8: Ecology and Biodiversity (document reference 6.8) [\(Revision C\)](#) provides further details of relevant planning policy.

3 Methodology

3.1 Desk Study

- 3.1.1 Within the Order Limits, large/notable populations of reptiles are thought to be unlikely due to the unsuitable nature of most of the habitats (predominately structurally poor habitat in agricultural fields).
- 3.1.2 Four reptile species (adder, grass snake, common lizard, and slow-worm) have historically been confirmed within the Order Limits. A desk-based exercise was undertaken to assess the suitability of habitats within the Order Limits to support these reptile species. This study was conducted in September 2023 and subsequently updated in March 2025, to inform the baseline in relation to reptiles. Table A8.6.2 summarises the various sources of information utilised for the desk study and the information obtained.

Table A8.6.2 Sources of information

Source	Information Obtained
Google Earth (Google, 2025) aerial imagery	Review of aerial photography was undertaken to: assess habitats within the Order Limits in a wider context (landscape-scale; which extended up to 2 km from the Order Limits); identify potential ephemeral ecological features that may not be evident on the ground during the field survey (e.g. ephemeral ponds); identify potential wildlife corridors or barriers to animal movements (e.g. road networks built development and major watercourses); and review changes to habitats over time so that an assessment of reliability/longevity can be made.
Multi-Agency Geographic Information for the Countryside (MAGIC) (Natural England, 2025)	The location of statutory designated sites for nature conservation designated for, or with a known presence of, reptiles within 2 km of the Order Limits. As some ecological features are not always apparent on aerial photographs, relevant Ordnance Survey mapping on MAGIC was also studied to identify ponds, issues and/or drains within the Order Limits that may be of value to foraging grass snake or provide dispersal corridors for other species.
Local Record Centres	The location of non-statutory designated sites for nature conservation designated for, or with a known presence and records of, reptiles within 2 km of the Order Limits were obtained from Norfolk Biodiversity Information Service (NBIS, 2023), Suffolk Biodiversity Information Service (SBIS, 2023) and Essex Field Club (EFC, 2023). These include County Wildlife Sites (CWS), Local Wildlife Sites (LWS) and Roadside Nature Reserves (RNR). Note: Only records recorded within the last 20 years were included in the desk study unless specified. Although a 10-year cut off is the normal time that ecological records are searched for, as reptile records can be patchy an extended time period was selected for this species group.

Source	Information Obtained
National Infrastructure Planning website	In 2023, the National Infrastructure Planning website was searched for reptile survey information and documents relating to other Nationally Significant Infrastructure Projects (NSIPs) within 2 km of the Order Limits. Relevant projects are listed within Table A8.6.5.
Local Planning Authority projects	In 2023, the planning portals for all local planning authorities within the Order Limits were searched for any previous reptile surveys or ecological documents regarding reptiles, that were produced for local planning applications within 2 km of the Order Limits. This included a search of the following Local Planning Authority planning portals: • Section A: South Norfolk Council (2023) • Section B and C: Babergh and Mid-Suffolk Council (2023) • Section C: Tendring District Council (2023) • Section G: Basildon Borough Council (2023) • Section E: Braintree District Council (2023) • Section F: Chelmsford City Council (2023) • Section G: Brentwood Borough Council (2023) • Section C to H: Essex County Council (2023) • Section H: Thurrock Council (2023).

- 3.1.3 As a result of this initial desk study review, 74 sites were identified as having the potential to support reptiles, this was based on the location of existing reptile records and the habitats / ecological features present within the site. These sites are shown on Figure A8.6.2: Reptile Survey Locations, in Annex A.

Habitat Suitability Assessment

- 3.1.4 Following the initial desk study review, aerial imagery (Google Earth, 2025) was used to conduct a more detailed habitat suitability assessment of each of the 74 sites, shown on Figure A8.6.2: Reptile Survey Locations, in Annex A.
- 3.1.5 Habitat suitability to support reptiles was appraised based on the following characteristics (Natural England, 2011):
- Location in relation to species range
 - Vegetation structure
 - Insolation (sun exposure)
 - Aspect
 - Topography
 - Surface geology
 - Connectivity to similar or better quality habitat to support reptiles
 - Prey suitability/abundance
 - Refuge opportunity
 - Hibernation habitat potential
 - Disturbance

- Egg-laying site potential (grass snake only).

3.1.6 Each of the 74 sites was graded for reptile suitability as follows:

- Poor – habitat which is unfavourable for reptiles based on most of the habitat assessment characters listed above or is limited in size and highly isolated from other areas of suitable habitat
- Good – habitat which is favourable or sub-optimal for many of the habitat assessment characters listed above; or is sub-optimal for some of the characters and has good connectivity with areas of more suitable habitat
- Exceptional – habitat which is favourable for reptiles based on the habitat assessment characters listed above.

3.1.7 Grading also noted which species the site was considered potentially suitable for, and this was combined with the results of the desk study and professional judgement to rank the likelihood of presence as follows:

- Negligible – while presence cannot be absolutely discounted, habitats are very limited in size or of poor suitability for reptile species and/or assemblages. There is no desk study records and the surrounding habitats are considered unlikely to support wider populations
- Low – habitats are of poor to good suitability for reptiles. There are few or no desk study records but presence cannot be discounted based on national distribution, the nature of surrounding habitats, habitat fragmentation or recent disturbance etc
- Medium – habitats are of good suitability and desk study records reveal local occurrence, or the area is within the national distribution and with suitable surrounding habitat. Factors limiting the likelihood of occurrence may include small habitat area, habitat isolation, and/or disturbance
- High – habitats are of exceptional suitability for reptiles. Desk study provides evidence of historic presence (greater than two years old, see ‘confirmed presence’ below) or local occurrence. The area is within/peripheral to a national or regional stronghold and/or has good suitability surrounding habitat and good connectivity
- Confirmed Presence – presence confirmed from survey undertaken in support of this Project or by recent records (within the last two years) and/or long-standing presence data sets.

3.1.8 Accordingly, an isolated area of exceptional habitat suitability could be considered to have negligible likelihood of reptile presence, and an area of poor-suitability habitat could have a high likelihood of reptile presence, if situated adjacent to habitat with confirmed presence. A summary of the habitat suitability assessment is presented in Section 4.3, below, with full details in Annex B.

Site Selection

3.1.9 The field surveys were targeted at habitats identified from habitat suitability assessments as detailed above. This approach has been taken to ensure that surveys are proportionate yet robust and provide up-to-date information whilst minimising the collection of irrelevant/abortive information and the need for repeat surveys.

- 3.1.10 Froglife (1999) defines the criteria for site selection as a KRS, whereby survey results are be used to obtain an objective evaluation of the importance of the reptile interest within a given area. To qualify as a KRS, the site must meet one of the criteria illustrated within Image A8.6.1.
- 3.1.11 Habitat suitability assessments and site evaluation was initially used in the absence of survey data to assess the potential for each site to qualify as a KRS.

Image A8.6.1 Criteria for Key Reptile Sites, taken from Froglife (1999)

(1) supports three or more reptile species			
(2) supports two snake species			
(3) supports an exceptional population of one species (see table)			
(4) supports an assemblage of species scoring at least 4 (see table)			
(5) does not satisfy 1-5 but which is of particular regional importance due to local rarity (e.g. in the East Midlands of England, adders are very rare so even "low" populations should be designated as Key Sites)			
	Low population <i>Score 1</i>	Good population <i>Score 2</i>	Exceptional population <i>Score 3</i>
Adder	<5	5 - 10	>10
Grass snake	<5	5 - 10	>10
Common lizard	<5	5 - 20	>20
Slow-worm	<5	5 - 20	>20

Figures in the table refer to maximum number of adults seen by observation and/or under tins (placed at a density of up to 10 per hectare), by one person in one day.

- 3.1.12 The areas that have been targeted for presence/likely absence surveys comprise only the land affected by construction of the Project that is assessed as having the potential to qualify as a KRS, except for the following:
- Areas where the existing baseline is deemed sufficiently robust to inform the mitigation solution
 - Areas where the displacement through habitat manipulation is considered the most appropriate/satisfactory mitigation solution regardless of perceived importance for reptiles
 - Any access constrained areas (e.g., due to health and safety concerns such as busy roadside verges or active railway lines).

3.2 Survey Methodology

Presence/Likely Absence Survey

- 3.2.1 Within each of the five reptile survey locations, reptile presence/likely absence surveys were conducted following the below methodology which draws upon Herpetofauna Groups of Britain and Ireland (HGBI, 1998), Froglife (1999 and 2015) and Natural England (2011).
- 3.2.2 In each of the five reptile survey locations, refugia (comprising a mixture of corrugated metal and roofing felt measuring a minimum 0.5 m x 0.75 m in size) was numbered and placed in suitable habitat. These refugia were placed in a south-facing position, ensuring that the refugia was exposed to sunlight for at least part of the day.

The refugia was placed on light vegetation rather than bare ground, to provide some humidity under the refugia.

- 3.2.3 In non-linear habitats, refugia was placed at a density of at least 10 per ha of suitable habitat. Once placed, artificial refugia was left to settle for at least seven days prior to conducting the first survey. The methodology chosen for the 2024 reptile surveys has been designed to follow the Froglife (1999) guidance and is bespoke to the Project in terms of habitat suitability and impact pathways.
- 3.2.4 Each reptile survey location was checked for reptiles on the required number of occasions (see Section 3.3), with binoculars used where appropriate to check for reptiles on and between refugia, as well as careful checks beneath each refugia. Each refugia check was conducted during appropriate weather conditions (i.e., air temperature 10°C-20°C, still to moderate winds and no or very light rain).
- 3.2.5 During each check the surveyors recorded the details of all reptiles encountered during the survey including refugia number/location, species, number, life stage (adult, subadult, juvenile) and where possible, sex.

Population Size Class Estimate

- 3.2.6 Population size class for each reptile survey location has been assessed utilising the peak adult count for each species across all visits. Population density has been calculated by dividing the peak adult count by the area in hectares. Population densities have then been compared with the criteria outlined by HGBI (1998) and Froglife (1999) to determine if any of the areas qualify as KRSs (as shown in Image A8.6.1) to inform detailed mitigation design.

3.3 Dates of Survey and Personnel

- 3.3.1 Surveys were conducted in 2024 during April and May. Seven visits (during suitable weather conditions) were conducted at each reptile survey location to determine presence/likely absence. All seven visits were conducted during the 'optimum' survey months of April and May during suitable weather conditions. Weather conditions for each survey are presented in Annex C.
- 3.3.2 Surveys were planned to ensure that there was at least 30 days between the first and last survey visits and a minimum of two days between each visit. These surveys were undertaken by suitably experienced and competent ecologists both of whom have several years of experience undertaking reptile surveys:
- Surveyor 1: BSc (Hons) qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM) (Member of Surrey Amphibian and Reptile Group)
 - Surveyor 2: BSc (Hons) qualifying member of CIEEM.

3.4 Notes and Limitations

- 3.4.1 Whilst extensive effort has been made to identify all areas that could potentially qualify as a KRS, no assessment can ensure the complete characterisation of the natural environment. Desk study data is not likely to be exhaustive and is biased towards areas with public access or where surveys have taken place to inform other development projects. It is therefore possible that there are reptiles present

within/adjacent to the Order Limits that are not identified during the data searches. However, the presence (or absence) of desk study records forms only part of the extensive desk study analysis undertaken. This focuses heavily on habitat suitability and the landscape scale approach to site assessment and evaluation assumes a 'worst-case' scenario to overcome this limitation for the purposes of impact assessment.

- 3.4.2 Habitat suitability assessments provide an assessment of the likelihood of reptile presence within the Order Limits. This is based on the suitability of the habitat, known distribution in the local area and any direct evidence within the Study Area. It should not be taken as providing a full and definitive survey and is only representative of the time the assessment was carried out. A lack of evidence does not necessarily mean that the species is absent, and the assessment will also record and assess the ability of habitats to support reptiles.
- 3.4.3 The presence of livestock restricted access and affected the reptile surveys at Section C: Site 2 – Sproughton Park. Livestock were present within the fields bordering the Belstead Brook. The two fields to the north of the brook were grazed by sheep and horses, which on occasion trampled the reptile mats. However, only a small number of mats were affected, and most mats were surveyed. The field to the south of the brook was grazed by four cows, which during the first four surveys prevented surveyors from entering. This is not considered to be a significant limitation to the assessment, as it was possible to survey most of Site 2 with data collected from this field on survey visits 5 to 7.
- 3.4.4 Every effort was made to survey in appropriate weather conditions, which would be optimal for reptile activity. Across the 35 surveys, 80% were completed in optimal conditions. The remaining 20% were surveyed in suitable conditions such as slight drizzle or temperatures exceeding 17°C. Any difference in the numbers of reptiles found during these surveys is not considered to be significant, with some surveys in optimal conditions recording fewer individuals.
- 3.4.5 Neither access nor weather conditions are considered to have had a significant effect on survey findings.

4 Results

4.1 Overview

- 4.1.1 The results below present the findings of the desk study and the presence/likely absence surveys. All desk study results (including LERC records, previous NSIP results and Local Planning Authority Projects results) are also shown on Figure A8.6.1: Reptile desk study records, and statutory and non-statutory designated sites within 2 km of the Order Limits in Annex A. All presence/likely absence survey results are shown on Figure A8.6.3: Reptile Survey Results and Figure A8.6.4: Key Reptile Sites in Annex A.

4.2 Desk Study Results

Local Environmental Record Centres

- 4.2.1 A detailed desk-based study was conducted in September 2023 and subsequently updated in March 2025. The desk study information obtained from NBIS, SBIS and EFC, identified the presence of adder, grass snake, slow-worm, and common lizard within the Order Limits and the wider 2 km Study Area. Table A8.6.3 provides a summary of reptile desk study records from NBIS, SBIS and EFC based on the Project Sections. Further desk study information is shown on Figure A8.6.1: Reptile Desk Study Records, and Statutory and Non-Statutory Designated Sites within 2 km of the Order Limits in Annex A.

Table A8.6.3 Summary of reptile records from NBIS, SBIS and EFC

Project Section	Total number of reptiles			
	Adder	Grass Snake	Common Lizard	Slow-worm
A: South Norfolk Council	0	3	0	2
B: Mid Suffolk District Council	0	23	0	16
C: Babergh District Council, Colchester City Council and Tendring District Council	1	10	2	5
D: Colchester City	0	1	2	1
E: Braintree District Council	0	28	179	25
F: Chelmsford City Council	2	18	47	20
G: Brentwood Borough Council and Basildon Borough Council	11	8	30	24
H: Thurrock Council	59	11	30	11
Total	73	102	290	104

Statutory and Non-statutory Designated Sites

- 4.2.2 The desk study identified no statutory designated sites that were designated for, or mention, reptiles in the citation within 2 km of the Order Limits. Nevertheless, there are 13 sites which have records of reptiles or are likely to support reptiles based on an assessment of habitat suitability. These sites comprise 12 Sites of Special Scientific Interest (SSSIs) and one Special Area of Conservation (SAC). Full details are provided within Table A8.6.4. The locations of these statutory designated sites are shown on Figure A8.6.1: Reptile Desk Study Records, and Statutory and Non-Statutory Designated Sites within 2 km of the Order Limits in Annex A

Table A8.6.4 Statutory designated sites

Site Name	Project Section	Distance and Direction to Order Limits (km)	Reptile suitability/ records
Flordon Common SSSI and Norfolk Valley Fens SAC	A	0.29 km south-east	Species-rich calcareous fen within the valley of the River Tas, is known to support grass snake, common lizard, and slow-worm.
Shelfanger Meadows SSSI	A	0.17 km north-west	Traditionally managed, herb-rich hay meadows located in a tributary valley of the River Waveney. The desk study did not identify the presence of reptiles within proximity to the site, but its habitats are considered suitable to support them.
Wortham Ling SSSI	B	0.01 km west	Lowland dry heath and acid grassland communities and has good connectivity to records of adder, grass snake and slow-worm.
Gypsy Camp Meadows, Thrandeston SSSI	B	0.11 km east	Species-rich wet meadow, situated on poorly drained Suffolk boulder-clay. The citation does not note the presence of reptiles, but grass snake has been recorded within the site with records of adder close by.
Combs Wood SSSI	B	1.44 km west	Ancient woodland site. The citation does not note the presence of reptiles, but grass snake has been recorded on site with records of slow-worm close by.
Barking Woods SSSI	B	0.20 km east	Inter-related group of ancient woodlands. The citation does not note the presence of reptiles, but grass snake has been recorded on site with records of slow-worm close by.
Middle Wood, Offton SSSI	B	Within the Order Limits	Ancient secondary woodland. The citation does not note the presence of reptiles, grass snake has been recorded close by and it is likely that the site supports them.

Site Name	Project Section	Distance and Direction to Order Limits (km)	Reptile suitability/ records
Marks Tey Brickpit SSSI	D	0.01 km south-east	Former clay extraction site, designated as a geological SSSI, that appears (from aerial photography) to support a mosaic of grassland, scrub and woodland and has good connectivity to records of slow-worm.
River Ter SSSI	F	0.01 km south-east	A lowland stream described as flashy with high flood peaks. The citation does not note the presence of reptiles, but grass snake, common lizard and slow-worm have been recorded close to this extensive corridor.
Thorndon Park SSSI	G	1.90 km west	Semi-natural broadleaved woodland and ancient parkland. The citation does not note the presence of reptiles, but there are records of grass snake and slow-worm on site and it is known to support adder and common lizard.
Langdon Ridge SSSI	G	0.003 km east	A mosaic of semi-natural habitats, including grasslands, woodlands, wetlands, and scrub. The citation does not note the presence of reptiles, slow-worm has been recorded on site with adder and grass snake recorded close by.
Mucking Flats and Marshes SSSI	H	1.83 km east	An extensive stretch of mudflats, saltmarsh, and grassy sea wall, on the eastern side of the River Thames. The site is largely unsuitable for reptiles and the citation does not mention them, but there are areas of suitable habitat, and all four species have been recorded on site or close by. The site is likely to support reptiles. Natural England is considering an extension to the SSSI, and the North Thames Estuary and Marshes SSSI extension interest area supports a large area of terrestrial habitat suitable for reptiles. This extension area is a potential KRS.

- 4.2.3 The desk study identified 71 non-statutory designated sites within 2 km of the Order Limits which are likely to support reptiles. These include 14 sites which mention reptiles within their descriptions and 57 sites which are likely to support reptiles based on the habitats recorded onsite. Table A8.6.5 lists the non-statutory designated sites that are within 2 km of the Order Limits (sites which specifically mention reptiles within their citation are presented in **bold**). Further details of these non-statutory designated sites are presented in Annex D, and their locations are shown on Figure A8.6.1: Reptile Desk Study Records, and Statutory and Non-Statutory Designated Sites within 2 km of the Order Limits in Annex A.

Table A8.6.5 Non-statutory designated sites with potential for, or known to support reptiles

Project Section	Non-Statutory Designated Site with Reptiles
Section A	Swardeston Common CWS The Carrs Woodland CWS Mulbarton Common CWS Street Plantation and Bracon Hall Lake CWS Smockmill Common CWS Muir Lane Meadow CWS Eagle Farm Pond CWS Tas Pond CWS Bunwell Fen CWS Brick Kiln Lane, Bunwell Hill CWS
Section B	The Marsh CWS Wortham Long Green CWS Burgate Great Green CWS Gittin Wood CWS Thrandeston Marsh CWS Railway Meadows CWS Topcroft Farm Meadows CWS Ash Plantation CWS Gipping Little Wood CWS Guidepost Plantation CWS Forrold Meadow CWS RNR 169 RNR 211 RNR 212 Creeting St Mary Meadows CWS Fen Alder Carr CWS Creeting St Mary Churchyard CWS River Gipping (Sections) CWS Keyfield Groves CWS Suffolk Business Park Meadow – Formerly EEB CWS Flordon Road Grassland CWS Little Newton Wood CWS Great Newton Wood CWS Lion Inn Meadow and Chalk Pit CWS Chalkeith Road Meadow CWS Bushey Ley Farm (Arable Fields) CWS Miller's Wood CWS Bullen Wood CWS Bramford Meadows CWS Hazel Wood CWS Chantry Park, Beechwater and Meadow CWS

Project Section	Non-Statutory Designated Site with Reptiles
Section C	Sproughton Park CWS Squire`s Wood CWS Long Wood CWS Tom`s / Broadoak Wood CWS Raydon Great Wood CWS Hadleigh Railway Walk CWS Water Farm Meadow CWS Wasses Marshes CWS Cophedge Wood LWS Ash Wood LWS
Section D	High Woods LWS Kiln Wood LWS
Section E	None
Section F	None
Section G	Little Burstead Common LWS Gun Hill Place LWS
Section H	Low Street Pit LWS Tilbury Power Station LWS West Tilbury Church LWS West Tilbury Hall LWS Broom Hill LWS Hob Hill and Sandy Lane Pit, Chadwell St Mary LWS Linford Pit LWS Rainbow Wood and Ashen Shaw LWS Mucking Heath Complex, Southfields LWS Linford Wood LWS Buckingham Hill LWS Thurrock Thameside Nature Park, Mucking LWS Mucking Creek Wetlands LWS Warren Lakes LWS Victoria Road Grassland, Stanford-le-Hope LWS Goldsmith`s Meadow LWS

Nationally Significant Infrastructure Projects (NSIPs)

- 4.2.4 Table A8.6.6 summarises the results from a search undertaken in 2023 of ecological survey reports produced in support of NSIPs within 2 km of the Order Limits that note the presence of reptiles.

Table A8.6.6 Summary of reptile records from other NSIPs

Project Name	Distance/Direction from the Order Limits	Species			
		Adder	Grass Snake	Common Lizard	Slow- worm
A12 – A120 Widening Scheme (National Highways, 2022a)	0.81 km east	X	✓	✓	✓
Bramford to Twinstead overhead lines (National Grid, 2023)	Within Order Limits	X	✓	✓	✓
Hornsea Project Three offshore wind farm (Orsted, 2018).	Within Order Limits	X	X	✓	X
Longfield solar farm (Longfield Solar Farm Ltd, 2022)	Within Order Limits	X	X	X	X
Lower Thames Crossing [LTC] (National Highways, 2022b)	Within Order Limits	✓	✓	✓	✓
Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects (Wild Frontier Ecology, 2022)	Within Order Limits	X	✓	✓	✓
Thurrock flexible generation plant [TFGB] (RPS, 2019a)	0.25 km	✓	✓	✓	✓
Tilbury2 power station (Port of Tilbury London, 2017)	1.02 km	✓	✓	✓	✓
✓ - Recorded as present by the project					
X - Recorded as absent by the project					

Local Planning Authority Projects

- 4.2.5 Table A8.6.7 summarises the results from a search of ecological survey reports. Conducted in 2023, that note the presence of reptiles that were produced in support of Local Planning Authority applications within 2 km of the Order Limits. This included a search of the planning portals as described in Table A8.6.2. Details of the projects that descoped reptiles or supplied no supporting information about reptiles are reported in Annex E and Annex F.

Table A8.6.7 Summary of reptile records from local planning authority projects

Project Name and Reference	Species			
	Adder	Grass Snake	Common Lizard	Slow-worm
Suffolk				
DC/21/03954 - Land at Capel Grove Capel St Mary (Geosphere Environmental, 2021a)	X	✓	X	✓
DC/21/02671 - Land North of the A1071 (Boyer, 2021)	X	X	X	✓
DC/21/06882 - Agricultural Land North of Barking Road (Parker Planning Services, 2018)	X	X	X	X
B/16/00928 - Stoke by Nayland Golf Club (Environmental Business Solutions, 2013)	X	X	X	X
DC/20/01036 - Ashes Farm, Stow Market (RPS, 2019b)	X	✓	X	✓
DC/21/03287 - Land North West of Stowupland Road (Southern Ecological Solutions, 2021)	X	X	X	X
DC/17/05687 - Former Sugar Beet Factory Sproughton Road (BSG ecology, 2017)	X	X	X	X
DC/21/05110 - Land to The South of Thompson and Morgan (Hopkins Ecology, 2021)	X	X	X	X
DC/20/03246 - Land between the A1120 and the A14 (Avison Young, 2020)	X	X	X	✓
DC/19/04105 - Land West of Brantham Hill (FPCR Environment and Design Ltd, 2019)	X	✓	✓	X
Essex				
ESS/03/18/BTE - Rivenhall Airfield (Green Environmental Consultants, 2017)	X	✓	X	X
21/01525/OUT - Land East of A128 South of A127 Tilbury Road (Lichfields, 2021)	✓	✓	✓	✓
20/02064/OUT - Strategic Growth Site North of Woodhouse Lane (Practical Ecology Ltd, 2020)	X	✓	X	X
21/03579/OUT - Land South West of Coggeshall Road (Lloyd Bore Ltd, 2021)	X	X	X	✓
19/01025/FUL - Land off Station Road, Kelvedon (Ethos Environmental Planning, 2020)	X	X	✓	✓
20/00594/FUL - Land at Old Ipswich Road (Iceni Ecology Ltd, 2020)	X	✓	✓	X

Project Name and Reference	Species			
	Adder	Grass Snake	Common Lizard	Slow-worm
18/00255/OUT - Land North West of Longlands Farm (Southern Ecological Solutions, 2018)	X	X	X	X
Thurrock				
19/01709/FUL - Orsett Quarry and Land at Walton's Hall Farm (Ingrebourne Valley Ltd, 2022)	✓	✓	✓	✓
21/01812/FUL - Land Adjacent and to the Rear of The George and Dragon (Ecology Solutions, 2021)	✓	✓	✓	✓
06/00664/TTGCND - Cory Waste Management Site Mucking (Cory Environmental Ltd, 2006)	✓	✓	✓	X
21/00508/OUT - Land Adjacent Bulgenen House and Wick Place Cottage (Brindle and Green, 2020)	X	X	✓	X
✓ - Recorded as present X - Recorded as absent				

Reptile Distribution Across the Project

4.2.6 Table A8.6.8 provides a summary of the perceived distribution of each reptile species across the Order Limits based on the desk study.

Table A8.6.8 Reptile species distribution across the Project

Reptile	Summary
Adder	Adder distribution across the Project, much like its national distribution; rather patchy and localised, especially across the southern Project Sections where the species is more common. The species appears to be widely distributed across suitable habitats (see Edgar <i>et al.</i> , 2010 for detailed species habitat requirements) within the Thurrock unitary authority area (Section H) but largely absent outside of this area (to the immediate north). There are populations to the immediate south of Norwich (Section A), around Diss (Section A) and between Ipswich (Section B) and Colchester (Section D).
Grass Snake	Grass snake appears to be common and widespread (albeit patchy) across the entire Study Area with greater abundance to the south (within Essex and Thurrock (Section C to H).
Common Lizard	Common lizard is common and widespread within suitable habitats across the Order Limits (see Edgar <i>et al.</i> , 2010 for detailed species habitat requirements)
Slow-worm	Slow-worm appears to be common and widespread within suitable habitats (see Edgar <i>et al.</i> , 2010 for detailed species habitat requirements) across most of the Project but with progressively fewer records heading north and very patchy and localised to the north of Stowmarket (Section A and B).

4.3 Habitat Suitability Assessment

- 4.3.1 Table A8.6.8 provides a summary of the results of the Habitat Suitability Assessment and the desk-based KRS assessment. Detailed results, including site evaluation, and the conclusion of the habitat suitability assessment are provided within Annex B. The locations of these sites are shown on Figure A8.6.2: Reptile Survey Locations and Figure A8.6.4: Key Reptile Sites in Annex A. Sites which were classified as potential KRS, which were later subject to presence/likely absence surveys, are presented in **bold**.

Table A8.6.9 Habitat suitability assessment summary

Site Name	Project Section(s)	Habitat Suitability	Likelihood of supporting:				KRS1
			Adder	Grass Snake	Common Lizard	Slow-worm	
Semi natural habitat Dunston	A	Good	Negligible	Low	Confirmed	Confirmed	Potential – (B)
Wood adjacent to Hickling Lane	A	Poor	Negligible	Negligible	Low	Confirmed	No – (B)
Brickkiln Lane Solar Farm	A	Good	Negligible	Negligible	Low	Moderate	No – (B)
Woodlands off Long Lane	A	Poor	Negligible	Negligible	Low	Moderate	No – (B)
Upper Grove Wood	A	Poor	Negligible	Negligible	Low	Moderate	No – (A)
Tributary of River Tas	A	Good	Negligible	Moderate	Moderate	Moderate	Potential – (B)
Dismantled Wymondham and Forngett Branch Line	A	Good	Negligible	Low	Low	Low	Potential – (B)
Stickfer Lane	A	Good	Negligible	Low	Low	Low	Potential – (B)
Tabernacle Lane	A	Good	Negligible	Low	Low	Low	Potential – (B)
Bunwell Wood	A	Good	Negligible	Low	Low	Low	Potential – (A)
River Tas Valley	A	Exceptional	Negligible	High	Low	Low	Potential – (B)
Carleton Rode Fen	A	Exceptional	Negligible	High	Low	Low	Potential – (B)

¹ The below key applies to the KRS.

A. Direct effects to habitat avoided by construction methodology.

B. Displacement by habitat manipulation is the most appropriate mitigation solution.

C. Existing baseline is sufficiently detailed to inform mitigation solution.

D. Required presence/likely absence surveys.

Site Name	Project Section(s)	Habitat Suitability	Likelihood of supporting:				KRS1
			Adder	Grass Snake	Common Lizard	Slow-worm	
Shelfanger	A	Exceptional	Negligible	Low	Low	Low	Potential – (B)
Wortham Ling and Roydon Fen	B	Exceptional	Low	Moderate	Moderate	Moderate	Potential – (D)
Goodrich Park Palgrave	B	Poor	Negligible	Moderate	Low	Low	Potential – (B)
Rookery Farm	B	Good	Negligible	Moderate	Low	Low	Potential – (A)
Seethings Wood	B	Good	Negligible	Moderate	Low	Low	Potential – (B)
Big and Whitmore's Woods	B	Good	Negligible	Low	Low	Low	Potential – (B)
Diss to Stowmarket Railway	B	Good	Low	Low	Low	Low	Potential – (B)
Elm Pollard and Jessies Wood	B	Poor	Negligible	Low	Negligible	Low	No – (B)
Old Farm	B	Poor	Negligible	Negligible	Low	Low	No – (B)
A14 Soft Estate	B	Poor	Negligible	Low	Low	Low	Potential – (A)
River Gipping Valley	B	Good	Negligible	High	Low	High	Potential – (B)
Tributary of the River Gipping	B	Exceptional	Negligible	High	Low	High	Potential – (B)
Middle Farm Lakes	B	Poor	Negligible	Low	Negligible	Negligible	No - (B)
Middle Wood and Tollemache Hall Grove	B	Moderate	Negligible	Moderate	Negligible	Negligible	No - (B)
Lovetofts Farm	B	Poor	Negligible	Low	Negligible	Negligible	No - (B)
Round Wood	B	Good	Negligible	Low	Negligible	Negligible	No - (A)

Site Name	Project Section(s)	Habitat Suitability	Likelihood of supporting:				KRS1
			Adder	Grass Snake	Common Lizard	Slow-worm	
Sproughton Park	C	Exceptional	Negligible	High	High	High	Potential – (D)
Spring Brook	C	Exceptional	Negligible	High	High	High	Potential – (B)
Dismantled Hadleigh Railway	C	Good	High	High	Low	High	Potential – (B)
Dewlands Farm	C	Exceptional	Low	High	Low	High	Potential – (A)
Higham Lodge	C	Good	Negligible	Low	Low	High	Potential – (A)
Bobbits Hall	C	Poor	Negligible	Low	Negligible	Low	No – (A)
River Stour Corridor	C	Exceptional	Low	Low	High	High	Potential – (B)
Black Brook	C	Exceptional	Low	High	High	Moderate	Potential – (B)
South of Orchard House	C	Poor	Negligible	Negligible	Low	Negligible	No – (A)
Boxhouse Lane	C	Good	Low	Moderate	High	Low	Potential – (A)
Dedham Road	C	Poor	Negligible	Negligible	Low	Negligible	No – (B)
Colchester to Manningtree Railway	C	Good	Negligible	Moderate	Low	Low	Potential – (B)
Little Bromley Road	C	Good	Negligible	High	Low	Low	Potential – (A)
Mayfields Farm	C	Poor	Negligible	High	Negligible	Negligible	No – (B)
Badley Hall	C	Poor	Negligible	High	Negligible	Negligible	No – (B)
Fen Lane	C	Poor	Negligible	Low	Negligible	Negligible	No – (A)
Ardleigh Reservoir	C	Exceptional	Low	High	High	Low	Potential – (B)

Site Name	Project Section(s)	Habitat Suitability	Likelihood of supporting:				KRS1
			Adder	Grass Snake	Common Lizard	Slow-worm	
Redhouse Farm	D	Good	Negligible	Moderate	Low	Low	Potential – (A)
Otters Brook Cottage	D	Exceptional	Low	Moderate	Moderate	Moderate	Potential – (A)
Westwood Home Farm	D	Good	Negligible	Moderate	High	Moderate	Potential – (B)
Grove Lodge	D	Good	Negligible	High	High	Moderate	Potential – (B)
Highfield Farm	D	Good	Negligible	High	High	Moderate	Potential – (B)
Colne Valley	D	Exceptional	Negligible	Moderate	Moderate	Moderate	Potential – (D)
Coney Byes Farm	D	Exceptional	Negligible	High	High	Moderate	Potential – (B)
Marks Tey	D	Exceptional	Low	High	High	High	Potential – (B)
Coggleshall Hall Farm	E	Exceptional	Low	High	High	Moderate	Potential – (B)
Monk's Farm	E	Poor	Negligible	Low	Low	Negligible	No – (B)
Porters Farm	E	Exceptional	Negligible	High	High	High	Potential – (B)
Cressing to Witham Railway	E	Good	Low	Moderate	High	High	Potential – (B)
River Brain	E	Exceptional	Low	High	High	Moderate	Potential – (B)
Fairstead Road	E	Poor	Negligible	Negligible	Low	Low	No – (B)
River Ter	F	Exceptional	Low	High	High	Moderate	Potential – (B)
River Chelmer	F	Good	Low	High	Moderate	High	Potential – (B)
River Can and Former Brittons Hall Farm Landfill Site	F	Good	Negligible	High	High	High	Potential – (B)

Site Name	Project Section(s)	Habitat Suitability	Likelihood of supporting:				KRS1
			Adder	Grass Snake	Common Lizard	Slow-worm	
Chelmsford Compressor Station	F	Good	Negligible	Moderate	Moderate	Moderate	Potential – (B)
Land off Roxwell Road	F	Good	Negligible	Moderate	Moderate	Moderate	Potential – (B)
Willowmere Lake and Associated Habitat	F	Good	Negligible	High	Low	Low	Potential – (B)
Writtlepark and Associated Woodlands	F	Exceptional	Moderate	High	High	High	Potential – (B)
Ingatestone to Chelmsford Railway	G	Good	Low	Low	High	High	Potential – (B)
River Wid Corridor	G	Exceptional	Low	Moderate	Moderate	Moderate	Potential – (D)
Shenfield to Billericay Railway	G	Good	Low	Low	High	High	Potential – (A)
Oakleigh Farm	G	Good	Negligible	Moderate	Moderate	Moderate	Potential – (B)
Bladenwood Farm	G	Good	Low	Moderate	High	High	Potential – (B)
Dunton Hills Family Golf Centre	G	Exceptional	Moderate	High	High	High	Potential – (B)
West Horndon to Laindon Railway	G	Good	Low	Moderate	Moderate	Moderate	Potential – (B)
Orsett Golf Course and potential Wildlife Site	H	Exceptional	High	High	High	High	Potential – (D)

Survey Data

- 4.3.2 The results of the presence/likely absence reptile surveys conducted in April and May 2024 are detailed in Table A8.6.10 including the total and peak counts for all four reptile species recorded (adder, grass snake, common lizard and slow-worm). Full details of the survey results for each site can be found in Annex G.

Table A8.6.10 Total and peak reptile count from the presence/likely absence surveys

Site (Project Section)		Adder	Grass Snake	Common Lizard	Slow-worm
Site 1 - Wortham Ling and Roydon Fen (Section A and B)	Total	0	0	5	0
	Peak	0	0	2	0
Site 2 - Sproughton Park (Section C)	Total	0	3	1	35
	Peak	0	2	1	9
Site 3 - Colne Valley (Section D)	Total	0	1	40	0
	Peak	0	1	15	0
Site 4 - River Wid Corridor (Section G)	Total	1	3	28	18
	Peak	1	1	12	7
Site 5 - Orsett Golf Course and potential Local Wildlife Site (pLWS) complex (Section H)	Total	9	1	10	3
	Peak	2	1	6	2

- 4.3.3 The population size class and population density for all five survey sites are described below in Table A8.6.11 and Table A8.6.12.

Table A8.6.11 Reptile population size class

Site	Size Class			
	Adder	Grass Snake	Common Lizard	Slow-worm
Site 1 – Wortham Ling and Roydon Fen (Section A and B)	N/A	N/A	Low	N/A
Site 2 - Sproughton Park (Section C)	N/A	Low	Low	Good
Site 3 - Colne Valley (Section D)	N/A	Low	Good	N/A
Site 4 - River Wid Corridor (Section G)	Low	Low	Good	Good
Site 5 - Orsett Golf Course and potential Local Wildlife Site (pLWS) complex (Section H)	Low	Low	Good	Low

Table A8.6.12 Reptile population density

Site	Population Density (peak adult count / area in hectares)			
	Adder	Grass Snake	Common Lizard	Slow-worm
Site 1 – Wortham Ling and Roydon Fen (Section A and B)	N/A	N/A	0.96	N/A
Site 2 - Sproughton Park (Section C)	N/A	0.32	0.16	1.43
Site 3 - Colne Valley (Section D)	N/A	0.39	5.91	N/A
Site 4 - River Wid Corridor (Section G)	0.13	0.13	1.57	0.91
Site 5 - Orsett Golf Course and potential Local Wildlife Site (pLWS) complex (Section H)	0.48	0.24	1.45	0.48

Key Reptile Sites

- 4.3.4 Of the five sites surveyed in 2024, three meet the criteria taken from Froglife (1999) to establish them as a KRS as identified in bold in Table A8.6.13 and shown on Figure A8.6.4: Key Reptile Sites, in Annex A and described in more detail below.

Table A8.6.13 Key reptile sites

Site	Key Reptile Site
Site 1 – Wortham Ling and Roydon Fen (Section A and B)	No, criteria not met
Site 2 - Sproughton Park (Section C)	Yes – Criteria 1 and 4
Site 3 - Colne Valley (Section D)	No, criteria not met
Site 4 - River Wid Corridor (Section G)	Yes – Criteria 1, 2 and 4
Site 5 - Orsett Golf Course and potential Local Wildlife Site (pLWS) complex (Section H)	Yes – Criteria 1, 2, and 4

Site 1 – Wortham Ling and Roydon Fen (Section A and B)

- 4.3.5 In 2024, 28 refugia were laid in Wortham Ling and Roydon Fen a 2.08 ha site. This survey revealed that none of the five KRS criteria set by Froglife (1999) were met for the area that was surveyed.
- 4.3.6 Although, (the wider) Wortham Ling has good connectivity to records of adder, grass snake and slow-worm, as identified in Annex B, the habitat suitability assessment identified no records of reptiles within 2 km of the potential KRS.
- 4.3.7 A review of aerial photographs assessed the site as having exceptional suitable habitat for reptiles as recorded in Annex B. From this assessment it was considered that there was a moderate likelihood that the site supported grass snake, slow-worm and common lizard and low likelihood that it supported adder. However, the 2024 reptile surveys recorded only one species of reptile, the common lizard, on site.

Although no other reptile species were recorded it is possible that they could be present in low numbers not detectable from survey effort.

- 4.3.8 A peak count of two common lizard was recorded during Visit 1. A population density of 0.96 common lizard per hectare was recorded. The population size class for common lizard is therefore 'low'. The land within the Order Limits that is within the Wortham Ling and Roydon Fen Site does not qualify under any of the five criteria to be a KRS.

Site 2 – Sproughton Park (Section C)

- 4.3.9 In 2024, 68 refugia were laid in this 6.27 ha area of non-intensively managed farmland, associated woodland, scrub, and rough grassland habitat.
- 4.3.10 As recorded in Annex B, the desk study review identified the site as having exceptional suitable habitat, with common lizard presence confirmed and high likelihood that the site supported grass snake and slow-worm. It was assessed that there was negligible likelihood that the site supported adder.
- 4.3.11 The 2024 reptile surveys confirmed common lizard, slow-worm and grass snake on site. Adder was not identified on site. A peak count of nine slow-worm, one common lizard and two grass snake were observed. The population density of the three species are as follows; slow-worm was 1.43, common lizard was 0.16 and grass snake was 0.32 per hectare.
- 4.3.12 The confirmation of two lizard and one snake species meant that criteria 1 from Froglife's (1999) KRSs was met (supports three or more reptile species). In addition, criteria 4 was assessed as being met. This is because, the site supported an assemblage of species scoring at least 4. Sproughton Park has poor population counts of common lizard and grass snake, scoring 1 point each, as well as a good population of slow-worm, scoring 2.
- 4.3.13 Sproughton Park is a KRS, based on criteria 1 and 4.

Site 3 – Colne Valley (Section D)

- 4.3.14 In 2024, 55 refugia were laid in this 2.54 ha area of connected semi-natural habitats; including the River Colne riparian corridor, Fordham Bridge Meadow LWS and a large area of young, open plantation woodland associated with Fordham Hall Estate.
- 4.3.15 As recorded in Annex B, the desk study review identified the Site as having exceptional suitable habitat, with grass snake and slow-worm having been recorded within 2 km of the Site.
- 4.3.16 The 2024 reptile surveys confirmed a peak count of 15 common lizard and one grass snake. Slow-worm was not found during the surveys. The population density of the three species are as follows; common lizard was 5.91 per hectare and grass snake was 0.39 per hectare.
- 4.3.17 Colne Valley does not meet the criteria to be a KRS. To meet Froglife's (1999) KRS criteria 3 of supporting an exceptional population of one species a peak count of more than 20 common lizard would need to have been recorded.

- 4.3.18 To meet KRS criteria 4 the site would have needed to support an exceptional population of common lizard and a good population of grass snake, but this criterion was not met.

Site 4 – River Wid Corridor (Section G)

- 4.3.19 In 2024, 44 refugia were laid in this 7.64 ha area that contained a section of the River Wid, two unnamed tributaries of the River Wid, Clapgate Wood LWS, Mountnessing Hall Woods LWS, young woodland plantation associated with Hawthorn Cottages and habitats associated with a water recycling centre.
- 4.3.20 As recorded in Annex B, the desk study review identified the Site as having exceptional suitable habitat with moderate potential to support slow-worm, common lizard, grass snake and low potential to support adder.
- 4.3.21 The 2024 reptile surveys confirmed a peak count of seven slow-worm, 12 common lizard, one grass snake and one adder. The population density of the four species are as follows; 0.91 slow-worm, 1.57 common lizard, 0.13 grass snake and 0.13 adder per hectare.
- 4.3.22 River Wid Corridor meets criteria 1 from Froglife's (1999) KRS as the site supports four reptile species. The site also meets criteria 2 as it supports two snake species (grass snake and adder), and criteria 4 as it supports an assemblage of species scoring at least 4. The breakdown of this scoring is as follows, two good populations of slow-worm and common lizard respectively score 2 each, and two low populations of grass snake and adder, score 1 each, totalling an assemblage of species scoring 6.
- 4.3.23 River Wid Corridor is a KRS, meeting criteria 1, 2 and 4.

Site 5 – Orsett Golf Course and Potential Local Wildlife Site (pLWS) Complex (Section H)

- 4.3.24 In 2024, 33 refugia were laid in this 4.14 ha extensive area of semi-natural vegetation including sections of the North Thames Estuary and Marshes SSSI extension interest area. This included Orsett Golf Course and multiple LWSs (Linford Pit, Rainbow Wood and Ashen Shaw, Linford Wood, Mucking Heath, Buckingham Hill), with habitats ranging from wetlands, woodlands, scrub, open mosaic habitats, ancient heathlands and unimproved grasslands.
- 4.3.25 As recorded in Annex B, the desk study review identified the site as having exceptional suitable habitat, with high potential to support slow-worm, common lizard, grass snake and adder.
- 4.3.26 The 2024 reptile surveys confirmed, a peak count of two slow-worm, six common lizard, one grass snake and two adder. The population density of the four species are as follows; 0.48 slow-worm, 1.45 common lizard, 0.24 grass snake, 0.48 adder per hectare.
- 4.3.27 Orsett Golf Course and pLWS complex meets criteria 1 from Froglife's (1999) KRS as the site supports four reptile species. The site also meets criteria 2 as it supports two snake species (grass snake and adder), and criteria 4 as it supports an assemblage of species scoring at least 4. The breakdown of the scoring is as follows,

one good population of common lizards, scoring 2 and three low populations of slow-worm, grass snakes and adder, scoring 1 each, totalling an assemblage of 5.

4.3.28 Site Orsett Golf Course pLWS complex is a KRS meeting criteria 1, 2 and 4.

4.4 Incidental Records

4.4.1 During the 2023 ecology field surveys, there were seven sightings of reptiles recorded. These comprise one sighting of common lizard, two sightings of slow-worm, two sightings of grass snake and two sightings of adder.

4.4.2 During the 2024 ecology field surveys, there was one sighting of a reptile recorded, this sighting was of one common lizard. Full details of these records for 2023 and 2024 are presented in Annex H and their locations are shown on Figure A8.6.1: Reptile Desk study records, and statutory and non-statutory designated sites within 2 km of the Order Limits, in Annex A.

5 Conclusion

- 5.1.1 The desk study review identified a further 51 potential KRS within the Order Limits (nine in Section A, eight in Section B, 10 in Section C, seven in Section D, four in Section E, seven in Section F, six in Section G and none in Section H).
- 5.1.2 Three of the five sites subject to presence/likely absence surveys were found to meet the criteria to be considered a KRS, these were:
- Site 2 – Sproughton Park (Section C), which was found to support grass snake, slow-worm and common lizard.
 - Site 4 – River Wid Corridor (Section G), which was found to support all four reptile species found in this region (adder, grass snake, slow-worm and common lizard).
 - Site 5 - Orsett Golf Course and pLWS (Section G), which was also found to support all four reptile species found in this region (adder, grass snake, slow-worm and common lizard).
- 5.1.3 Whilst Site 3 - Colne Valley (Section D) did not support sufficient diversity of reptiles or a large enough population of any reptile species to be classified as a KRS, it did support grass snake and reasonable numbers of common lizard and so mitigation will be required to avoid negative effects on the reptile population found on this site. Site 1 Wortham Ling and Roydon Fen (Section A and B) supported common lizard, but the land within the Order Limits, subject to survey, was not found to be a KRS.
- 5.1.4 Potential impact pathways that would affect reptiles that will arise from the Project are minimal and can be appropriately mitigated for, no further reptile surveys are required to support an impact assessment. Standard mitigation measures will be implemented to ensure no harm to reptiles and no adverse effects on a potential reptile population, as detailed in Chapter 8: Ecology and Biodiversity (document reference 6.8) [\(Revision C\)](#) and the Outline Code of Construction Practice (CoCP) (document reference 7.2) [\(Revision G\)](#).
- 5.1.5 Habitat creation forms part of the Project's embedded mitigation, detailed in Chapter 8: Ecology and Biodiversity (document reference 6.8) [\(Revision C\)](#), that will ensure that habitats of greater value to reptiles will be created compared to that which is temporarily or permanently removed by the Project.

Abbreviation

Abbreviation	Full Reference
CIEEM	Chartered Institute of Ecology and Environmental Management
CWS	County Wildlife Site
DCO	Development Consent Order
EFC	Essex Field Club
EIA	Environmental Impact Assessment
ES	Environmental Statement
KRS	Key Reptile Site
LERC	Local Ecological Record Centre
LWS	Local Wildlife Sites
MAGIC	Multi Agency Geographical Information Systems
NBIS	Norfolk Biodiversity Information Service
NERC	National Environment and Rural Communities
NSIP	Nationally Significant Infrastructure
SAC	Special Areas of Conservation
SBIS	Suffolk Biodiversity Information Service
SSSI	Sites of Special Scientific Interest
S41	Section 41
WCA	Wildlife and Countryside Act

Glossary

Term	Description
Assemblage	The collection of species, of a particular group, which occur in the same habitat or area.
County Wildlife Site	Non-statutory designated areas of land important for their wildlife and nature conservation value (Norfolk and Suffolk).
Habitat	The natural home or environment of an animal, plant, or other organism.
Habitat connectivity	The degree to which different patches of habitat are linked, enabling the movement of species, individuals, or ecological processes across the landscape.
Habitat Fragmentation	Processes by which large, continuous habitats are divided into smaller, isolated patches. Often as a result of human activities.
Insolation	Exposure to the sun's rays.
Local Wildlife Site	Non-statutory designated areas of land important for their wildlife and nature conservation value (Essex).
Non-Statutory designated site	Areas which are recognised for their ecological importance but do not have the same level of legal protection as statutory designated sites. These are typically identified at a local or regional level through non-legally binding agreements, policies, or planning frameworks.
Order Limits	The maximum extent of land within which the authorised development may take place.
Population	A group of individuals of the same species that live in a specific geographic area at the same time.
Population density	The number of individuals per unit area.
Population size	The total number of individuals within the population.
Refugia	Features which provide cover from predators and warmth for reptiles.
Sites of Special Scientific Interest	Sites protected by law under the Wildlife and Countryside Act 1981. They are important because they support rare or endangered fauna and flora, and they represent the United Kingdom's best wildlife and geological sites.
Species	A group of living organisms consisting of similar individuals capable of exchanging genes or interbreeding.
Species range	The area where a particular species can be found during its lifetime (including areas where individuals or communities may migrate or hibernate).

Term	Description
Statutory designated site	An area that has been legally designated and protected for its importance to biodiversity.
Sub-adult	An individual that is in a developmental stage between juvenile and adult.
Topography	The physical appearance of the natural features of an area of land, especially the shape of its surface.

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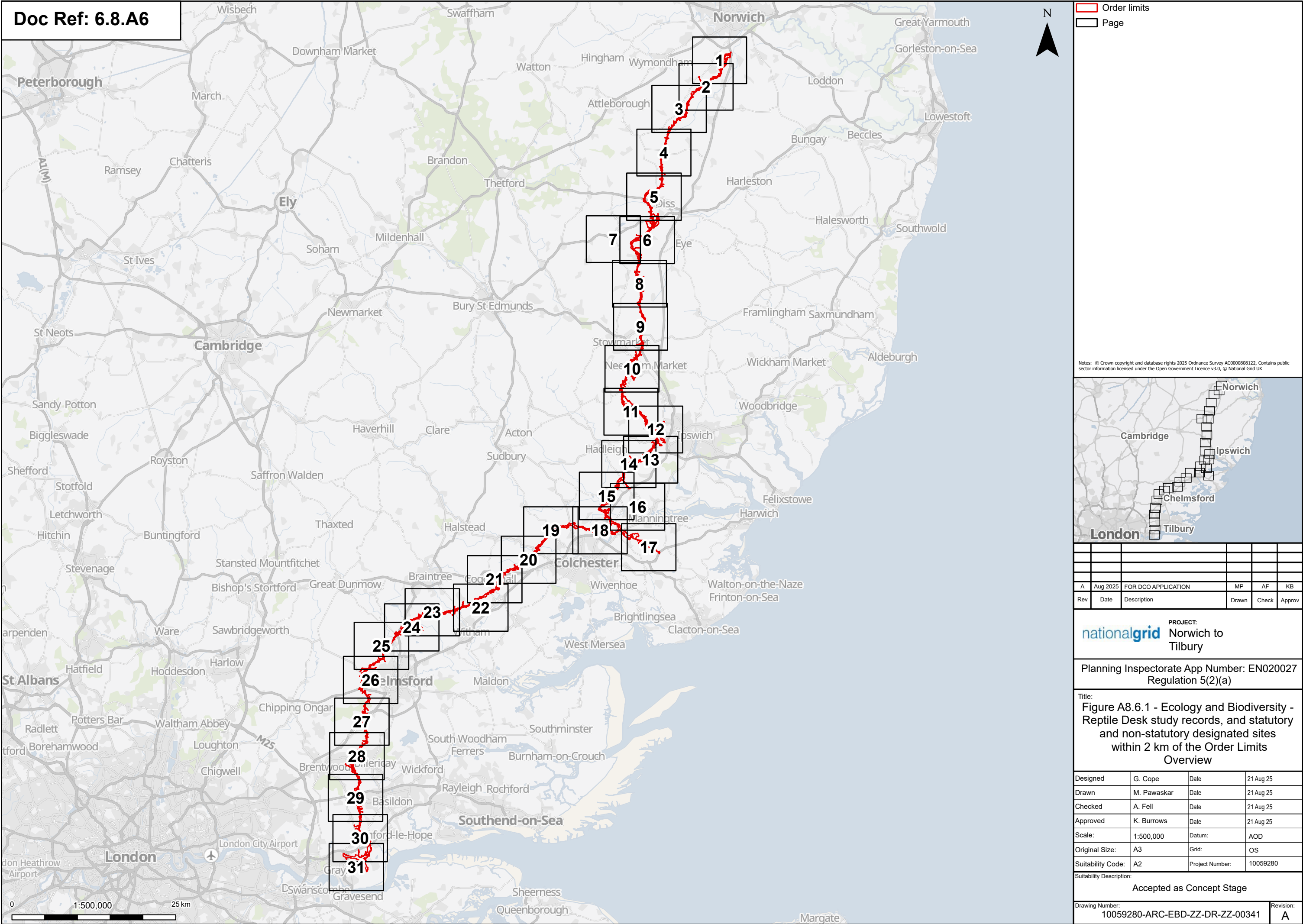
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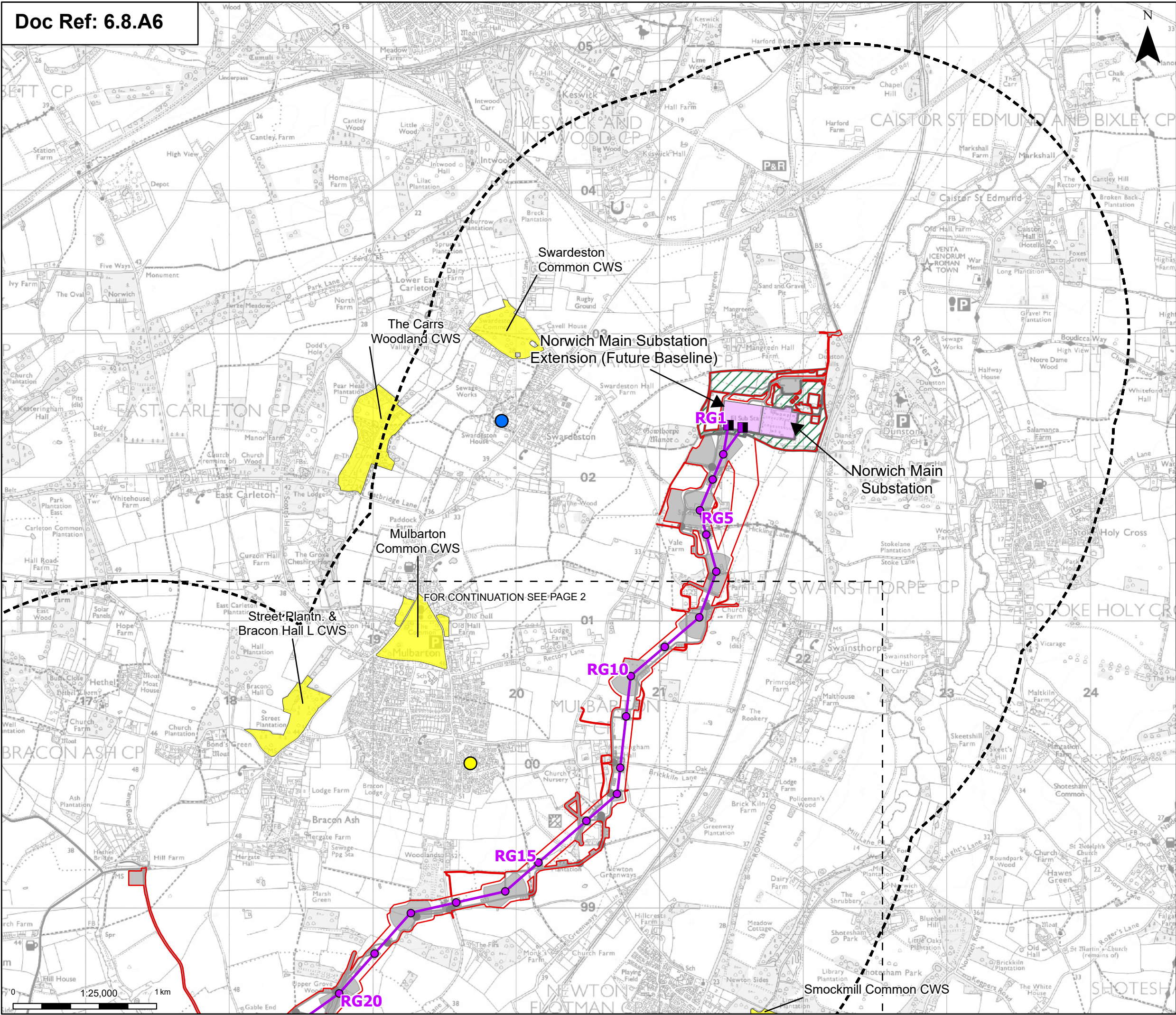
Annex A.

Figures

Annex A

Figures





Order limits

Sheet index outline

Proposed project design details

Proposed full line tension gantry

Proposed standard lattice pylon location

Proposed overhead line alignment

Norwich Main Substation

Norwich Main Substation Extension (future baseline)

Environmental area

Other temporary and permanent construction and operational works

Discipline specific constraints

2 km Study Area

Desk study results - reptile species

Slow worm

Grass snake

Designated sites with the potential for, or known to support reptiles

County Wildlife Sites (CWS)

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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Norwich

Cambridge

Ipswich

Chelmsford

Tilbury

London

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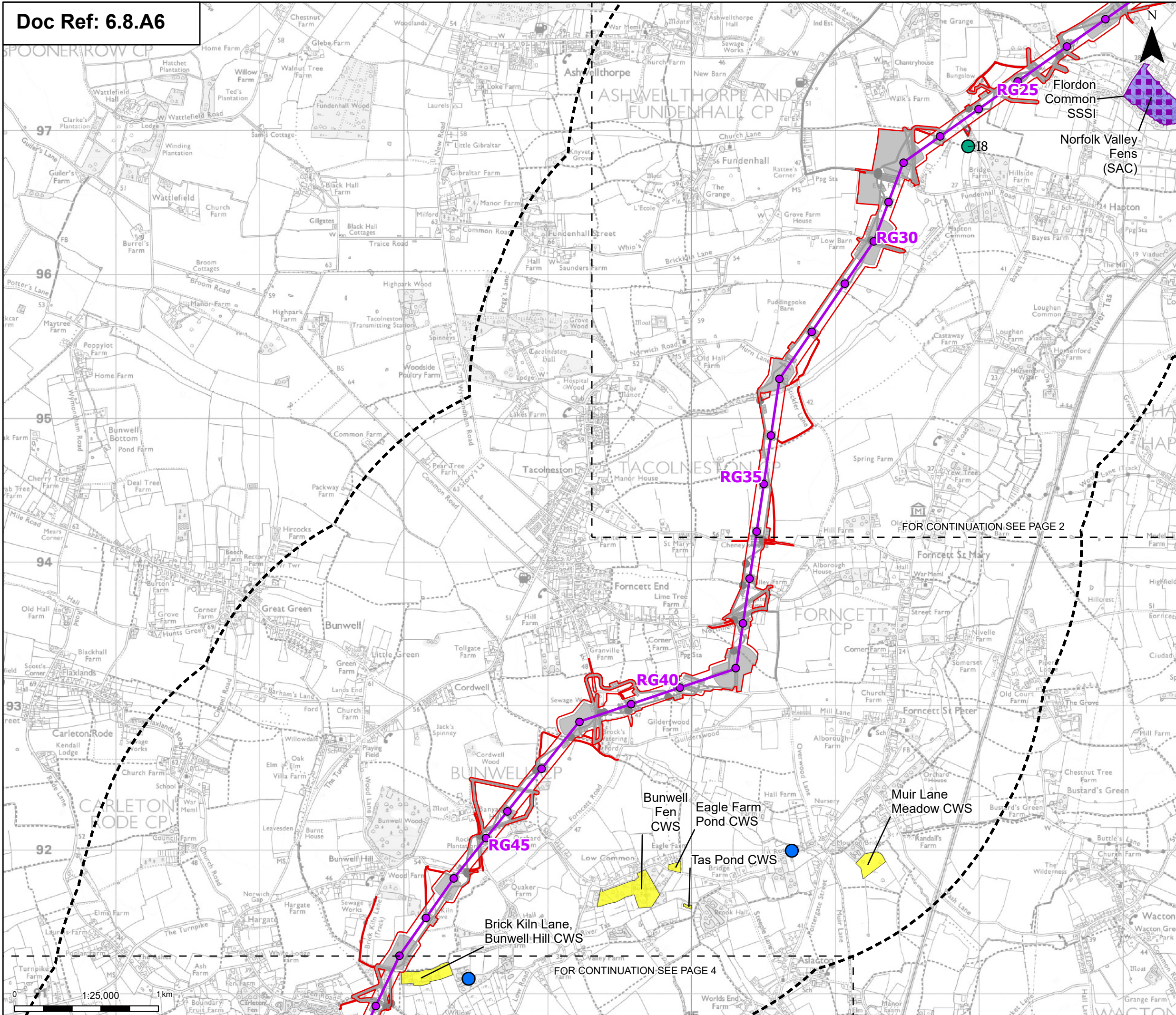
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Planning Inspectorate App Number: EN020027 Regulation 5(2)(a)

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Figure A8.6.1 - Ecology and Biodiversity - Reptile Desk study records, and statutory and non-statutory designated sites within 2 km of the Order Limits
Page 1 of 31

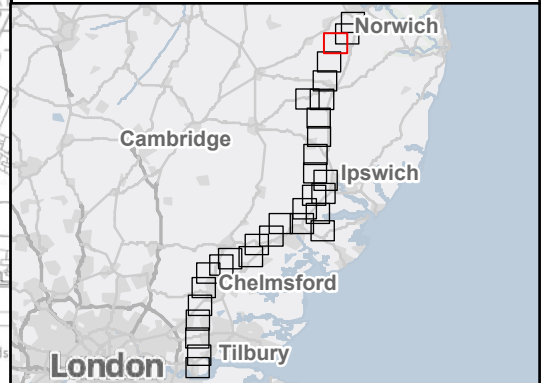
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Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
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Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280
Suitability Description:			
Accepted as Concept Stage			
Drawing Number: 10059280-ARC-EBD-ZZ-DR-ZZ-00341			Revision: A

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-  Order limits
 -  Sheet index outline
 - Proposed project design details**
 -  Proposed standard lattice pylon location
 -  Proposed overhead line alignment
 -  Environmental mitigation
 -  Other temporary and permanent construction and operational works
 - Discipline specific constraints**
 -  2 km Study Area
 -  Desk study results - reptile species
 -  Grass snake
 -  Reptile incidental sightings from non-target surveys
 - Designated sites with the potential for, or known to support reptiles**
 -  Sites of Special Scientific Interest (SSSI)
 -  County Wildlife Sites (CWS)
 -  Special Area of Conservation (SAC)

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



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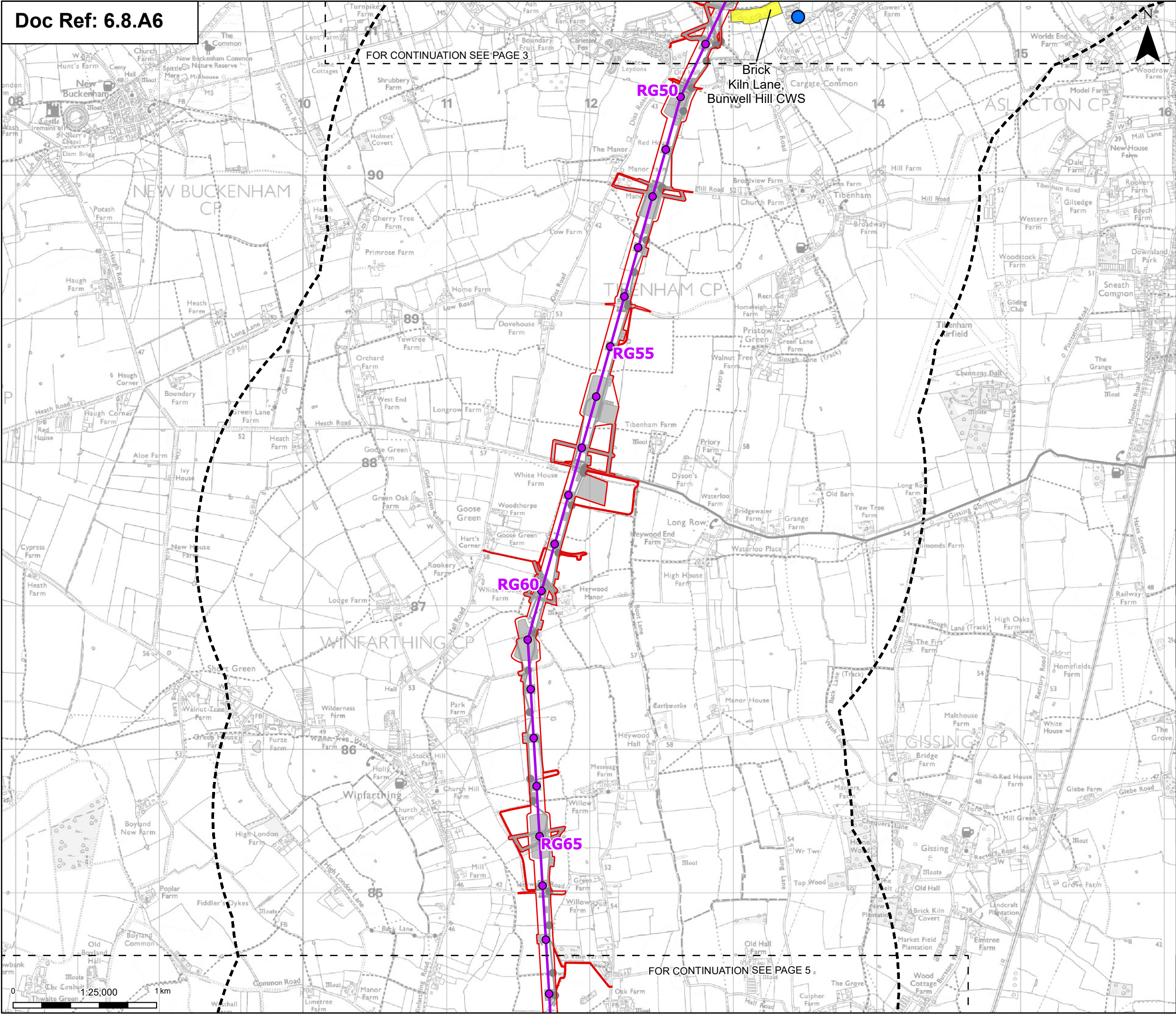
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Regulation 5(2)(a)

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Figure A8.6.1 - Ecology and Biodiversity -
Reptile Desk study records, and statutory
and non-statutory designated sites
within 2 km of the Order Limits
Page 3 of 31

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Approved	K. Burrows	Date	21 Aug 25
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Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Accepted as Concept Stage

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Order limits

Sheet index outline

Proposed standard lattice pylon location

Proposed overhead line alignment

Other temporary and permanent construction and operational works

Discipline specific constraints

2 km Study Area

Desk study results - reptile species

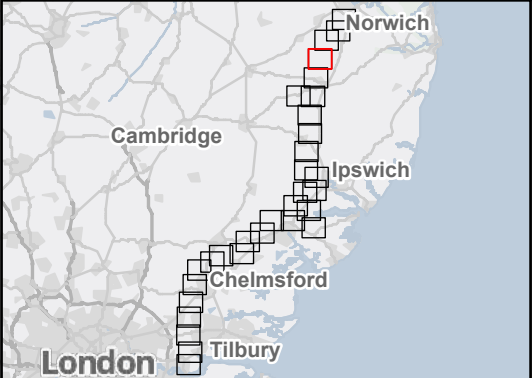
Grass snake

Designated sites with the potential for, or known to support reptiles

County Wildlife Sites (CWS)

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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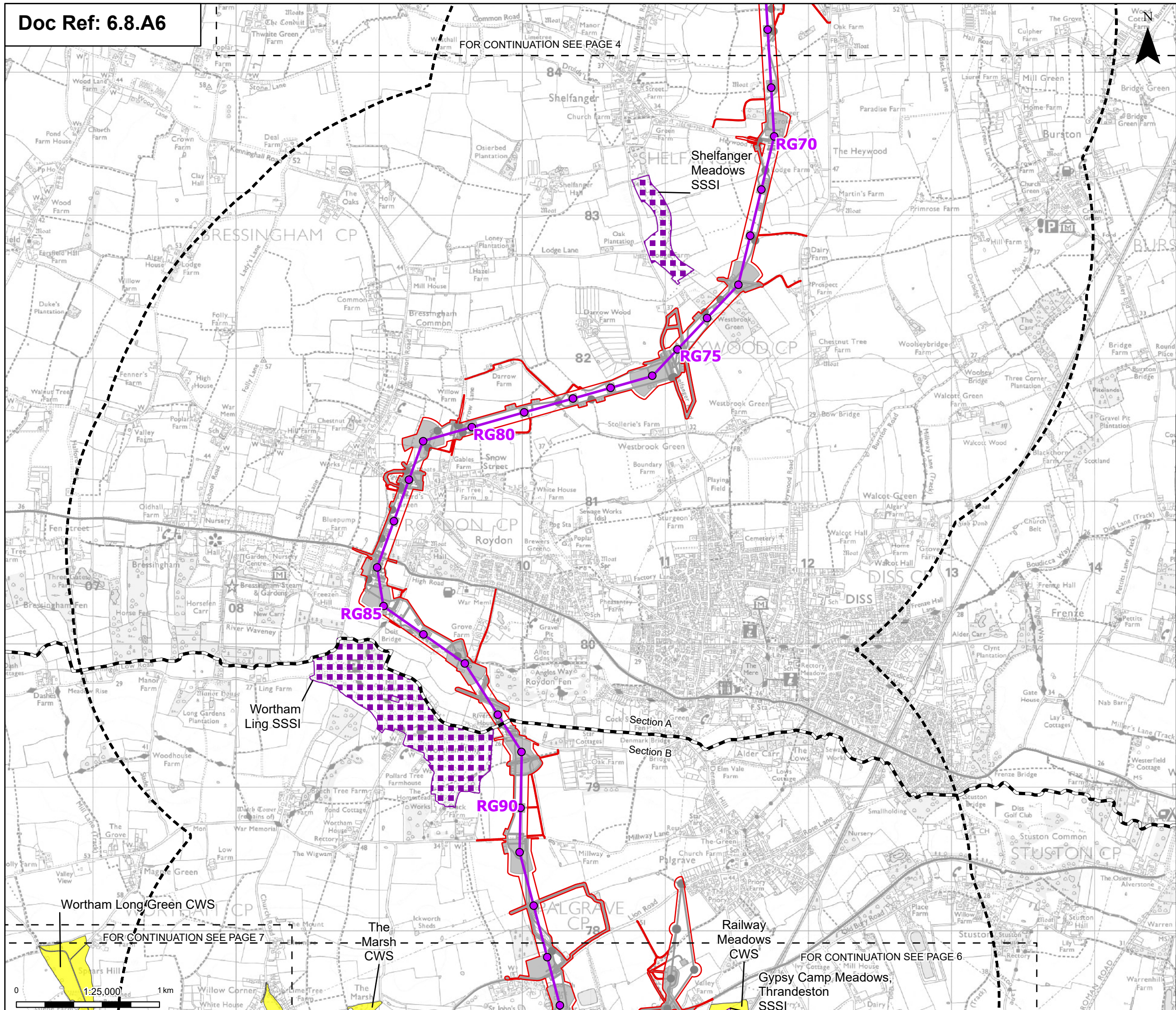
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Reptile Desk study records, and statutory
and non-statutory designated sites
within 2 km of the Order Limits
Page 4 of 31

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Suitability Description:
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FOR CONTINUATION SEE PAGE 4



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Sheet index cutline

Project section line

Proposed standard lattice pylon location

Proposed overhead line alignment

Environmental mitigation

Other temporary and permanent construction and operational works

Discipline specific constraints

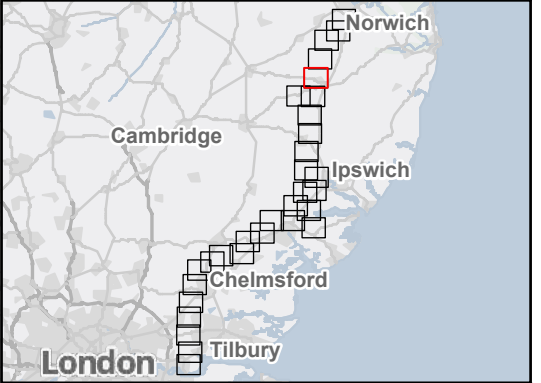
2 km Study Area

Sites of Special Scientific Interest (SSSI)

County Wildlife Sites (CWS)

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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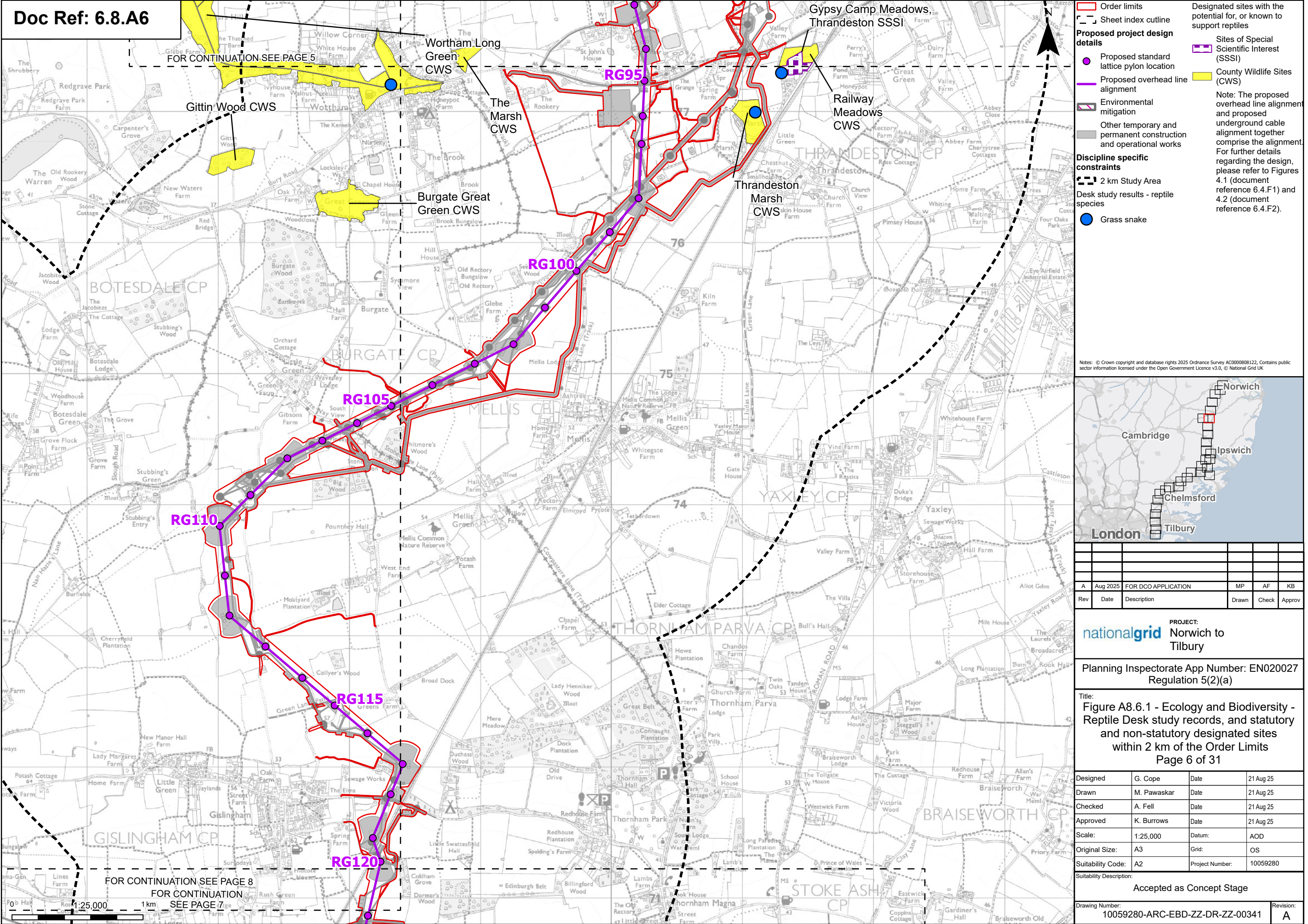
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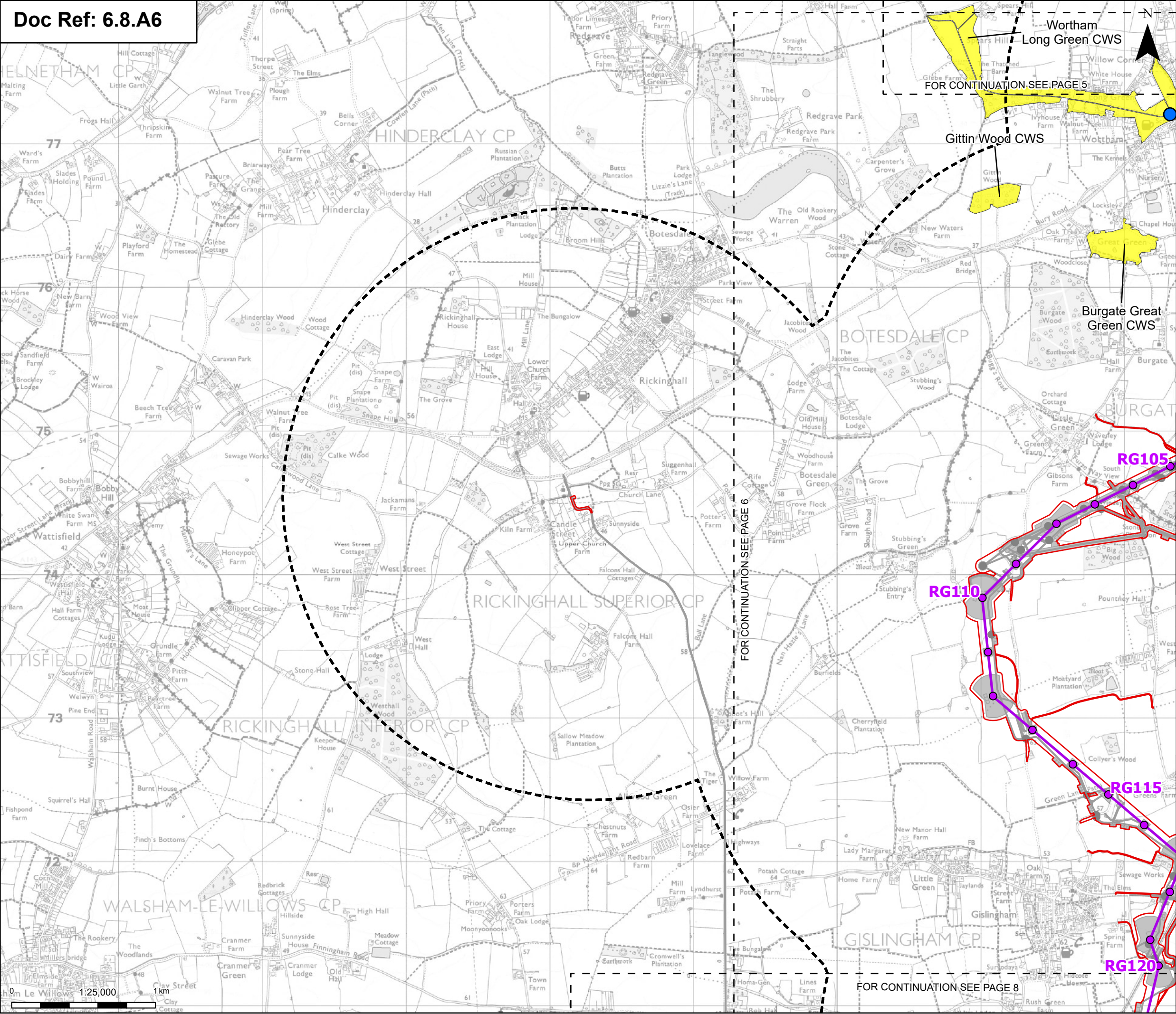
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Page 5 of 31

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Suitability Code:	A2	Project Number:	10059280

Suitability Description:
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Proposed standard lattice pylon location

Proposed overhead line alignment

Other temporary and permanent construction and operational works

Discipline specific constraints

2 km Study Area

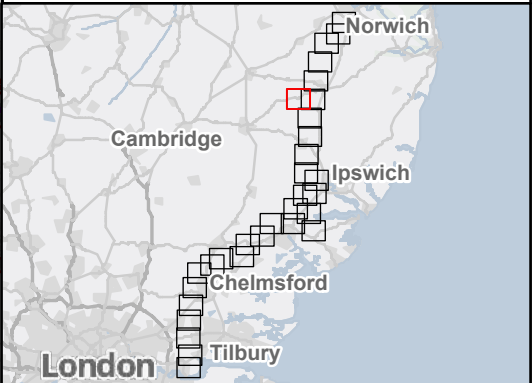
Desk study results - reptile species

Grass snake

County Wildlife Sites (CWS)

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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Title:
Figure A8.6.1 - Ecology and Biodiversity -
Reptile Desk study records, and statutory
and non-statutory designated sites
within 2 km of the Order Limits
Page 7 of 31

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Drawn	M. Pawaskar	Date	21 Aug 25
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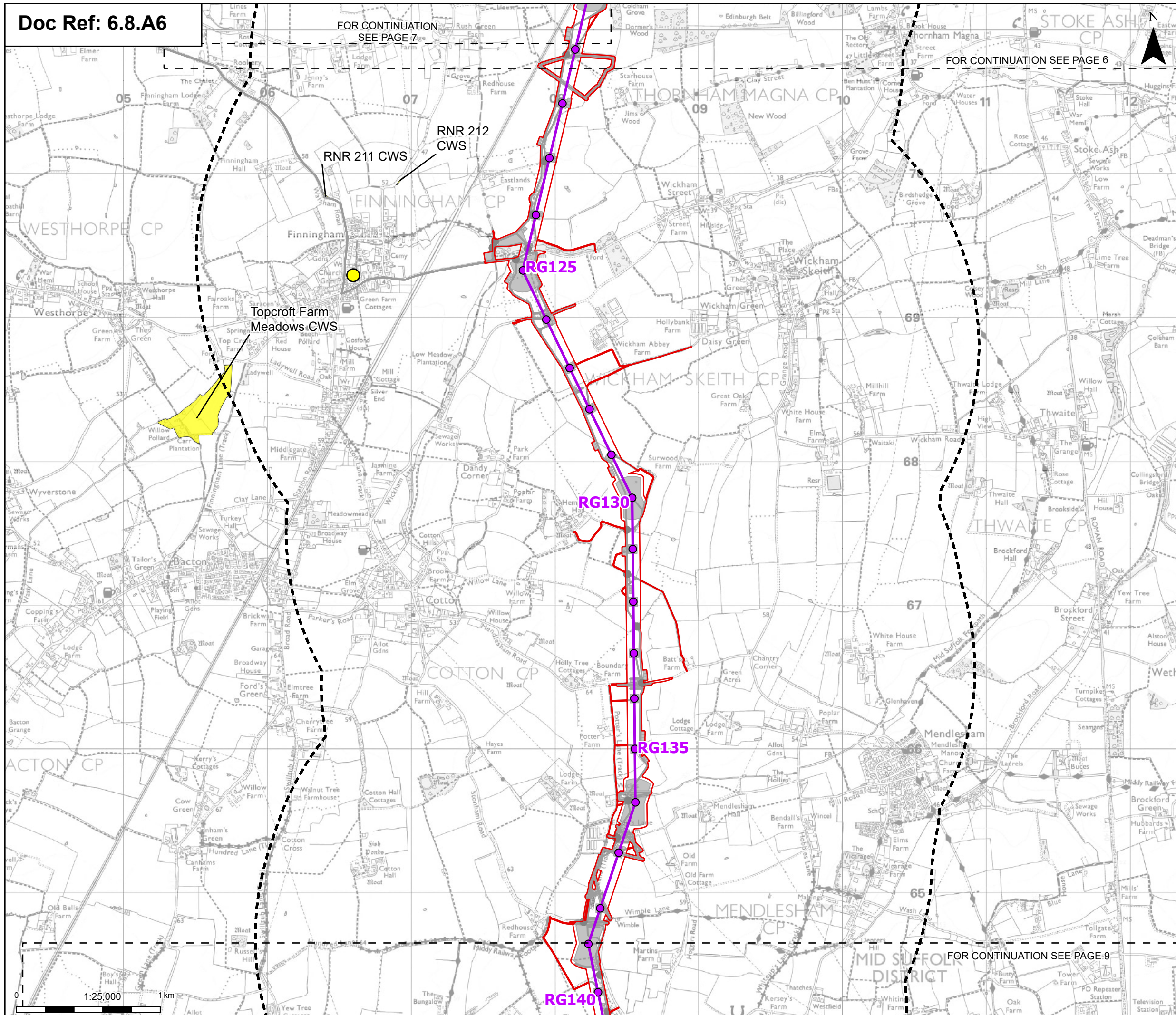
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FOR CONTINUATION
SEE PAGE 7

FOR CONTINUATION SEE PAGE 6

FOR CONTINUATION SEE PAGE 9



☐ Order limits

id | r _ _ Sheet index outline

Proposed project design details

-  Proposed standard lattice pylon location
-  Proposed overhead line alignment
-  Other temporary and permanent construction and operational works

Discipline specific constraints

- 2 km Study Area
Desk study results - reptile species

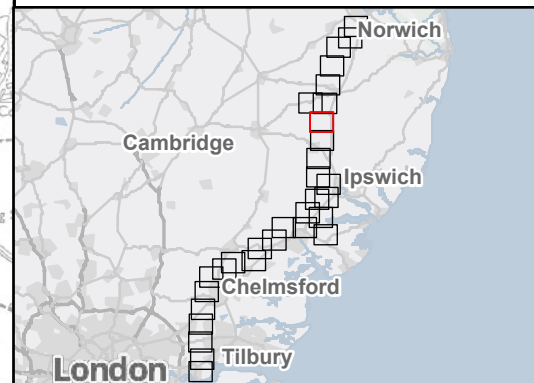
- Slow worm

Designated sites with the potential for, or known to support reptiles

 County Wildlife Sites
(CWS)

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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Regulation 5(2)(a)

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Reptile Desk study records, and statutory
and non-statutory designated sites
within 2 km of the Order Limits
Page 8 of 31

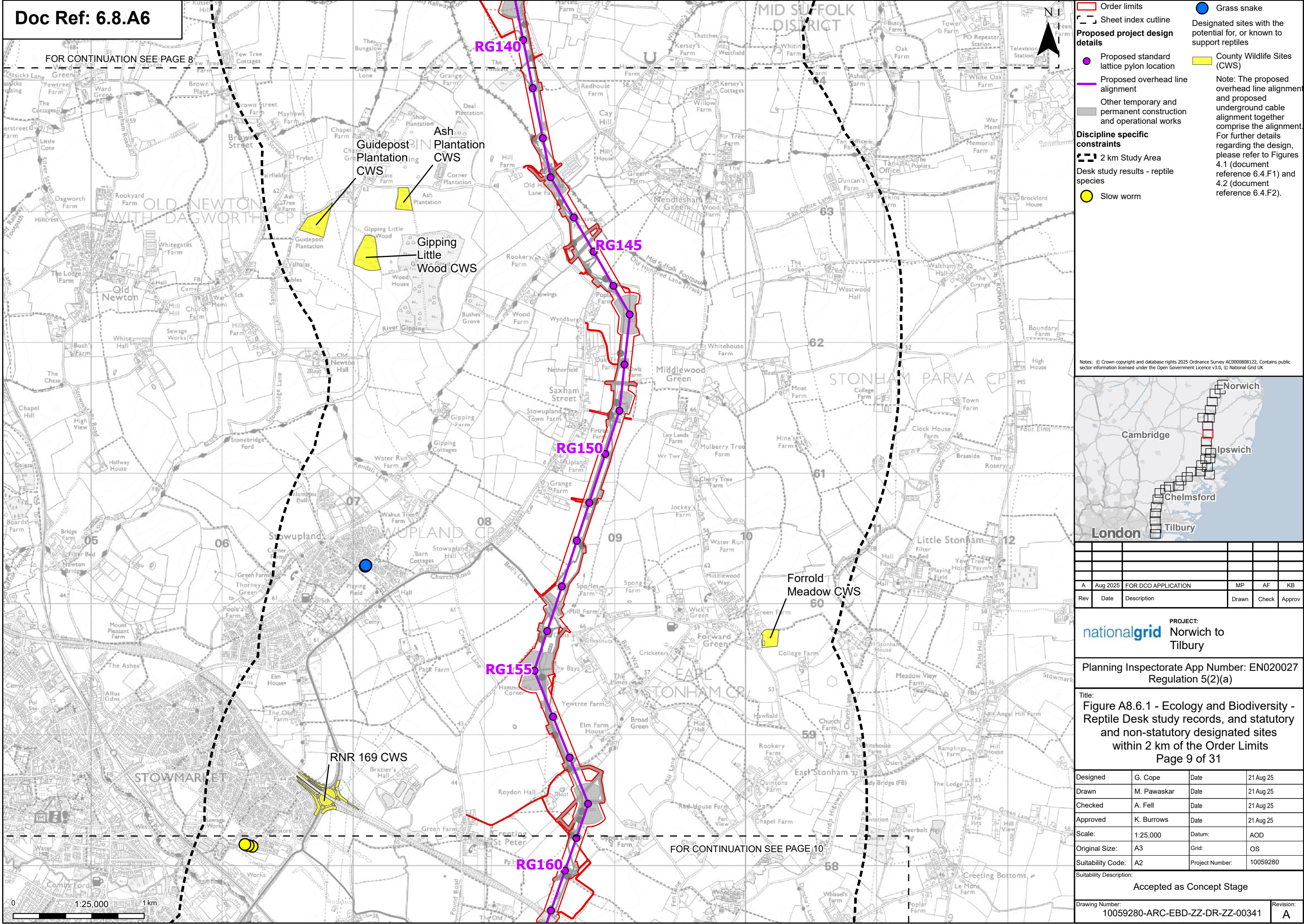
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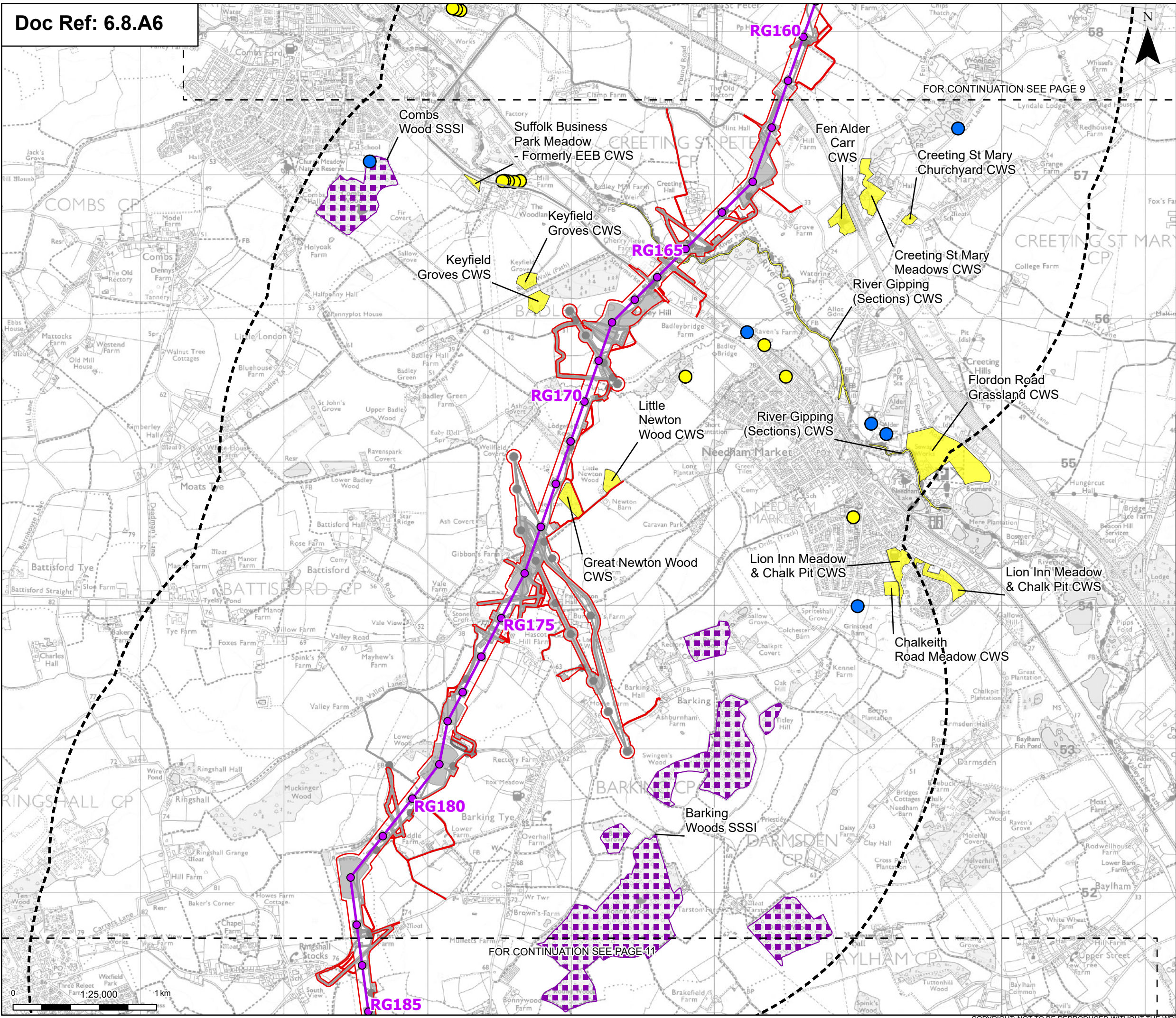
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Drawing Number:
10059280-ARC-EBD-ZZ-DR-ZZ-00341

Revision:	A
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Order limits

Sheet index outline

Proposed project design details

Proposed standard lattice pylon location

Proposed overhead line alignment

Environmental mitigation

Other temporary and permanent construction and operational works

Discipline specific constraints

2 km Study Area

Desk study results - reptile species

Slow worm

Grass snake

Designated sites with the potential for, or known to support reptiles

Sites of Special Scientific Interest (SSSI)

County Wildlife Sites (CWS)

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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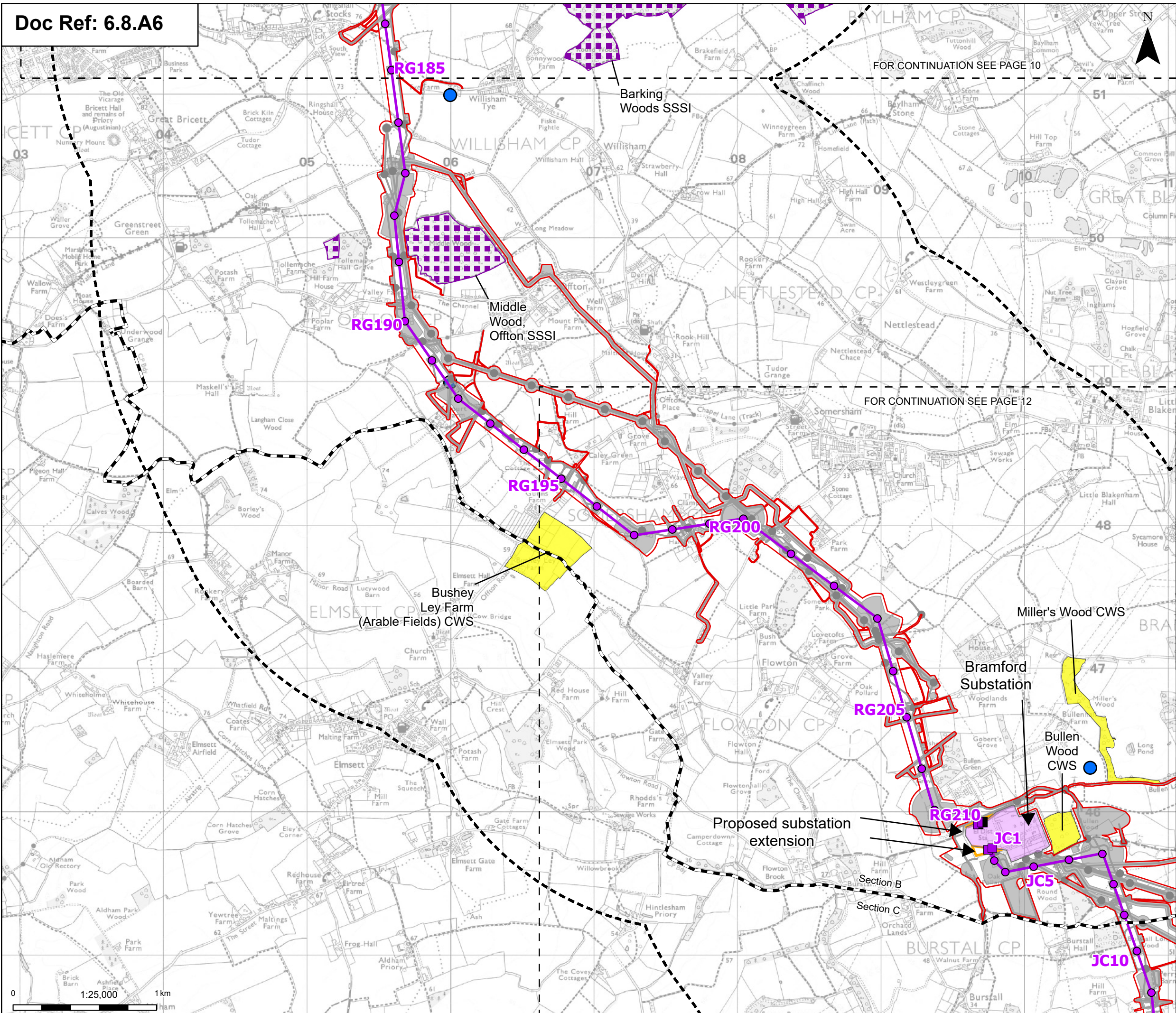
Norwich to Tilbury

Planning Inspectorate App Number: EN020027 Regulation 5(2)(a)

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Figure A8.6.1 - Ecology and Biodiversity - Reptile Desk study records, and statutory and non-statutory designated sites within 2 km of the Order Limits
Page 10 of 31

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Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
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Order limits

Sheet index outline

Project section line

Proposed full line tension gantry

Proposed low duty gantry

Proposed standard lattice pylon location

Proposed overhead line alignment

Bramford Substation

Bramford Substation Extension

Other temporary and permanent construction and operational works

Discipline specific constraints

2 km Study Area

Desk study results - reptile species

Grass snake

Designated sites with the potential for, or known to support reptiles

Sites of Special Scientific Interest (SSSI)

County Wildlife Sites (CWS)

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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PROJECT:
Norwich to
Tilbury

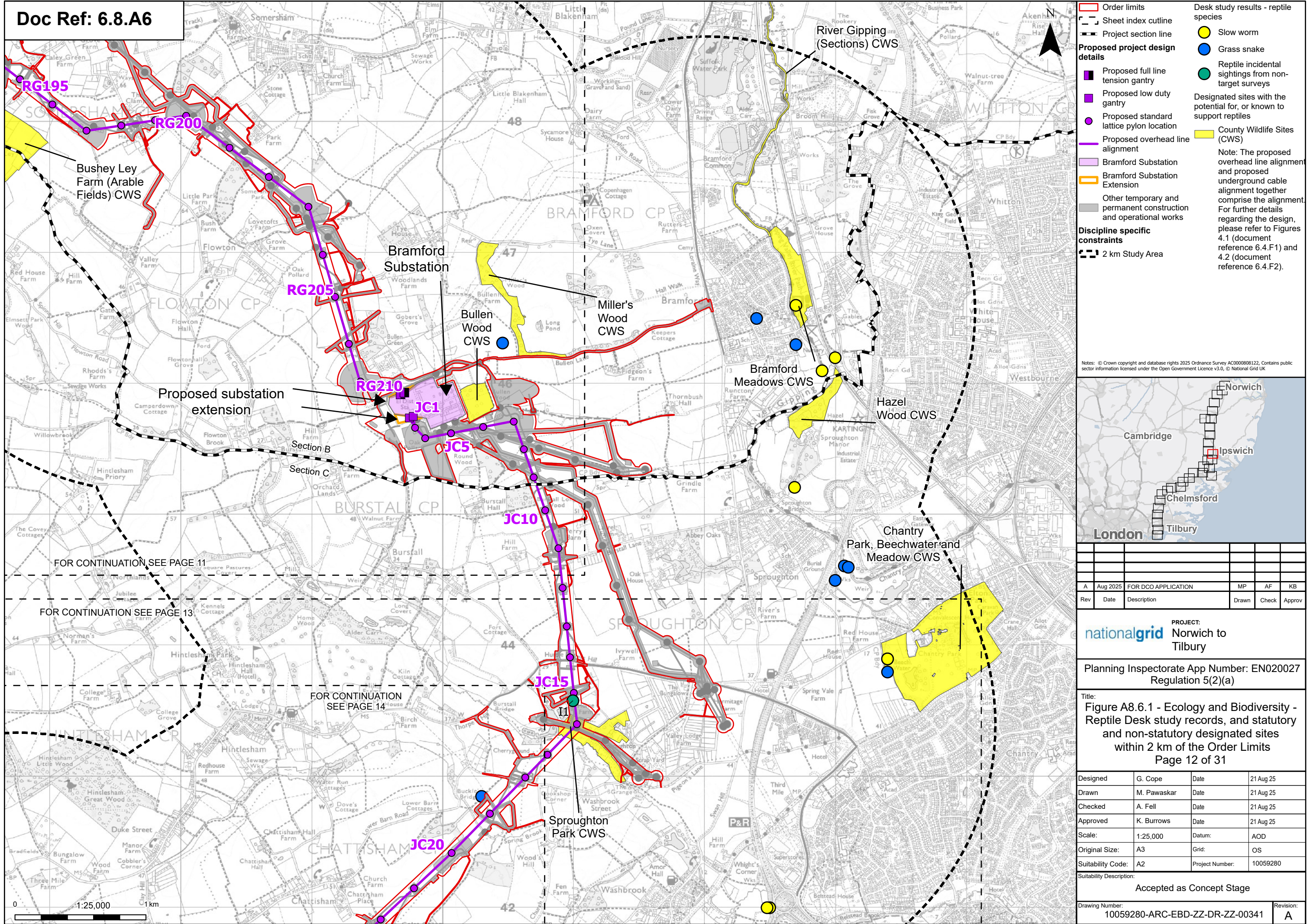
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Regulation 5(2)(a)

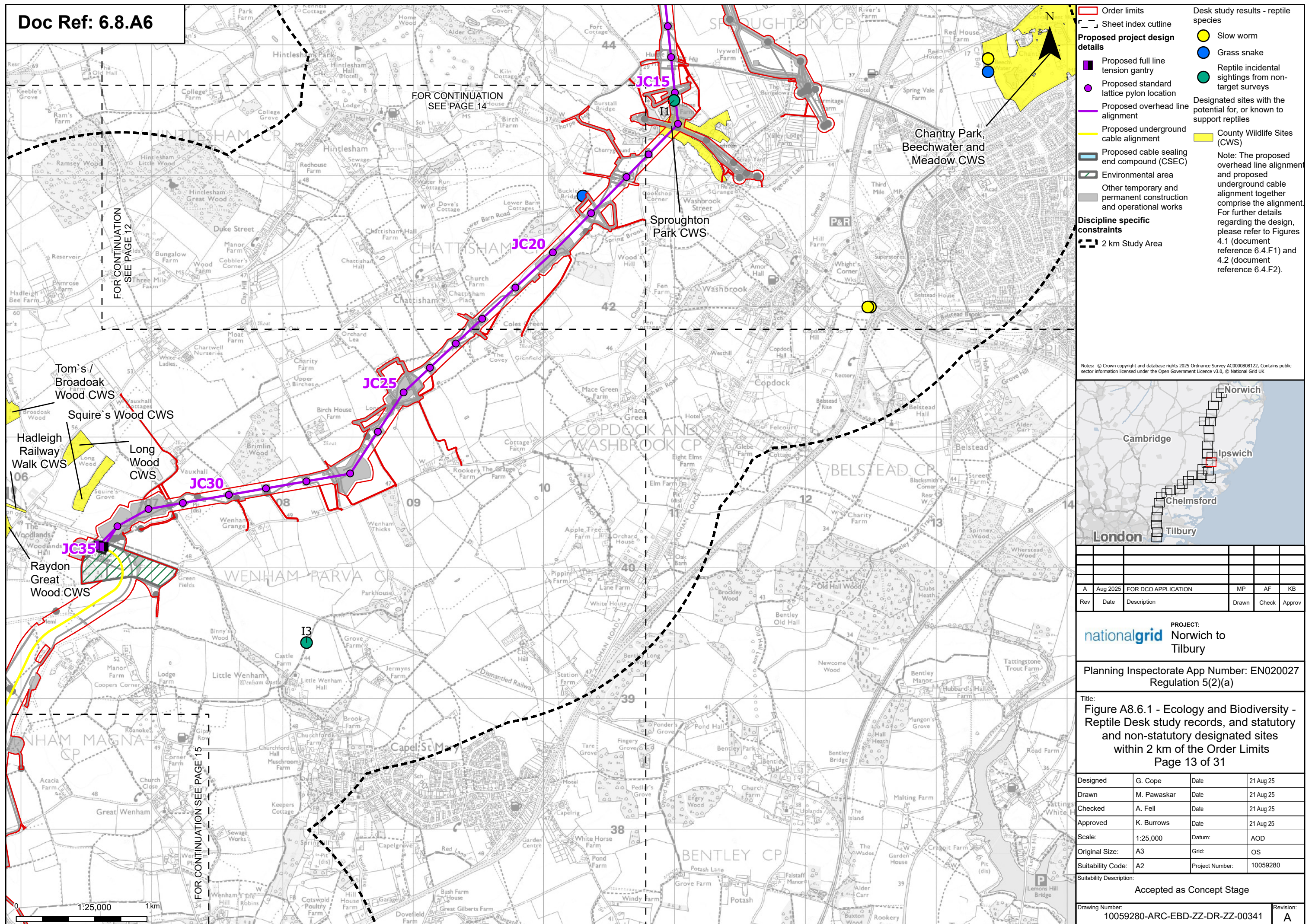
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Reptile Desk study records, and statutory
and non-statutory designated sites
within 2 km of the Order Limits
Page 11 of 31

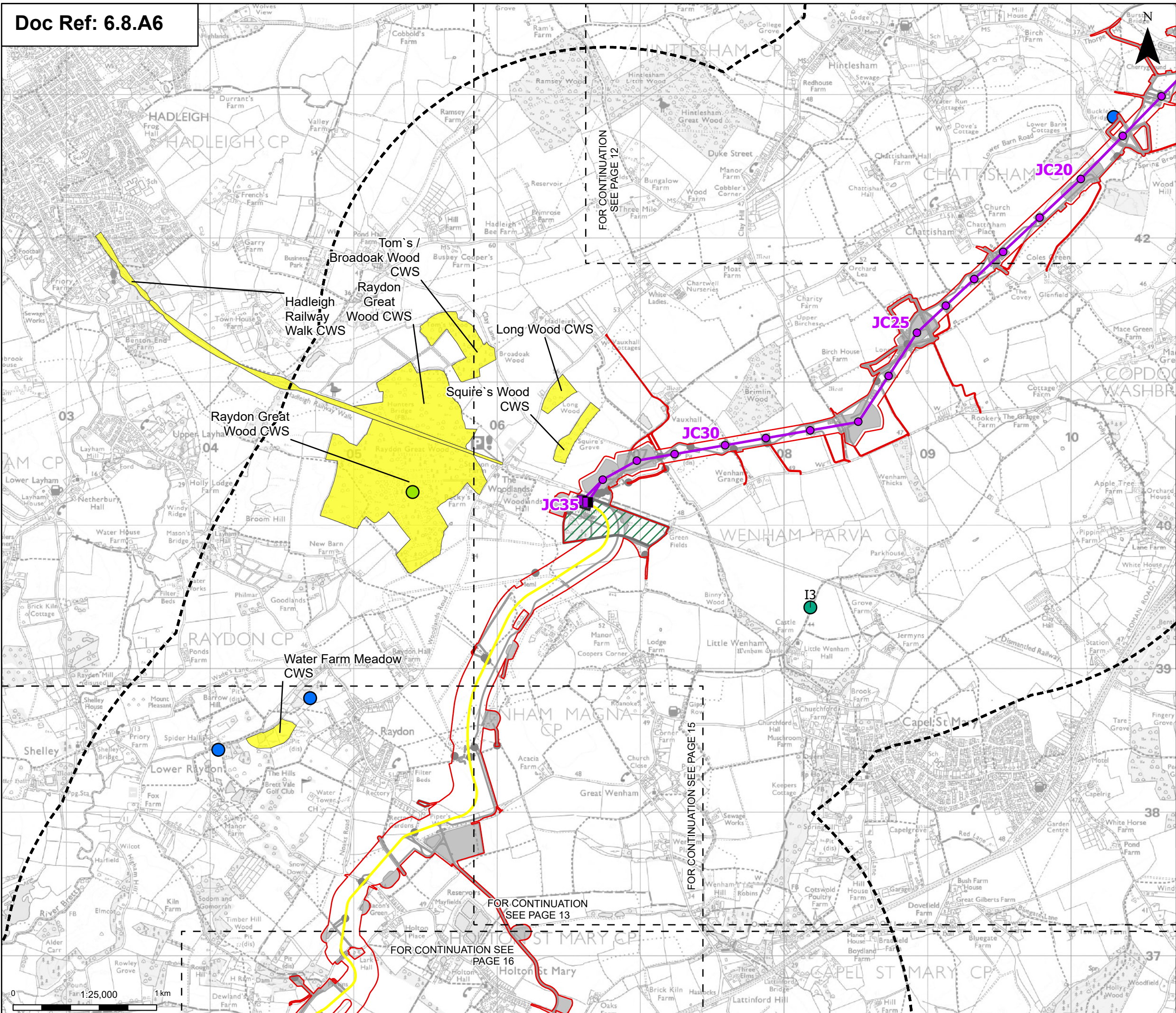
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Proposed project design details

- Proposed full line tension gantry
- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Proposed underground cable alignment
- Proposed cable sealing end compound (CSEC)
- Environmental area
- Environmental mitigation
- Other temporary and permanent construction and operational works

Discipline specific constraints

- 2 km Study Area

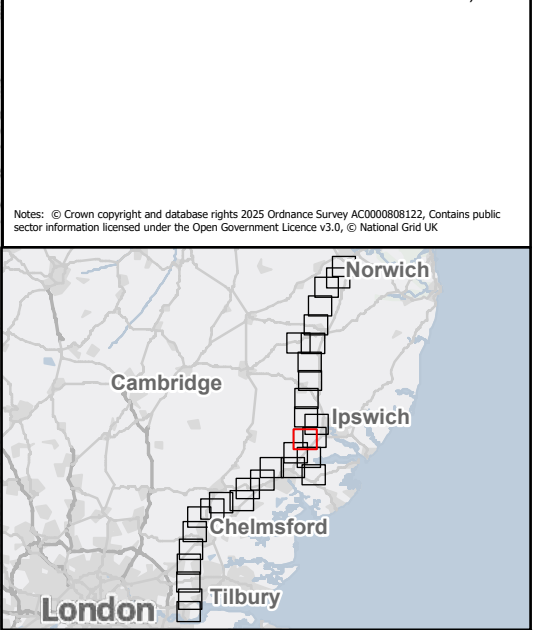
Desk study results - reptile species

- Grass snake
- Adder
- Reptile incidental sightings from non-target surveys

Designated sites with the potential for, or known to support reptiles

- County Wildlife Sites (CWS)

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



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Regulation 5(2)(a)

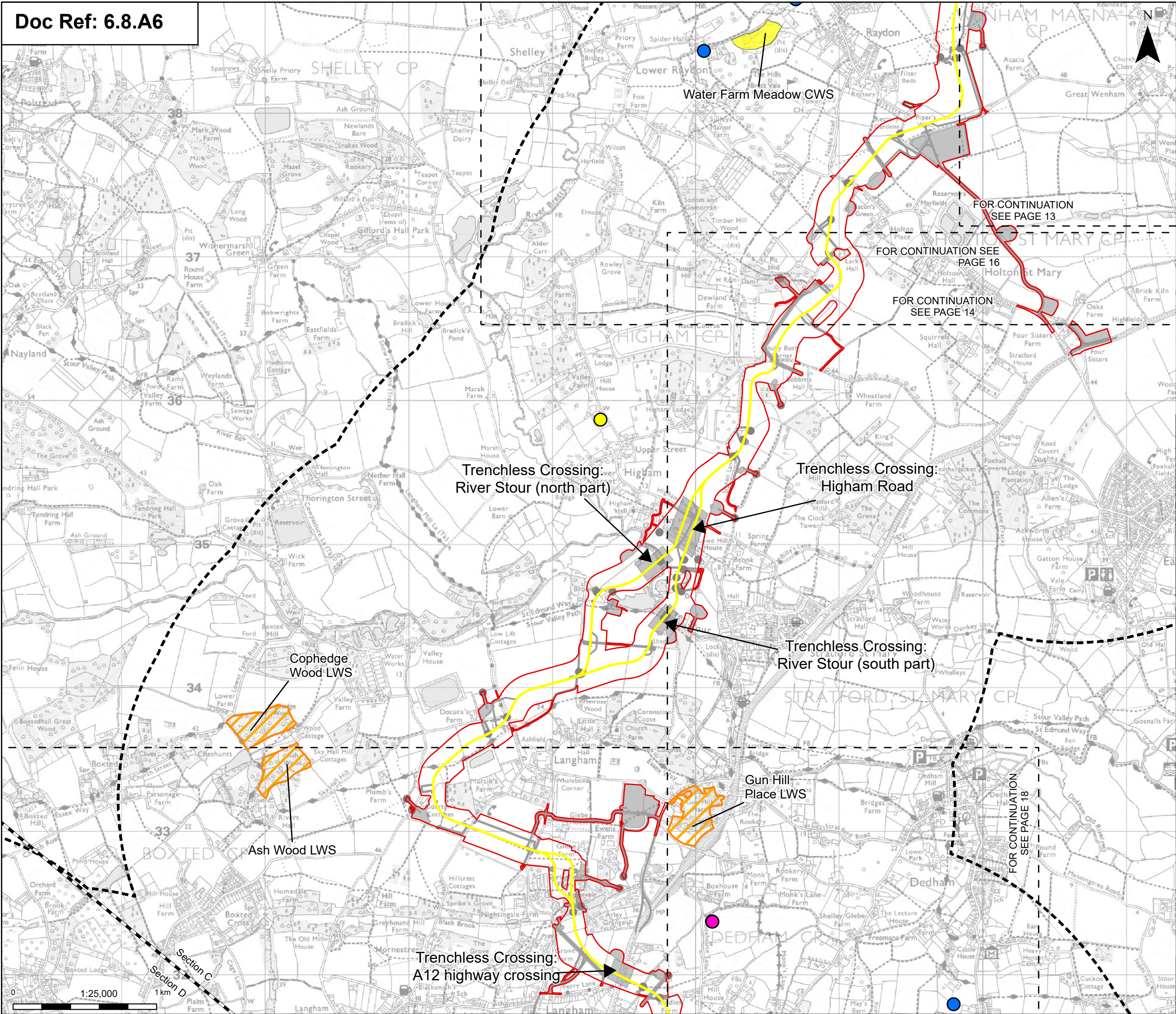
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Page 14 of 31

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Suitability Description:
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Drawing Number:
10059280-ARC-EBD-ZZ-DR-ZZ-00341

Revision:
A



Order limits

Sheet index outline

Project section line

Proposed underground cable alignment

Environmental mitigation

Other temporary and permanent construction and operational works

Common lizard

Designated sites with the potential for, or known to support reptiles

Local Wildlife Sites (LWS)

County Wildlife Sites (CWS)

2 km Study Area

Desk study results - reptile species

Slow worm

Grass snake

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

Discipline specific constraints

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Rev	Date	Description	Drawn	Check	Approv

PROJECT:
nationalgrid Norwich to Tilbury

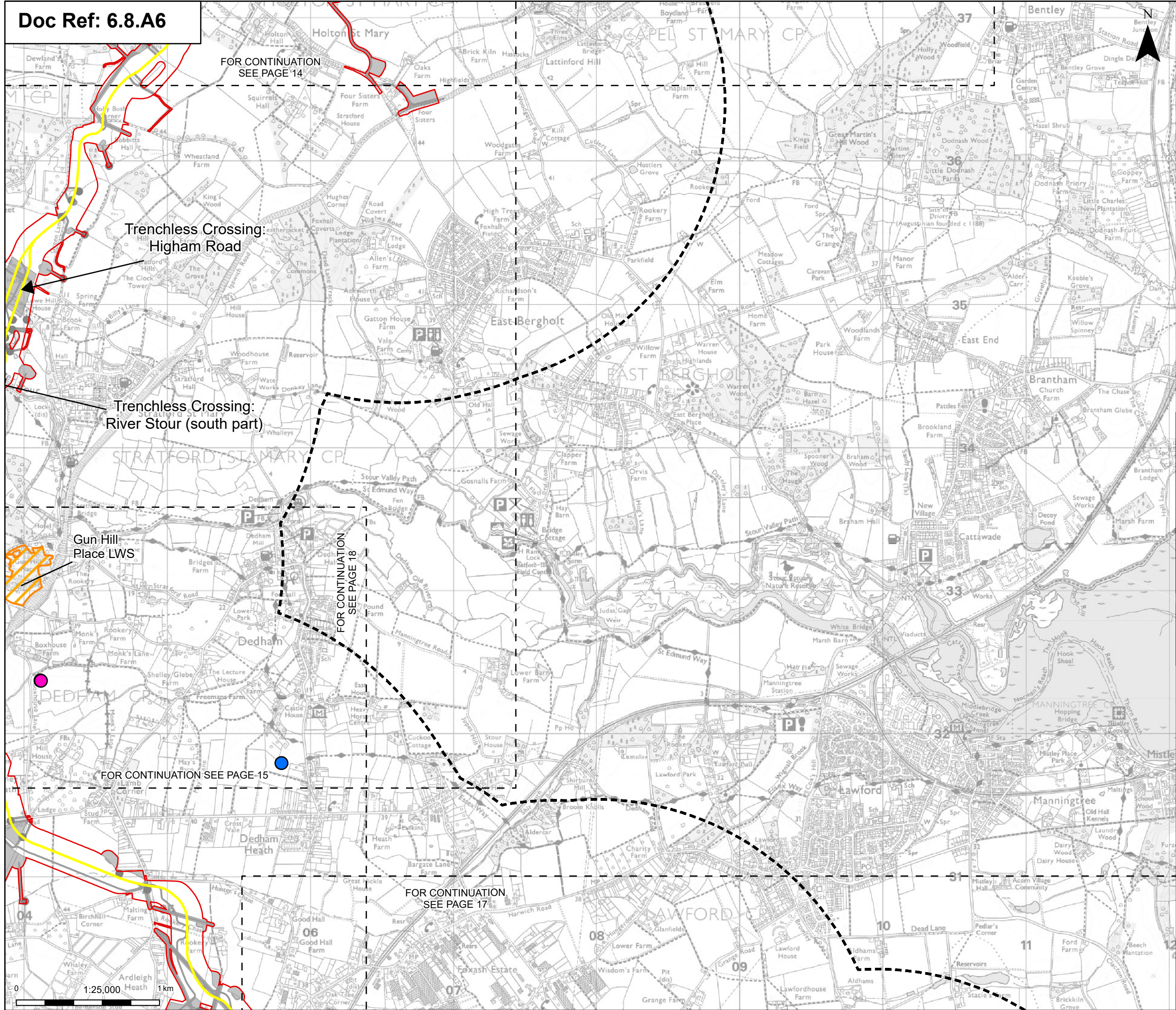
Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

Title:
Figure A8.6.1 - Ecology and Biodiversity -
Reptile Desk study records, and statutory
and non-statutory designated sites
within 2 km of the Order Limits
Page 15 of 31

Designed	G. Cope	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280
Suitability Description:			

Accepted as Concept Stage

Drawing Number:	Revision:
10059280-ARC-EBD-ZZ-DR-ZZ-00341	A



Order limits

Sheet index outline

Proposed project design details

- Proposed standard lattice pylon location
- Proposed underground cable alignment
- Other temporary and permanent construction and operational works

Discipline specific constraints

- 2 km Study Area
- Desk study results - reptile species
- Grass snake

Common lizard

Designated sites with the potential for, or known to support reptiles

Local Wildlife Sites (LWS)

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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Cambridge

London

Norwich

Ipswich

Chelmsford

Tilbury

A	Aug 2025	FOR DCO APPLICATION	MP	AF	KB
Rev	Date	Description	Drawn	Check	Approv

PROJECT: Norwich to Tilbury

nationalgrid

Planning Inspectorate App Number: EN020027 Regulation 5(2)(a)

Title: Figure A8.6.1 - Ecology and Biodiversity - Reptile Desk study records, and statutory and non-statutory designated sites within 2 km of the Order Limits Page 16 of 31

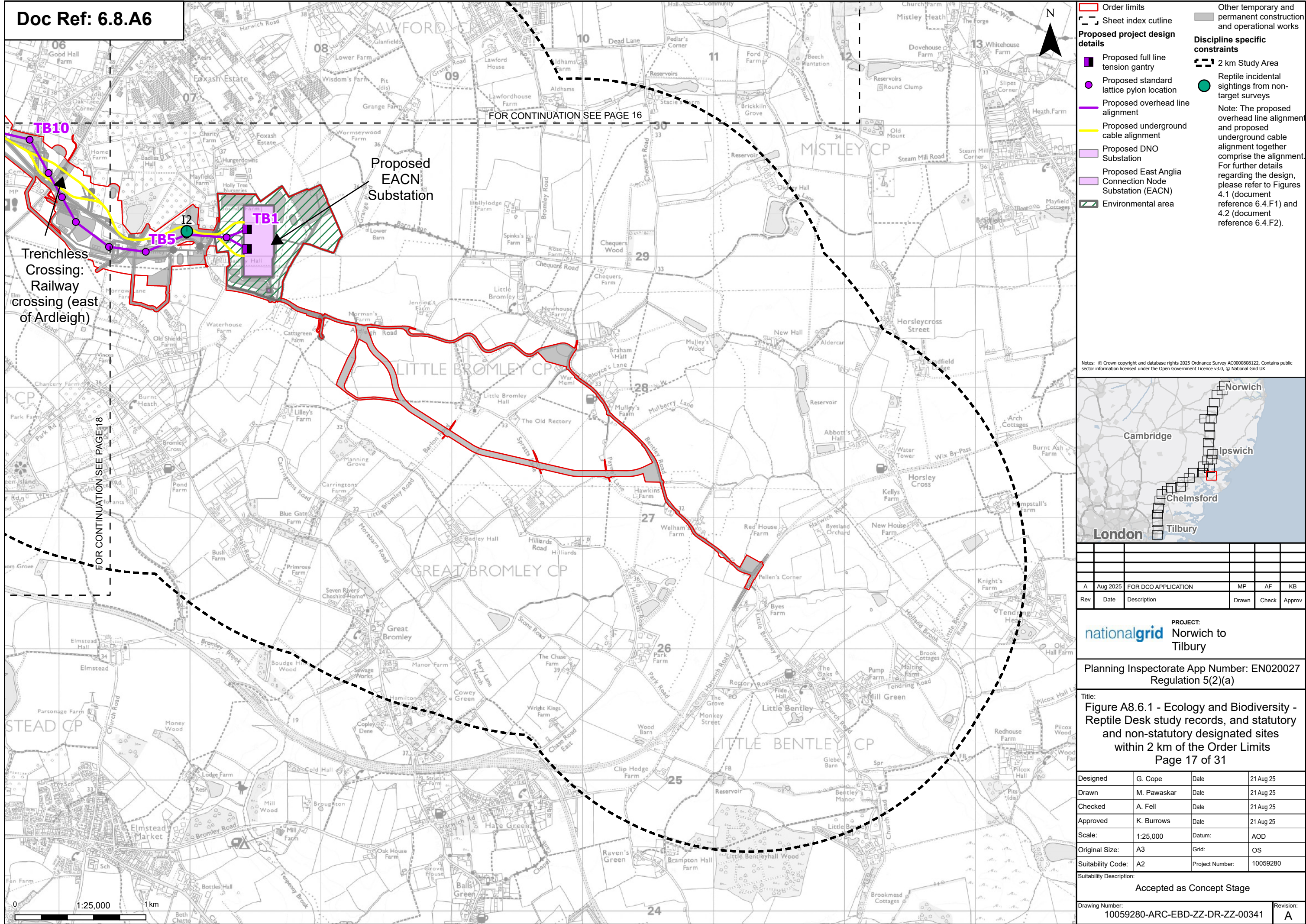
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Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

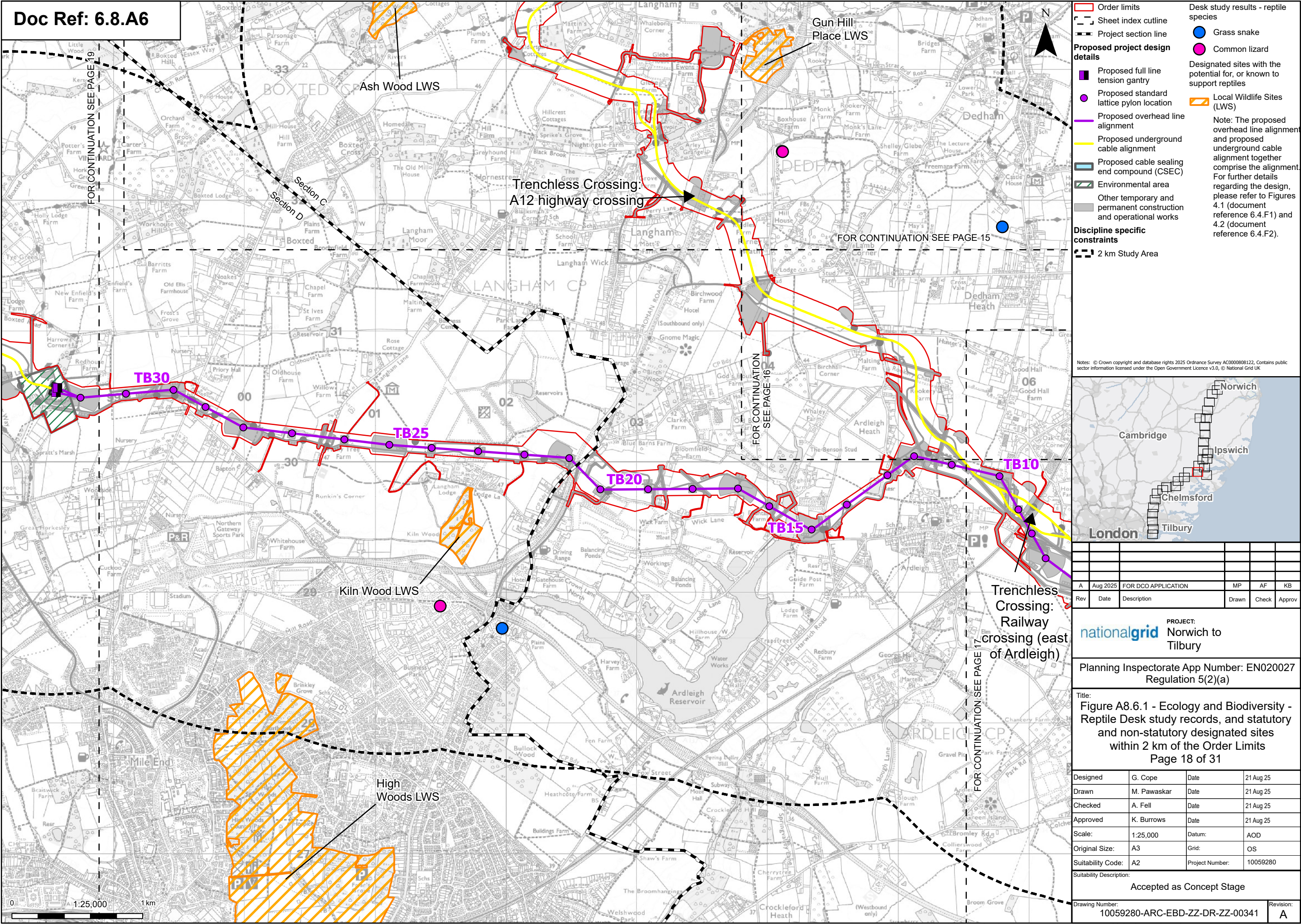
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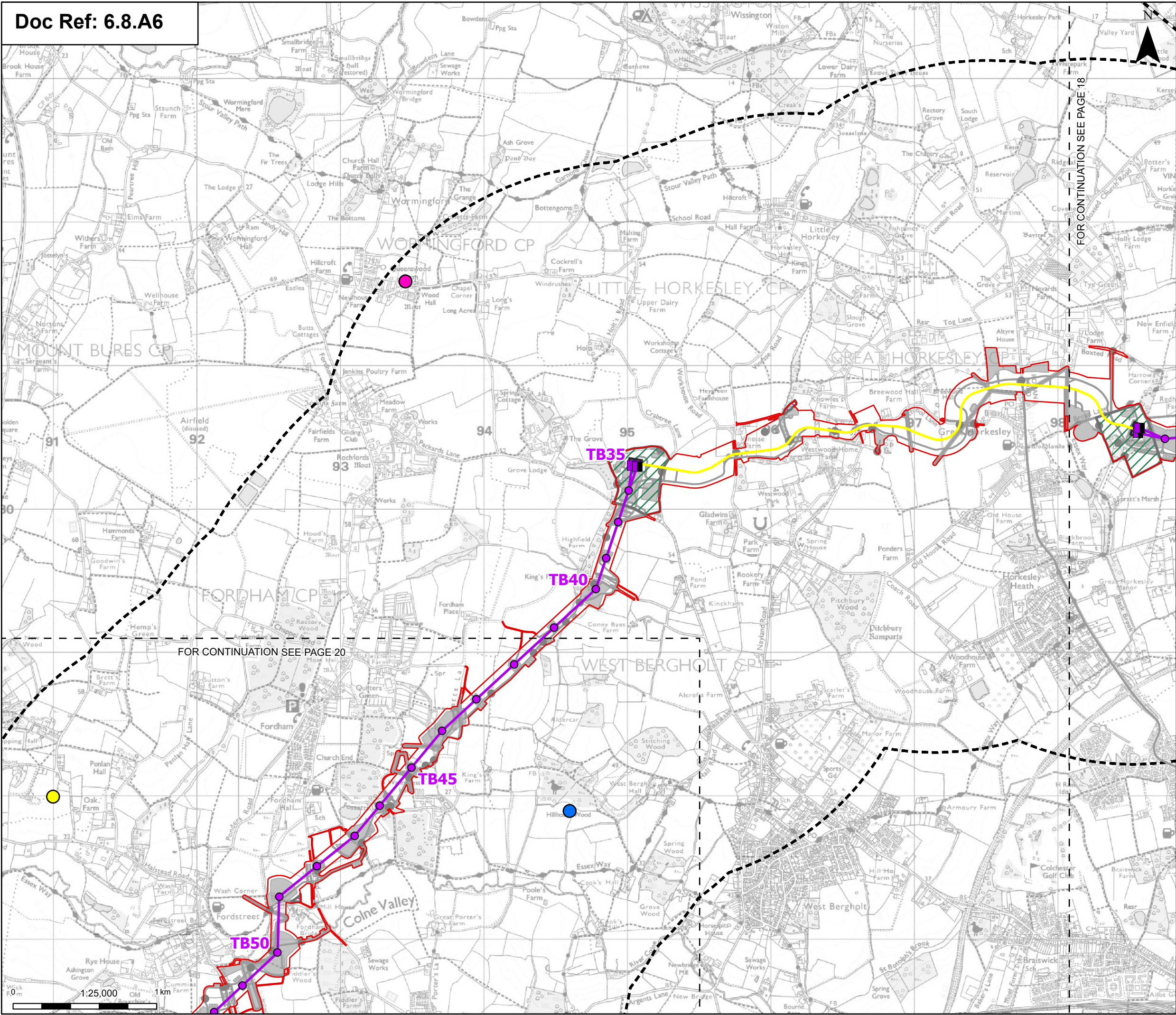
Accepted as Concept Stage

Drawing Number: 10059280-ARC-EBD-ZZ-DR-ZZ-00341

Revision: A







Order limits

Sheet index outline

Project section line

Proposed full line tension gantry

Proposed standard lattice pylon location

Proposed overhead line alignment

Proposed underground cable alignment

Proposed cable sealing end compound (CSEC)

Environmental area

Environmental mitigation

Other temporary and permanent construction and operational works

Discipline specific constraints

2 km Study Area

Desk study results - reptile species

Slow worm

Grass snake

Common lizard

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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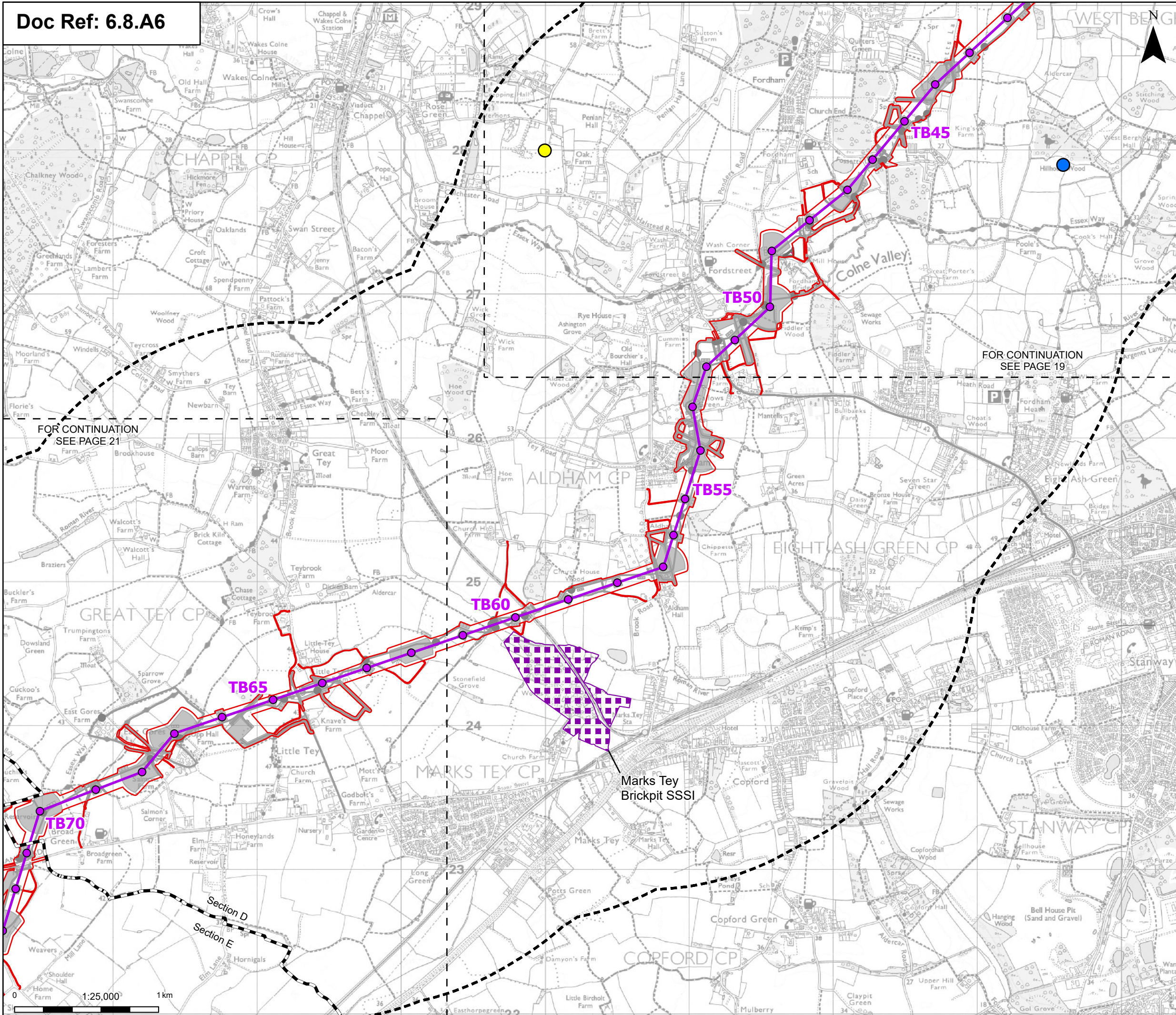
nationalgrid Norwich to Tilbury

Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

Title:
Figure A8.6.1 - Ecology and Biodiversity - Reptile Desk study records, and statutory and non-statutory designated sites within 2 km of the Order Limits
Page 19 of 31

Designed	G. Cope	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280
Suitability Description: Accepted as Concept Stage			
Drawing Number: 10059280-ARC-EBD-ZZ-DR-ZZ-00341			Revision: A

Print Date: 08-15-25 12:20:11 COPYRIGHT: NOT TO BE REPRODUCED WITHOUT THE WRITTEN PERMISSION OF NATIONAL GRID ELECTRICITY TRANSMISSION PLC

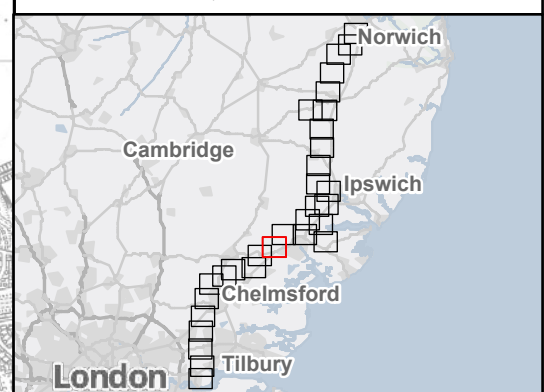


- Legend:**

 - Order limits
 - Sheet index outline
 - Project section line
 - Proposed project design details**
 - Proposed standard lattice pylon location
 - Proposed overhead line alignment
 - Environmental mitigation
 - Other temporary and permanent construction and operational works
 - Discipline specific constraints**
 - 2 km Study Area
 - Designated sites with the potential for, or known to support reptiles**
 - Grass snake
 - Sites of Special Scientific Interest (SSSI)
 - Desk study results - reptile species**
 - Slow worm

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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nationalgrid PROJECT: Norwich to Tilbury

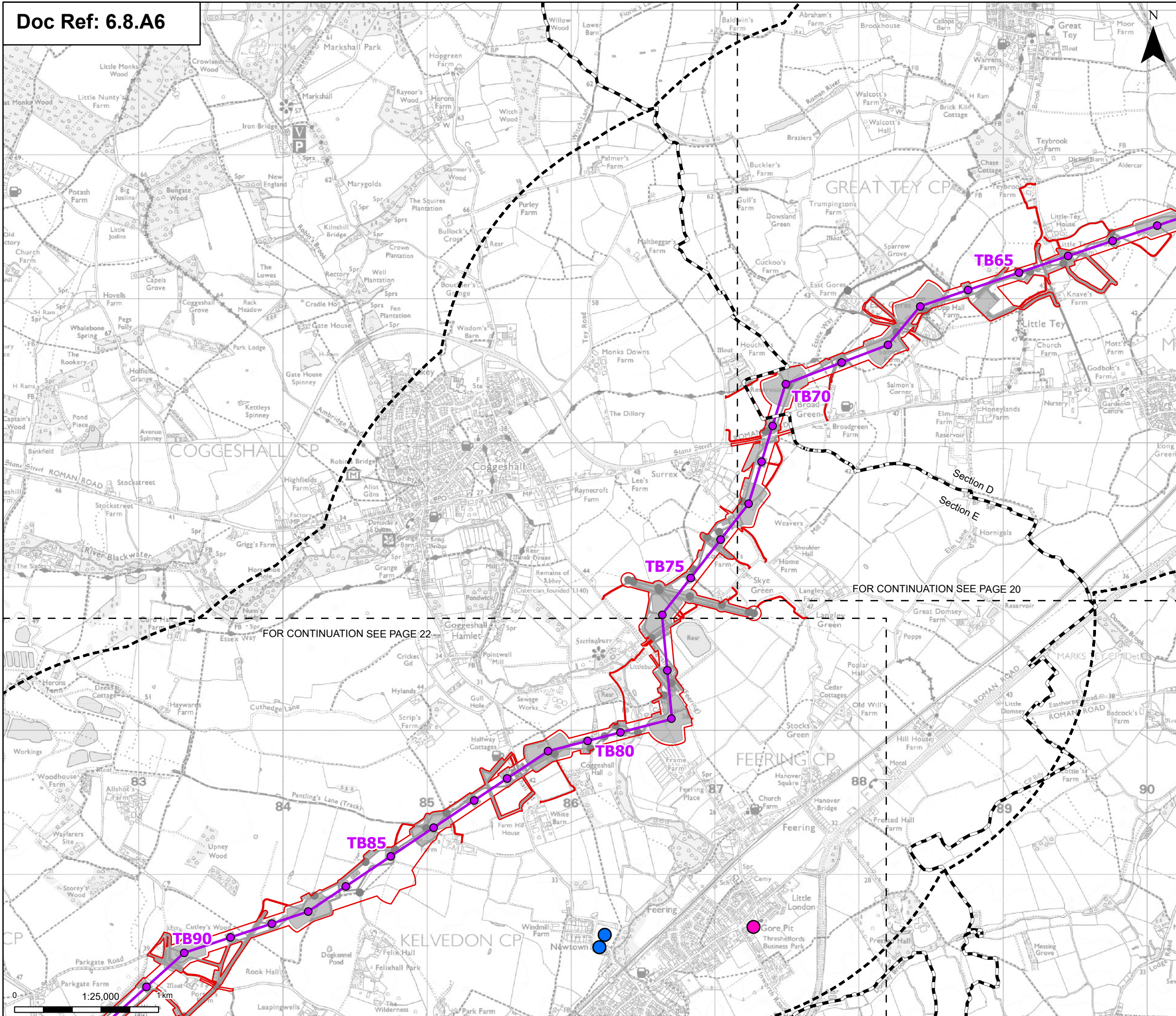
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Regulation 5(2)(a)

Title: Figure A8.6.1 - Ecology and Biodiversity - Reptile Desk study records, and statutory and non-statutory designated sites within 2 km of the Order Limits
Page 20 of 31

Designed	G. Cope	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

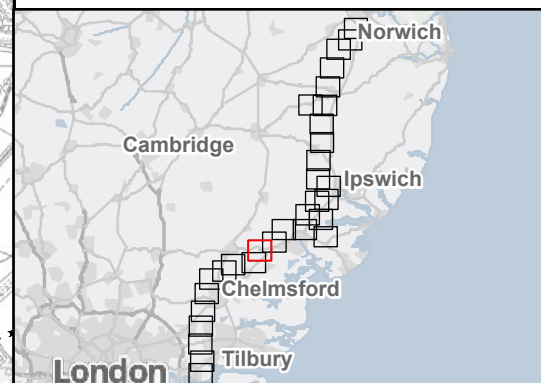
Accepted as Concept Stage

Drawing Number: 10059280-ARC-EBD-ZZ-DR-ZZ-00341	Revision: A
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	Order limits	 Grass snake  Common lizard
	Sheet index cutline	
	Project section line	
Proposed project design details		Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).
	Proposed standard lattice pylon location	
	Proposed overhead line alignment	
	Environmental mitigation	
	Other temporary and permanent construction and operational works	
Discipline specific constraints		

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A	Aug 2025	FOR DCO APPLICATION	MP	AF	KB
Rev	Date	Description	Drawn	Check	Approv

PROJECT:
Norwich to
Tilbury

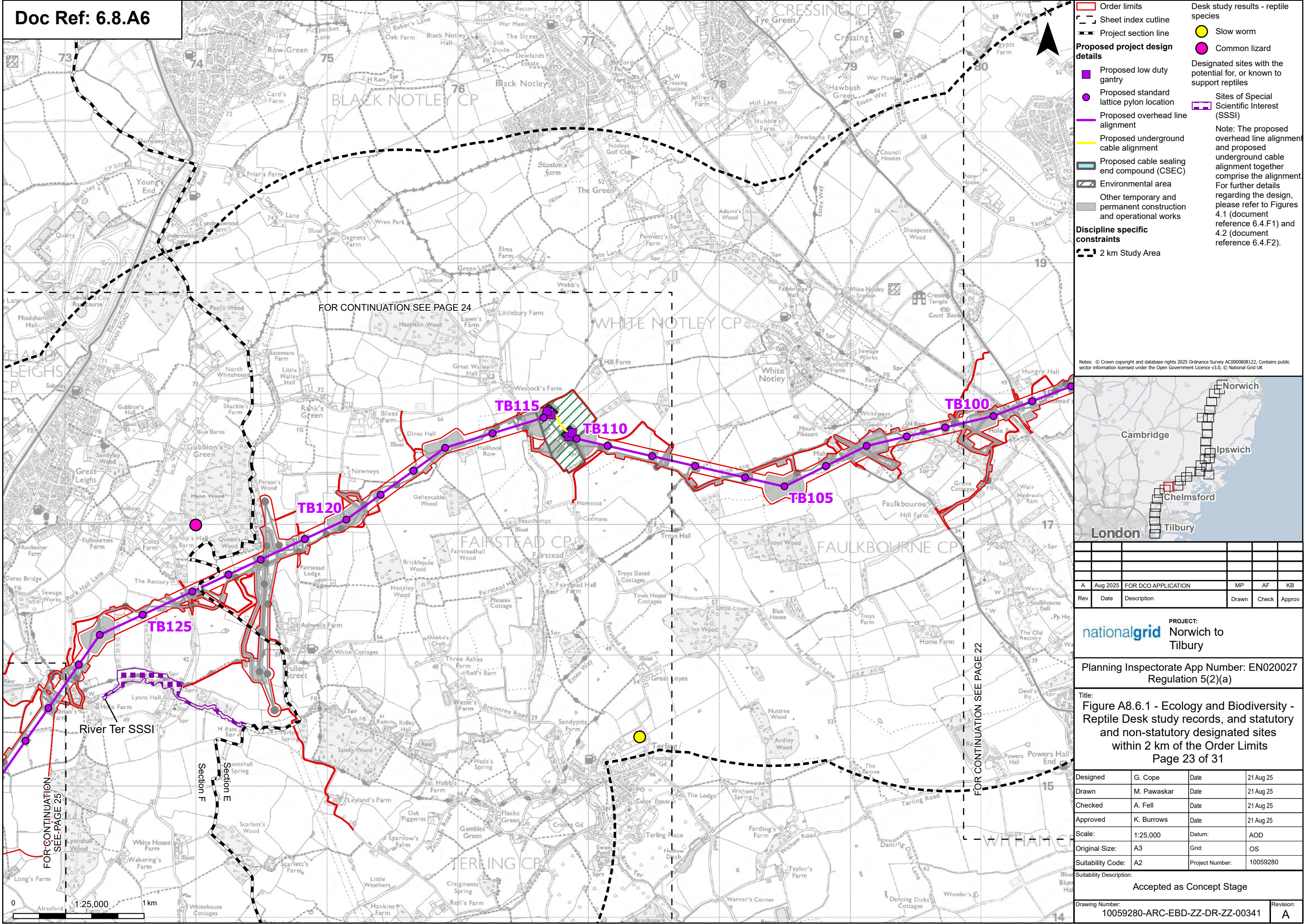
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Regulation 5(2)(a)

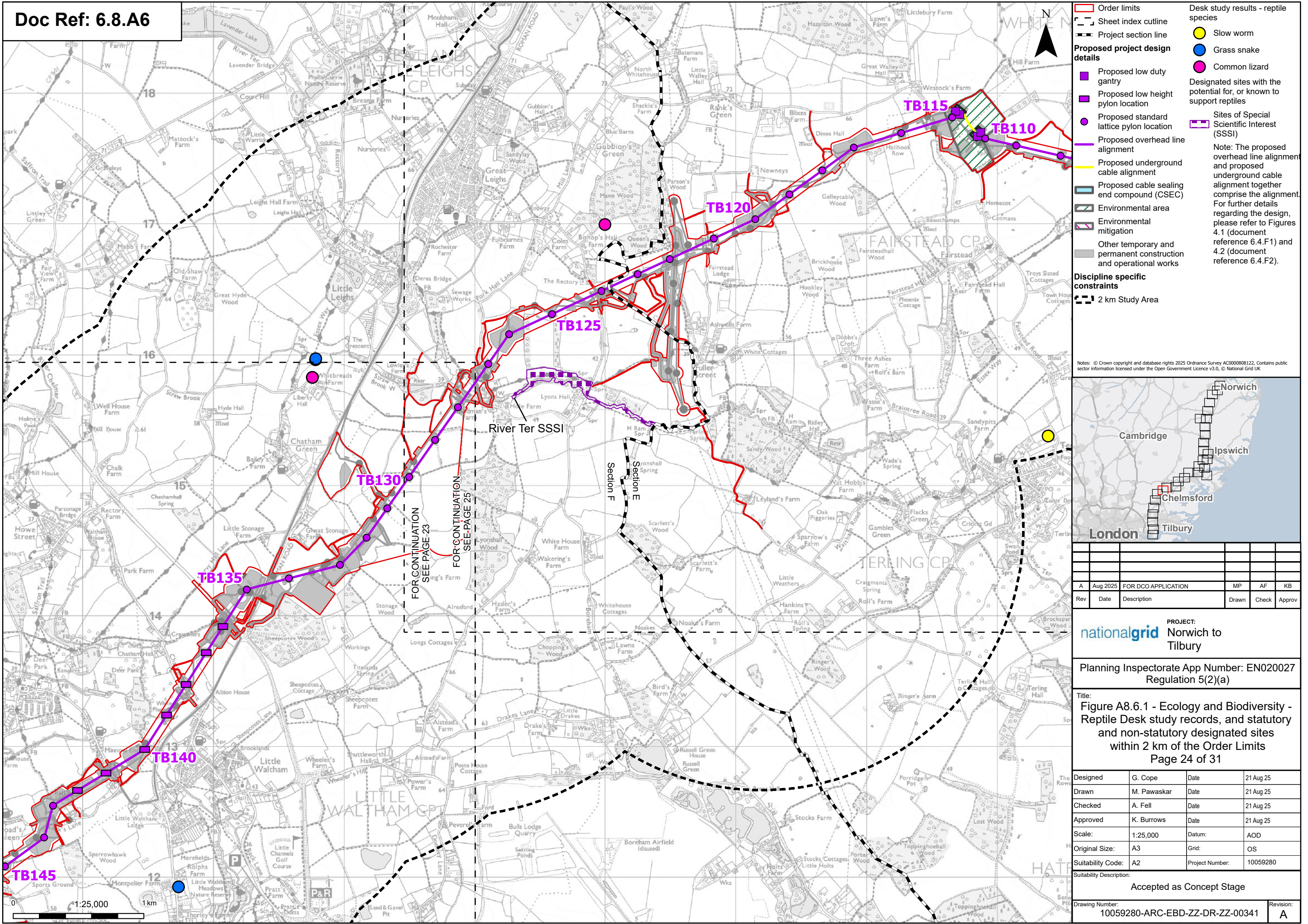
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Figure A8.6.1 - Ecology and Biodiversity -
Reptile Desk study records, and statutory
and non-statutory designated sites
within 2 km of the Order Limits
Page 21 of 31

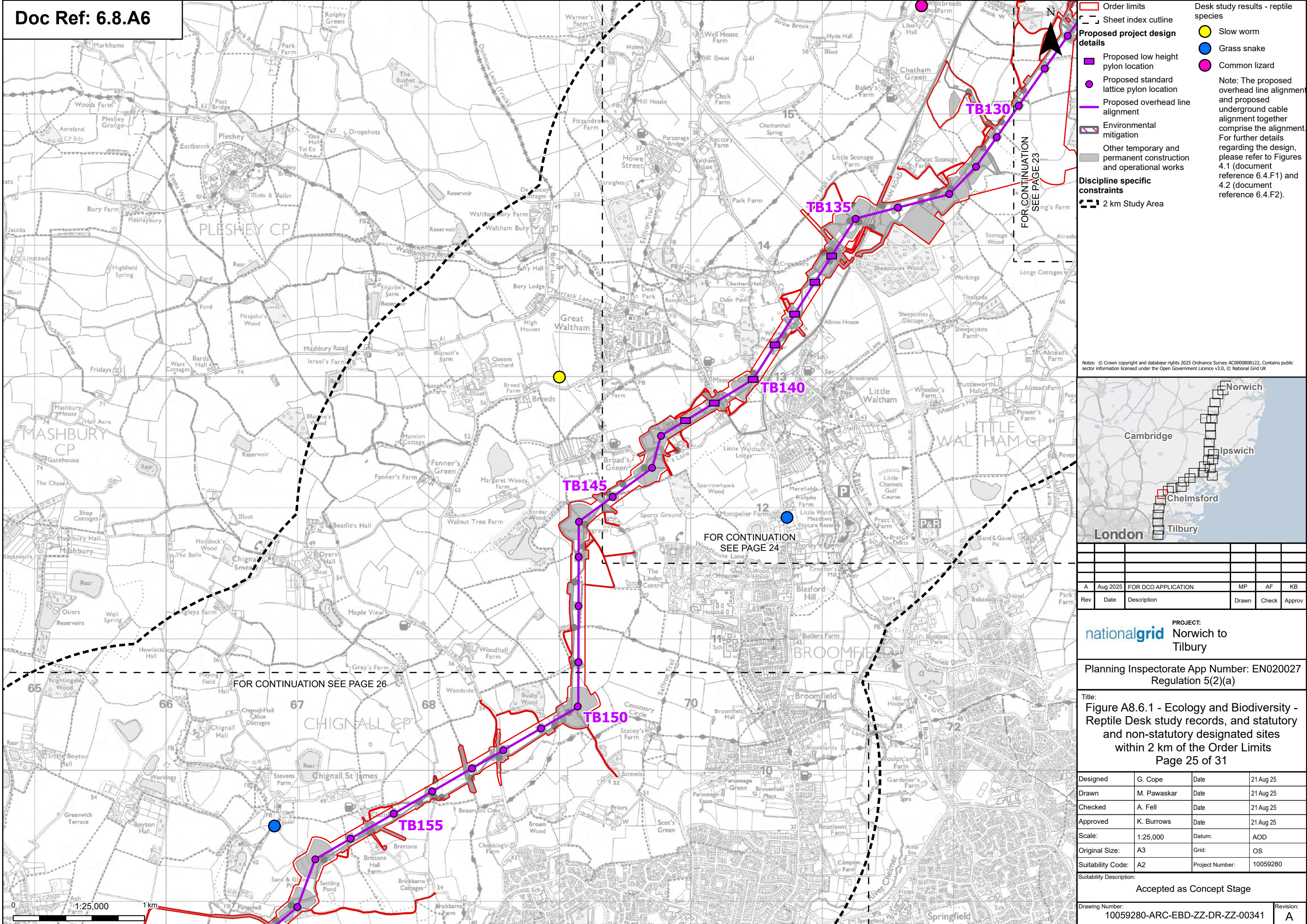
Designed	G. Cope	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
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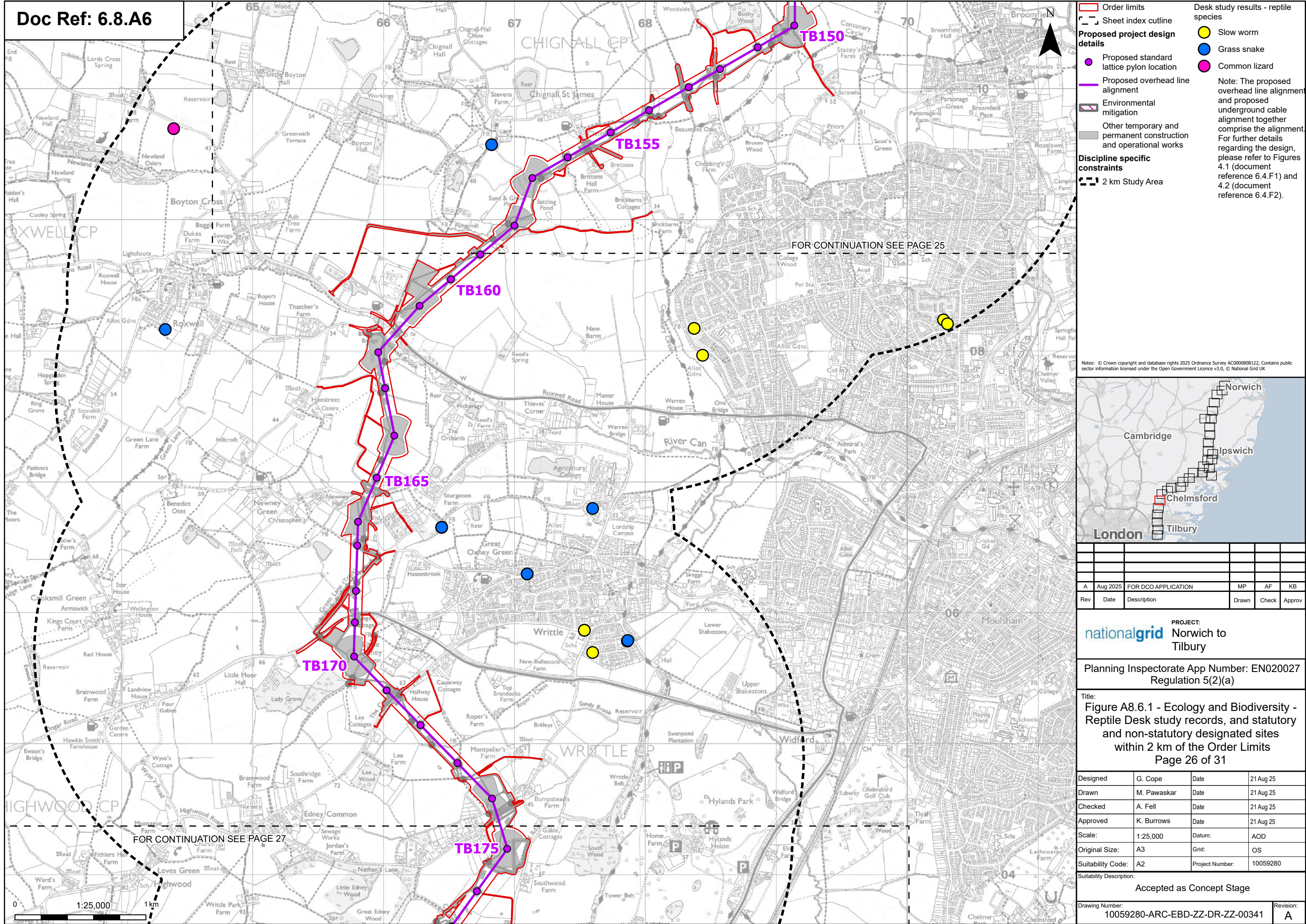
Accepted as Concept Stage

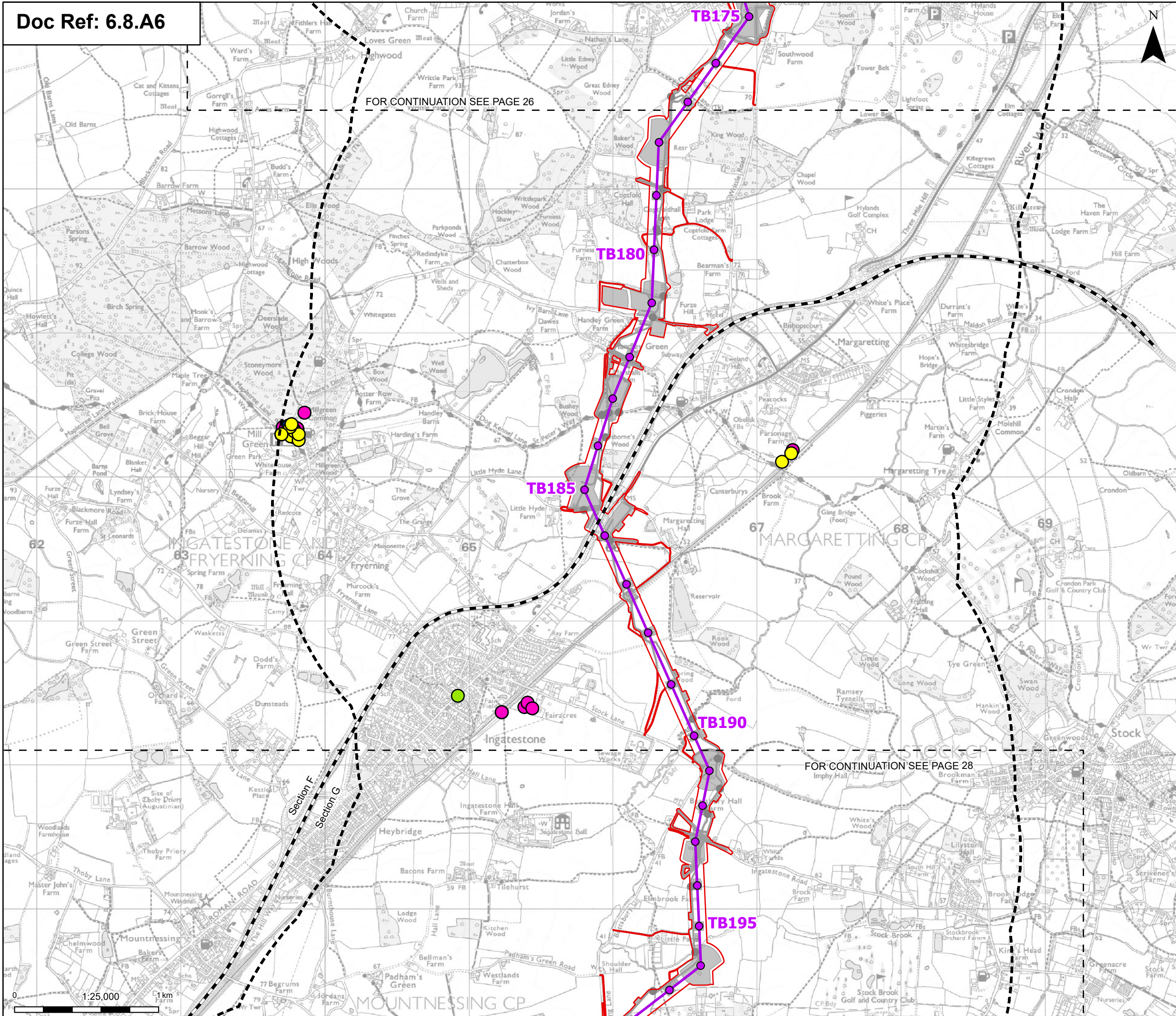
Drawing Number: 10059280-ARC-EBD-ZZ-DR-ZZ-00341	Revision: A
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FOR CONTINUATION SEE PAGE 26

FOR CONTINUATION SEE PAGE 28

- Order limits**

Sheet index cutline

Project section line

Proposed project design details

 - Proposed standard lattice pylon location
 - Proposed overhead line alignment
 - Environmental mitigation
 - Other temporary and permanent construction and operational works

Discipline specific constraints

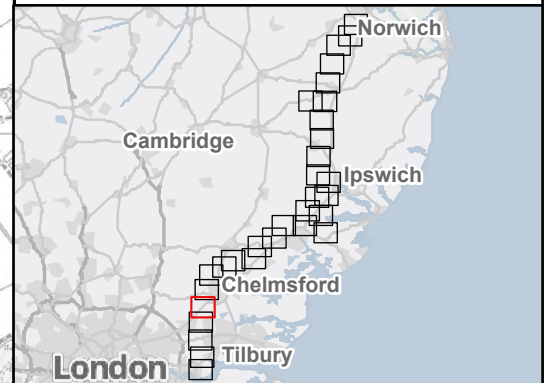
2 km Study Area

Desk study results - reptile species

 - Slow worm
 - Grass snake
 - Common lizard
 - Adder

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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Rev	Date	Description	Drawn	Check	Approv

PROJECT:
Norwich to
Tilbury

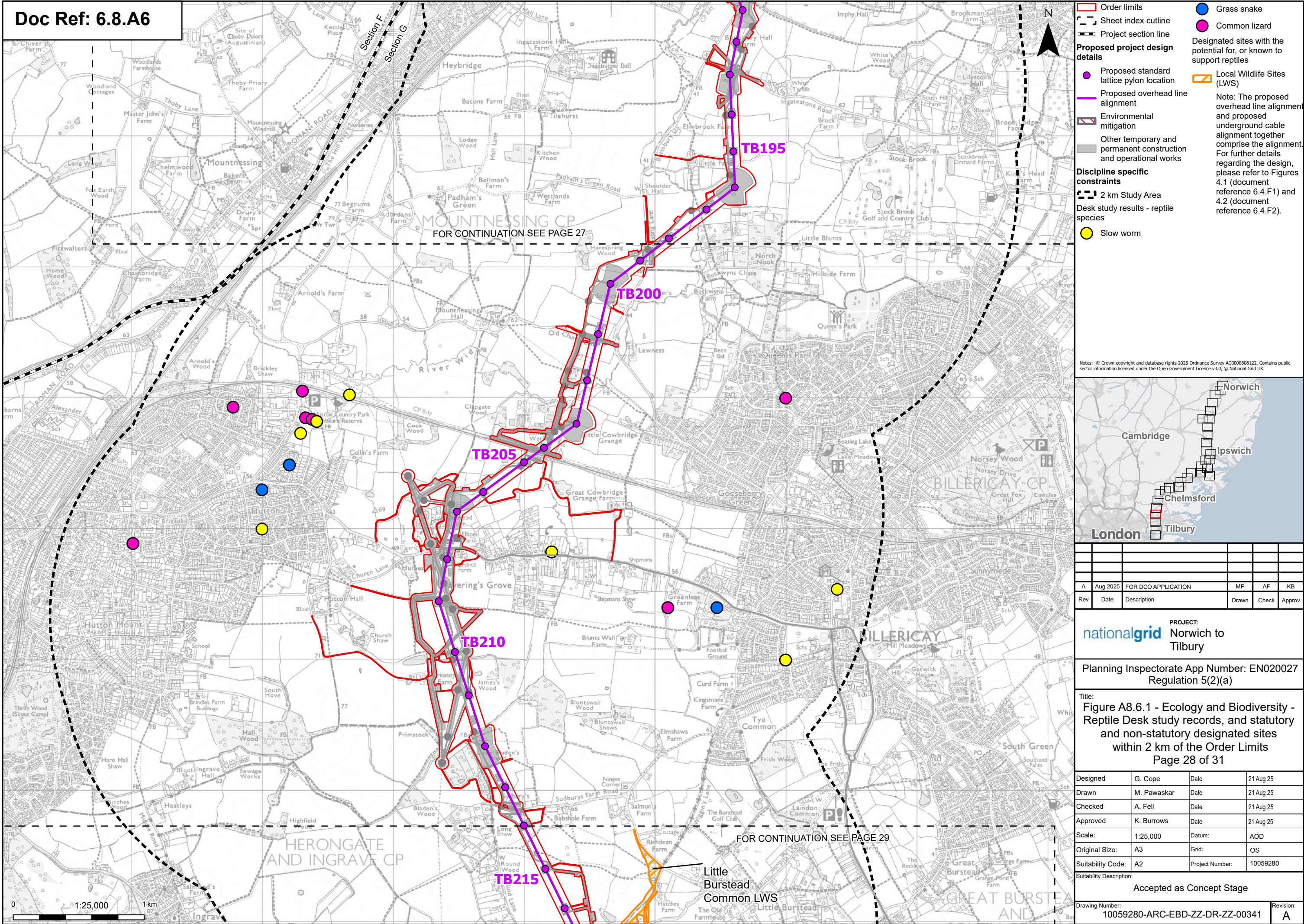
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Regulation 5(2)(a)

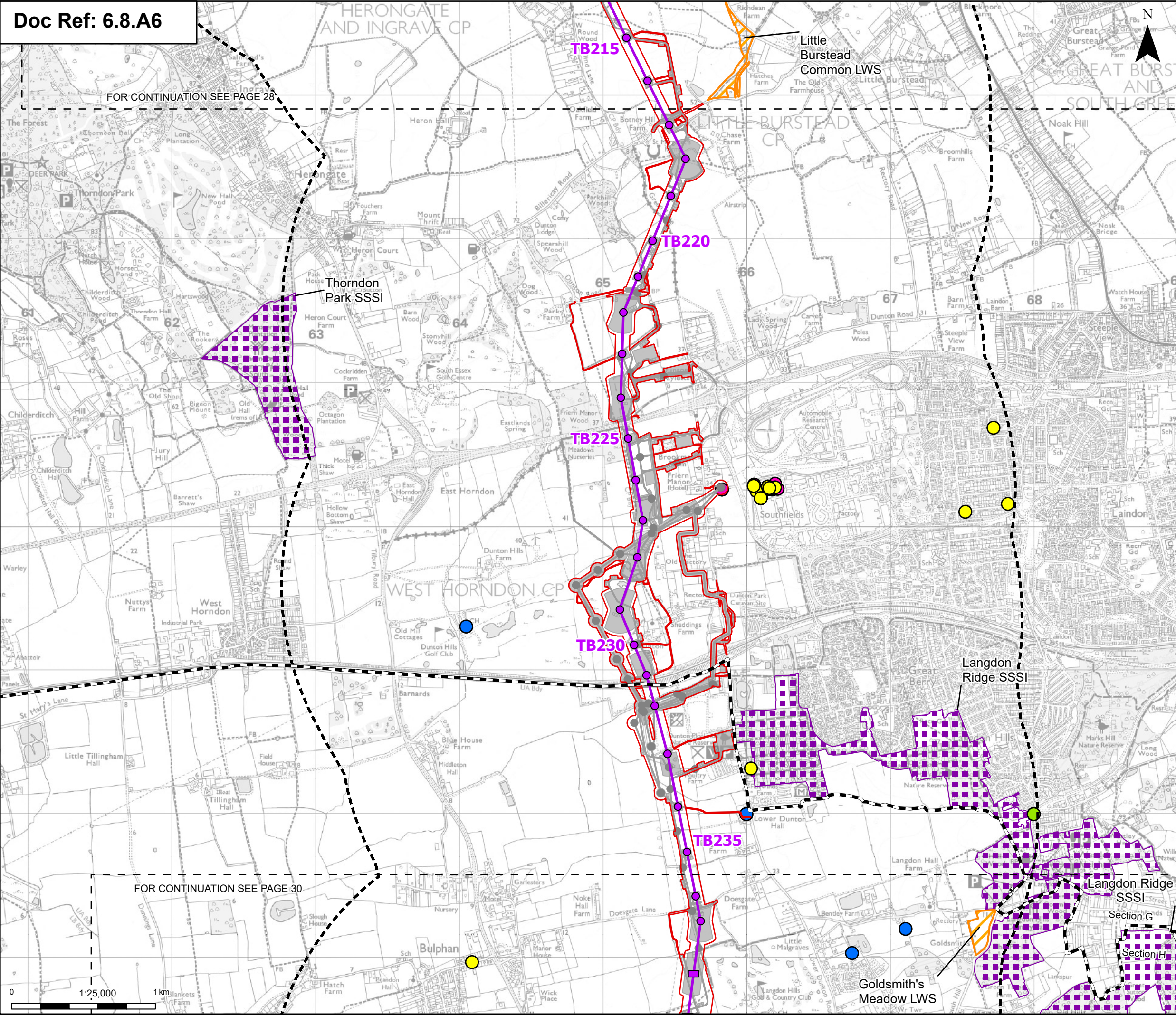
Title:
Figure A8.6.1 - Ecology and Biodiversity -
Reptile Desk study records, and statutory
and non-statutory designated sites
within 2 km of the Order Limits
Page 27 of 31

Designed	G. Cope	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Accepted as Concept Stage

Drawing Number: 10059280-ARC-EBD-ZZ-DR-ZZ-00341	Revision: A
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Order limits

Sheet index outline

Project section line

Proposed low height pylon location

Proposed standard lattice pylon location

Proposed overhead line alignment

Environmental mitigation

Other temporary and permanent construction and operational works

Grass snake

Common lizard

Adder

Designated sites with the potential for, or known to support reptiles

Local Wildlife Sites (LWS)

Sites of Special Scientific Interest (SSSI)

2 km Study Area

Desk study results - reptile species

Slow worm

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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PROJECT:

nationalgrid

Norwich to Tilbury

Planning Inspectorate App Number: EN020027

Regulation 5(2)(a)

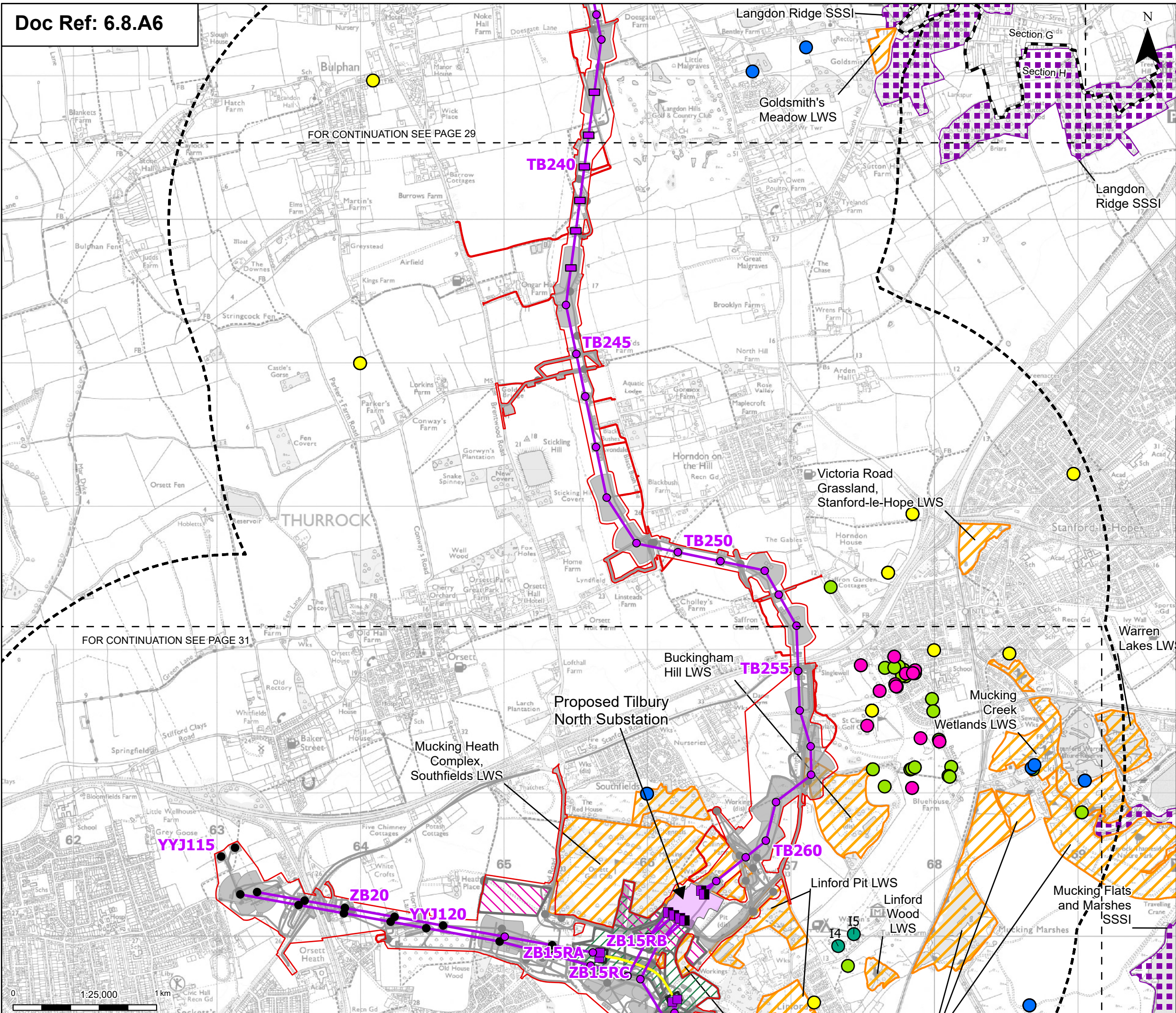
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Figure A8.6.1 - Ecology and Biodiversity - Reptile Desk study records, and statutory and non-statutory designated sites within 2 km of the Order Limits

Page 29 of 31

Designed	G. Cope	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280
Suitability Description:	Accepted as Concept Stage		
Drawing Number:	10059280-ARC-EBD-ZZ-DR-ZZ-00341		
Revision:	A		

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Order limits

Sheet index outline

Project section line

Proposed project design details

Proposed full line tension gantry

Proposed low duty gantry

Proposed low height pylon location

Existing pylon (modify)

Proposed standard lattice pylon location

Proposed overhead line alignment

Proposed underground cable alignment

Proposed Tilbury North Substation

Proposed cable sealing end compound (CSEC)

Environmental area

Environmental mitigation

Other temporary and permanent construction and operational works

Desk study results - reptile species

Slow worm

Grass snake

Common lizard

Adder

Reptile incidental sightings from non-target surveys

Designated sites with the potential for, or known to support reptiles

Local Wildlife Sites (LWS)

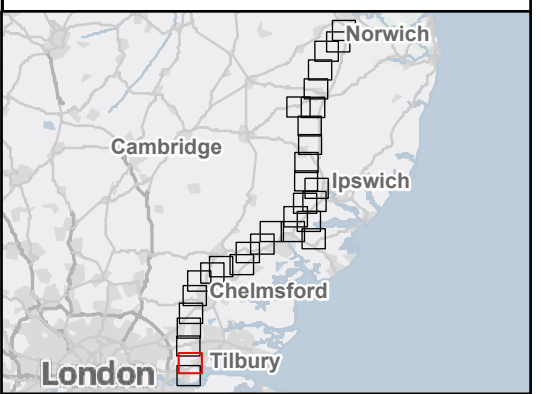
Sites of Special Scientific Interest (SSSI)

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

Discipline specific constraints

2 km Study Area

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PROJECT:

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Norwich to Tilbury

Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

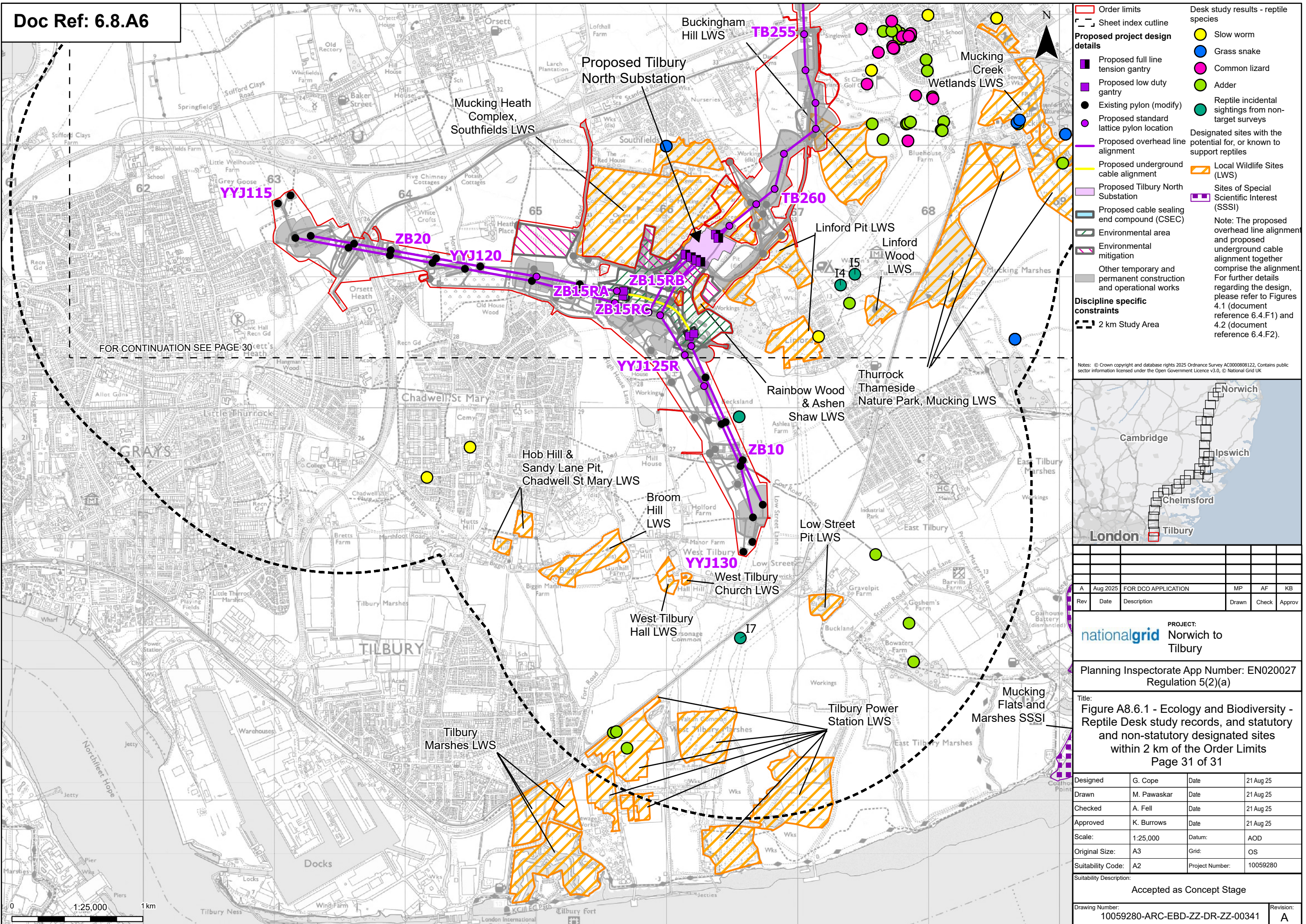
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Reptile Desk study records, and statutory
and non-statutory designated sites
within 2 km of the Order Limits
Page 30 of 31

Designed	G. Cope	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280
Suitability Description:			

Accepted as Concept Stage

Drawing Number:
10059280-ARC-EBD-ZZ-DR-ZZ-00341

Revision:
A



Order limits

Sheet index outline

Proposed project design details

Proposed full line tension gantry

Proposed low duty gantry

Existing pylon (modify)

Proposed standard lattice pylon location

Proposed overhead line alignment

Proposed underground cable alignment

Proposed cable sealing end compound (CSEC)

Environmental area

Environmental mitigation

Other temporary and permanent construction and operational works

Discipline specific constraints

2 km Study Area

Desk study results - reptile species

Slow worm

Grass snake

Common lizard

Adder

Reptile incidental sightings from non-target surveys

Designated sites with the potential for, or known to support reptiles

Local Wildlife Sites (LWS)

Sites of Special Scientific Interest (SSSI)

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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A	Aug 2025	FOR DCO APPLICATION	MP	AF	KB
Rev	Date	Description	Drawn	Check	Approv

PROJECT:

nationalgrid

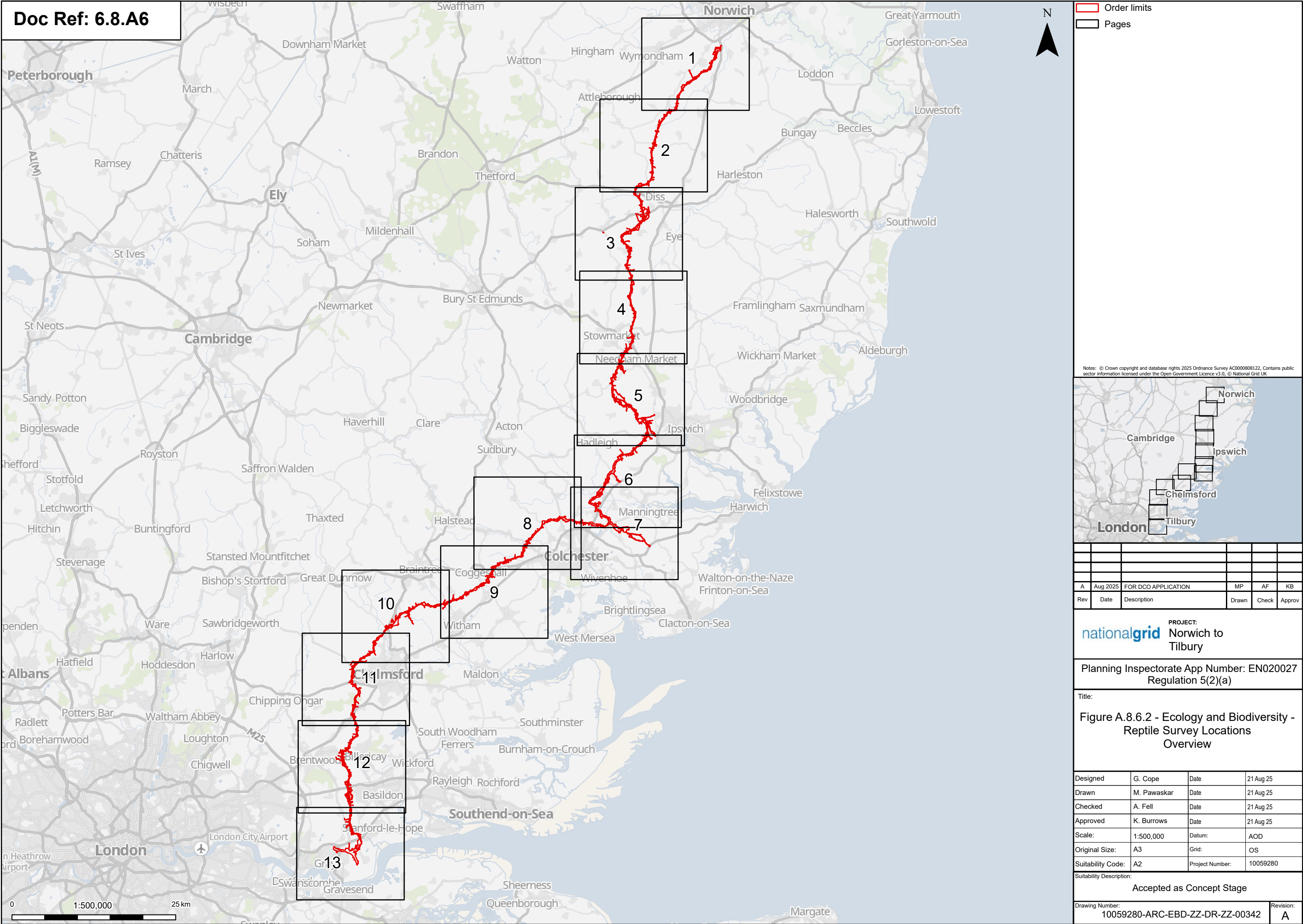
Norwich to Tilbury

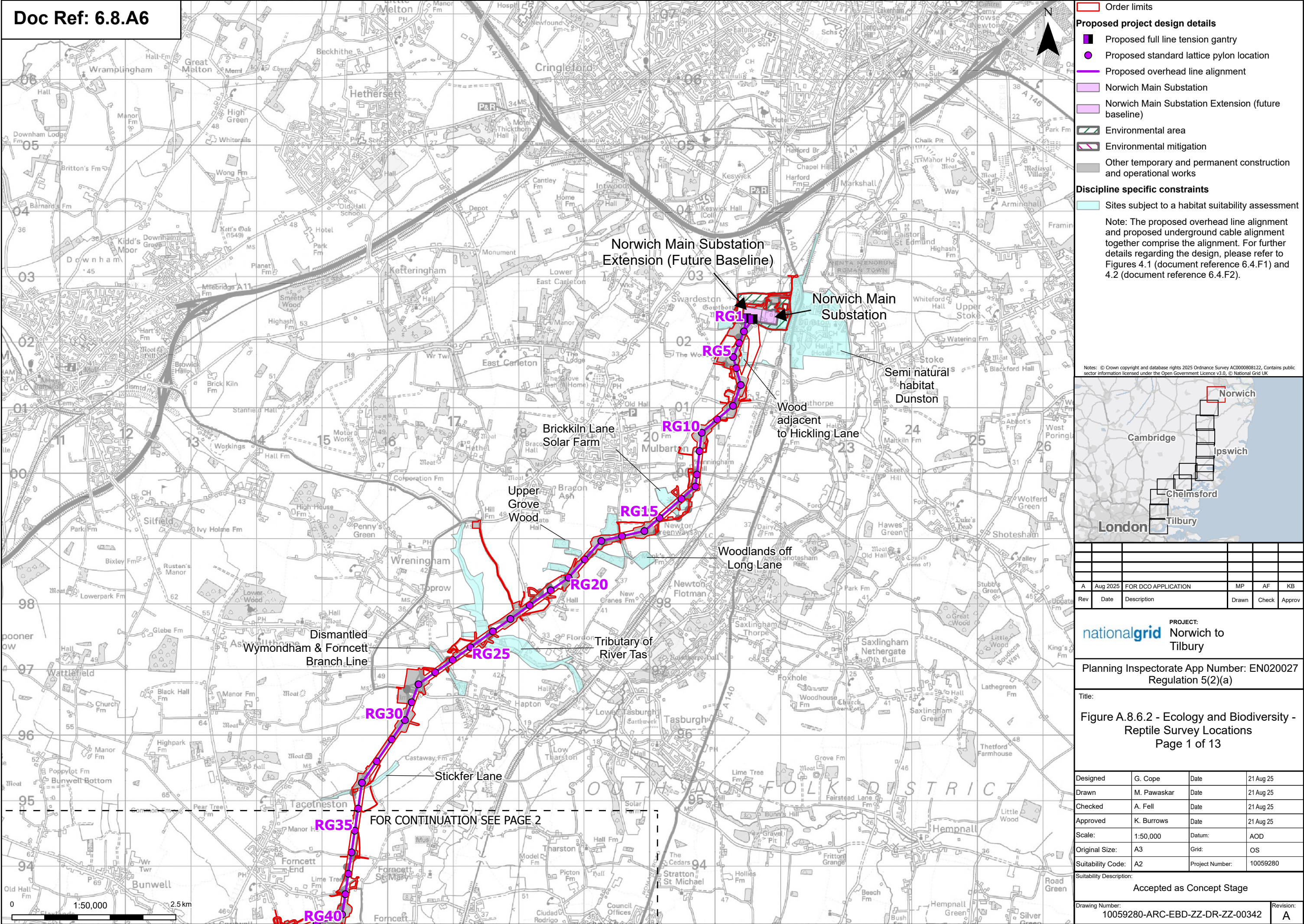
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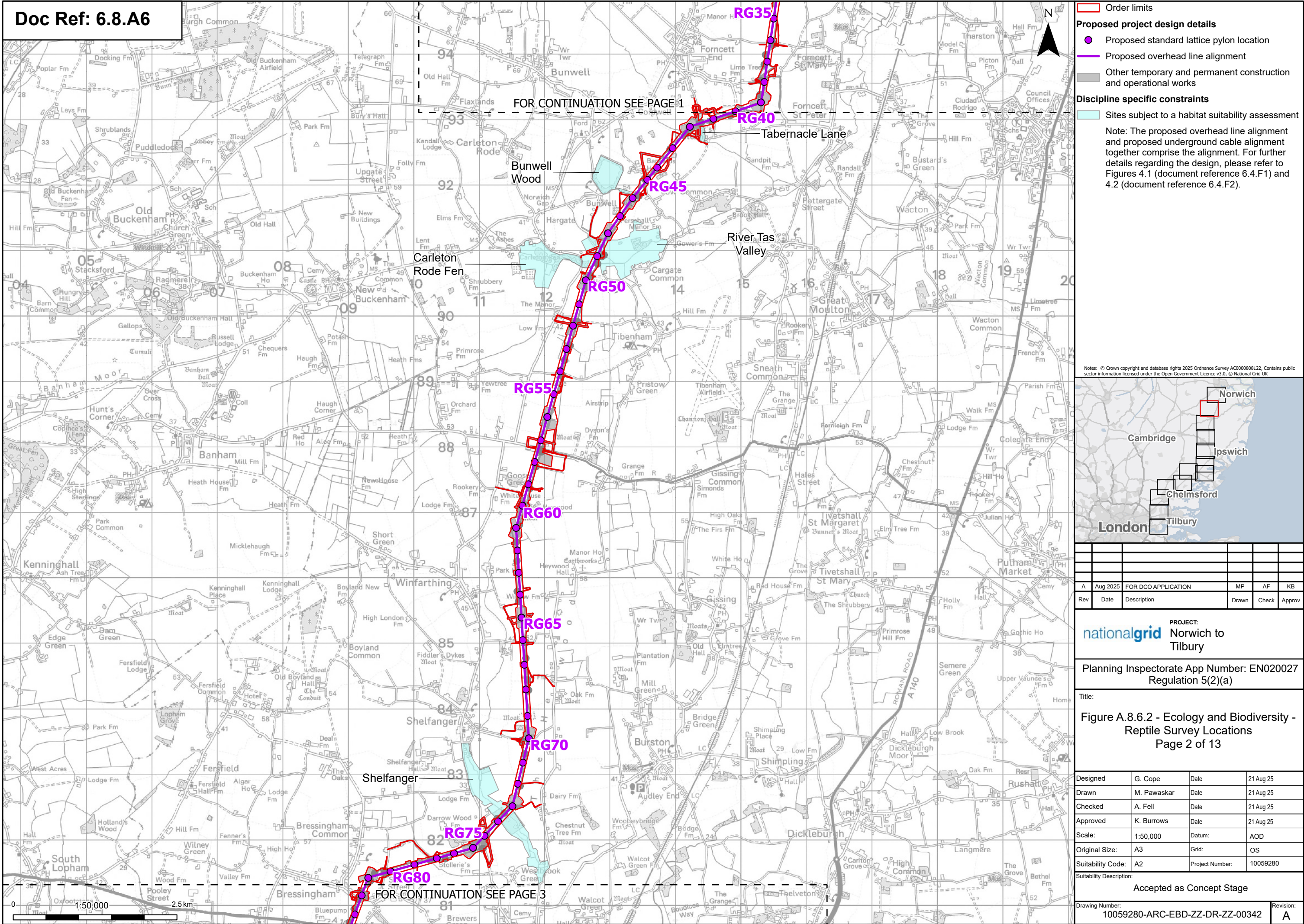
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Page 31 of 31

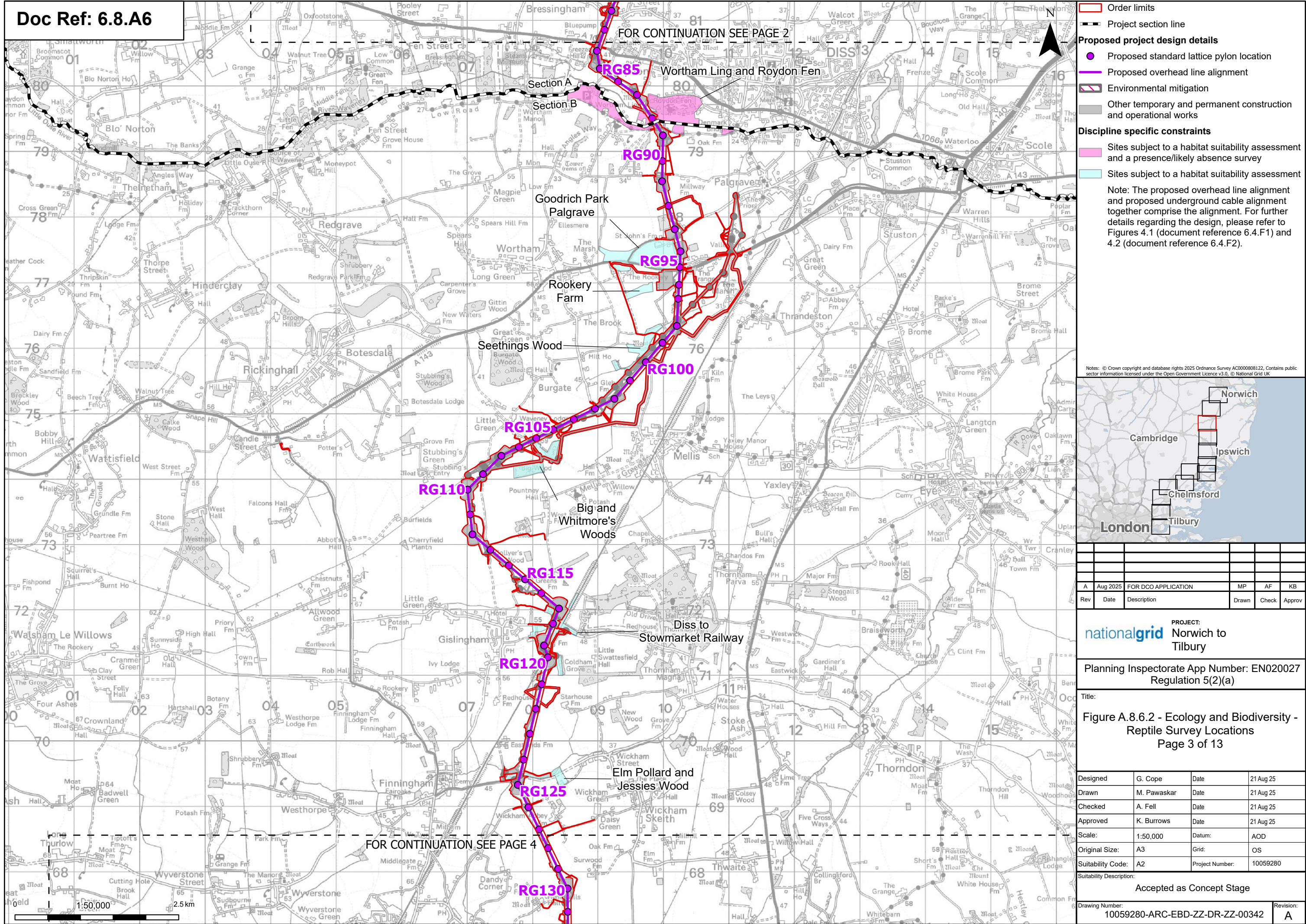
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Drawn	M. Pawaskar	Date	21 Aug 25
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Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280
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Accepted as Concept Stage			
Drawing Number: 10059280-ARC-EBD-ZZ-DR-ZZ-00341			Revision: A

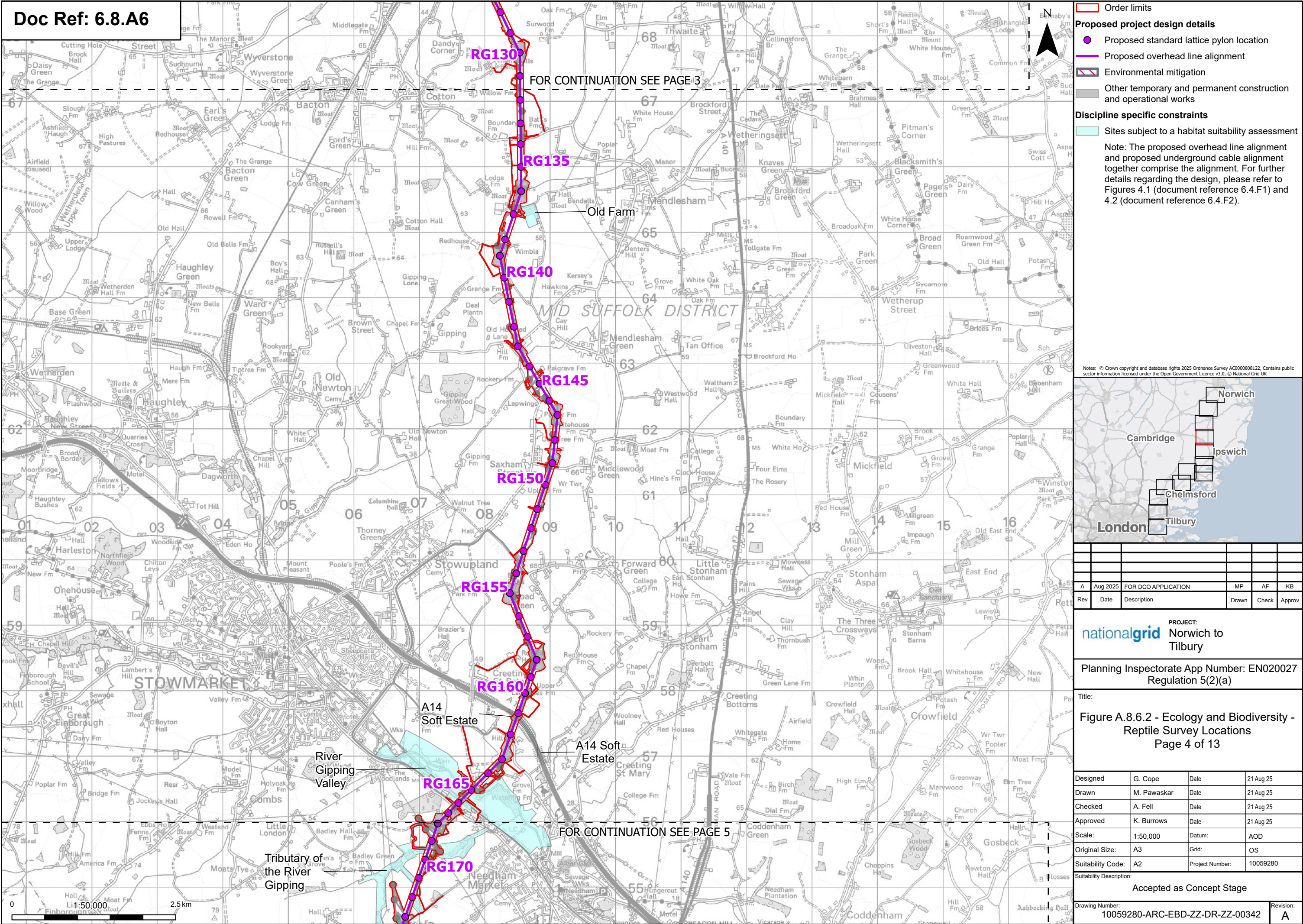
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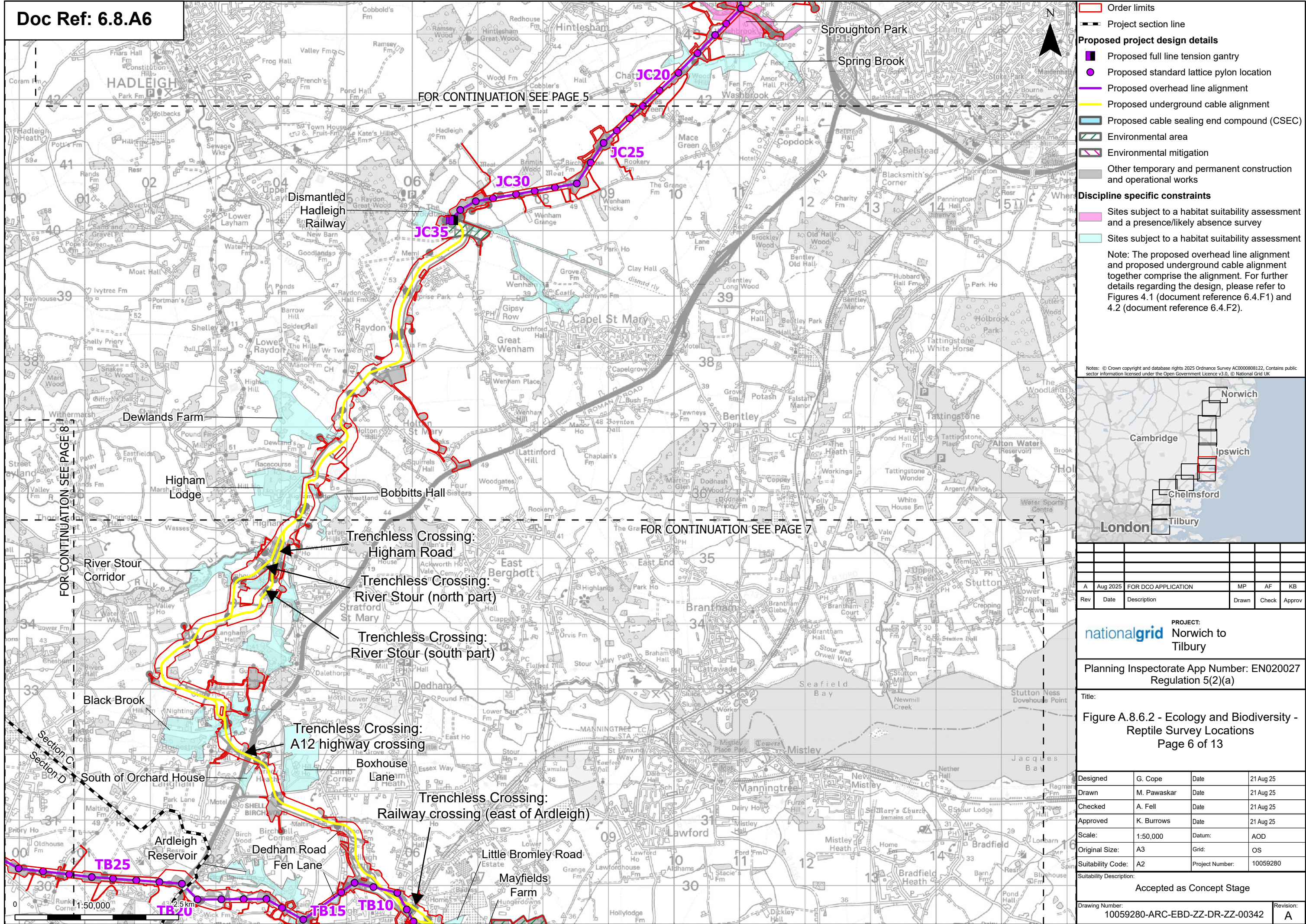


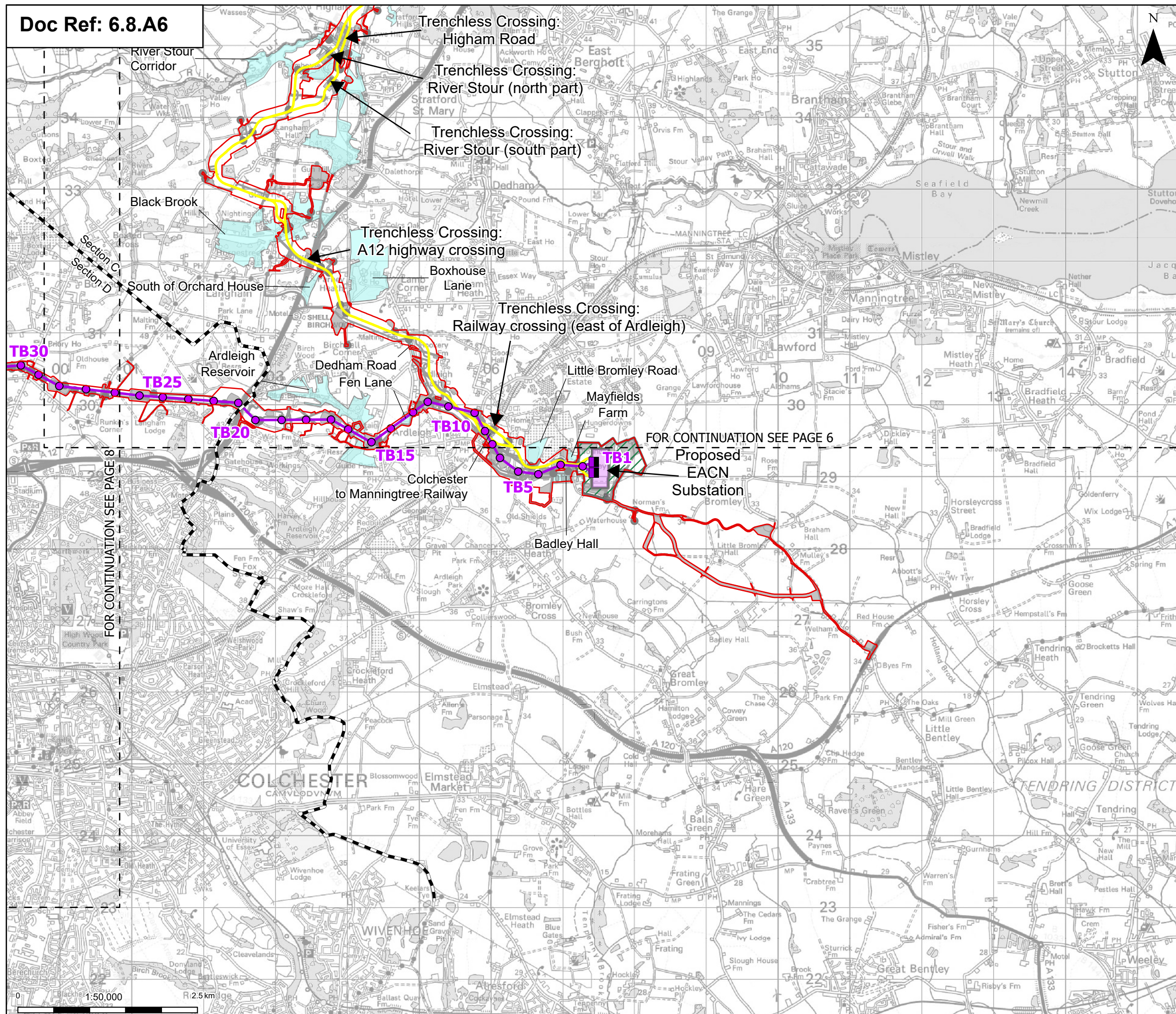












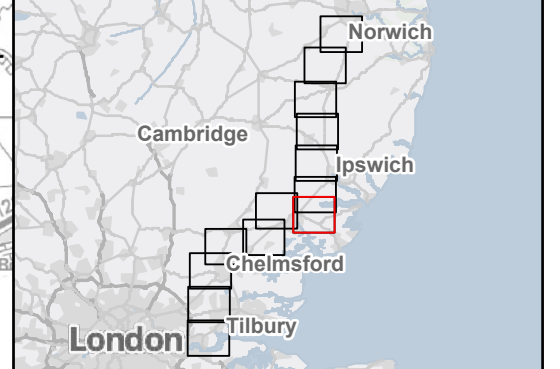
-  Order limits
-  Project section line
- Proposed project design details**
 -  Proposed full line tension gantry
 -  Proposed standard lattice pylon location
 -  Proposed overhead line alignment
 -  Proposed underground cable alignment
 -  Proposed DNO Substation
 -  Proposed East Anglia Connection Node Substation (EACN)
 -  Environmental area
 -  Other temporary and permanent construction and operational works

Discipline specific constraints

- Sites subject to a habitat suitability assessment

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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Rev	Date	Description	Drawn	Check	Approv

PROJECT:
Norwich to
Tilbury

Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

Title:

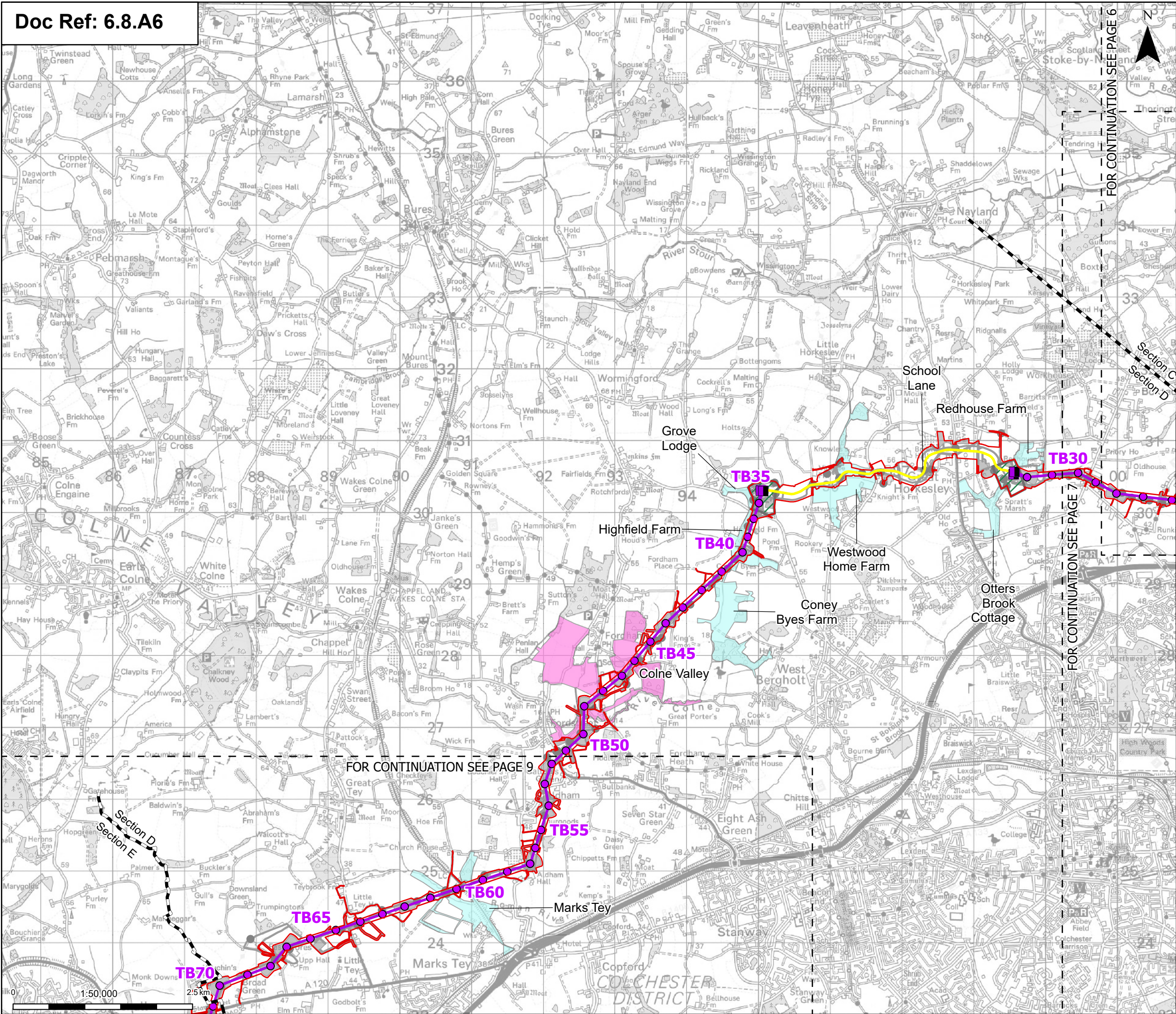
Figure A.8.6.2 - Ecology and Biodiversity -
Reptile Survey Locations

Page 7 of 13

Designed	G. Cope	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:50,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Accepted as Concept Stage

Drawing Number:	Revision:
10059280-ARC-EBD-ZZ-DR-ZZ-00342	A

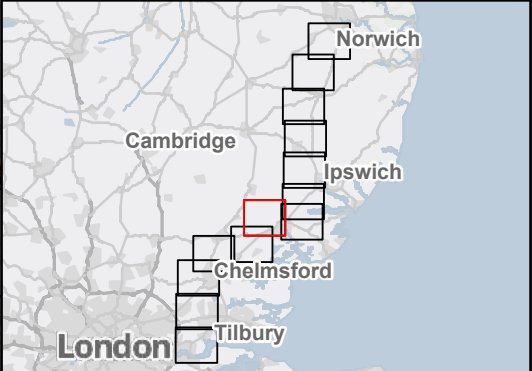


- Order limits**
- Project section line
- Proposed project design details**
- Proposed full line tension gantry
 - Proposed standard lattice pylon location
 - Proposed overhead line alignment
 - Proposed underground cable alignment
 - Proposed cable sealing end compound (CSEC)
 - Environmental area
 - Environmental mitigation
 - Other temporary and permanent construction and operational works

- Discipline specific constraints**
- Sites subject to a habitat suitability assessment and a presence/likely absence survey
 - Sites subject to a habitat suitability assessment

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	MP	AF	KB

PROJECT:
nationalgrid Norwich to Tilbury

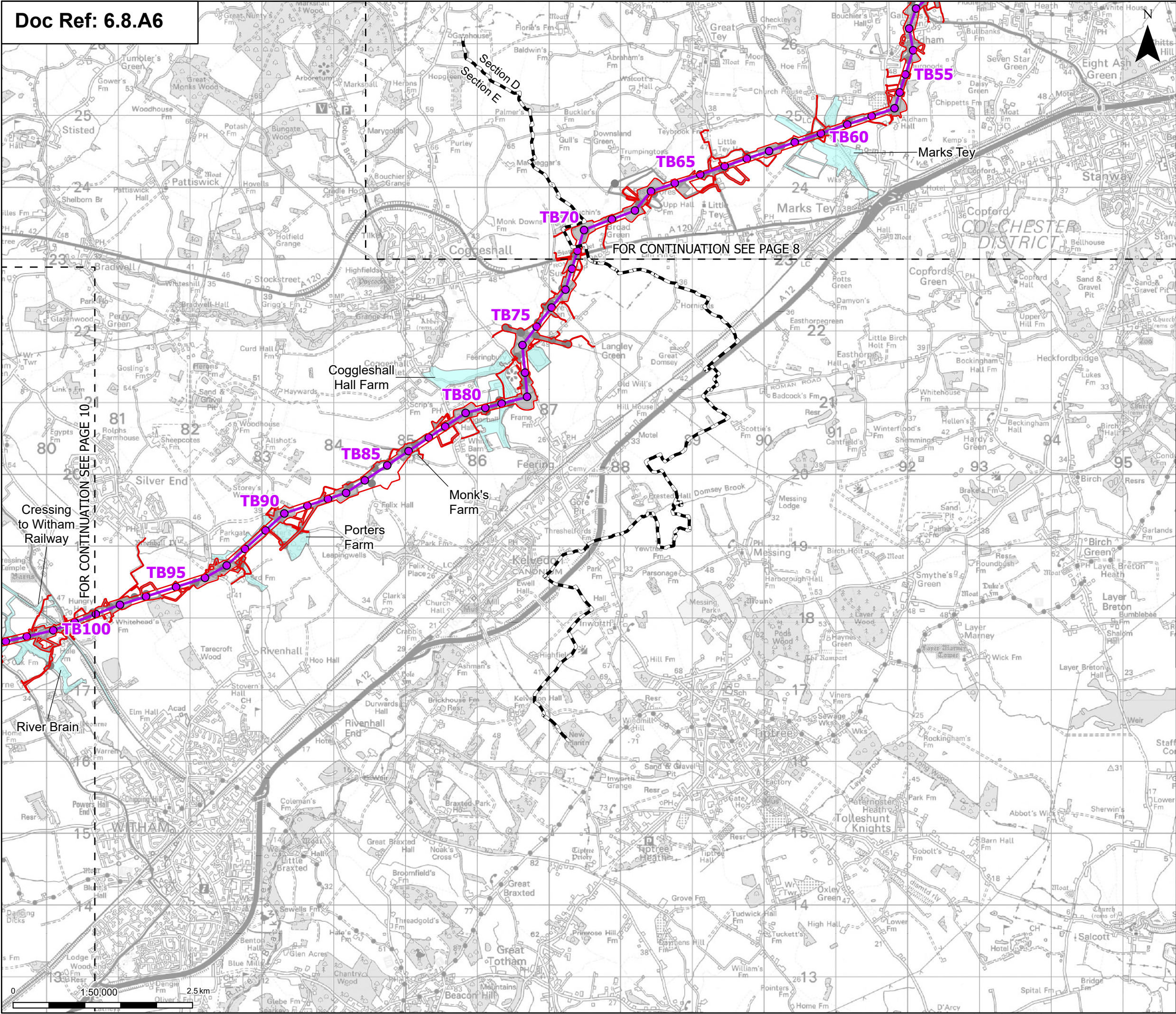
Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

Title:
Figure A.8.6.2 - Ecology and Biodiversity -
Reptile Survey Locations
Page 8 of 13

Designed	G. Cope	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:50,000	Datum:	AOD
Original Size:	A3	Grid:	OS
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Revision:
A



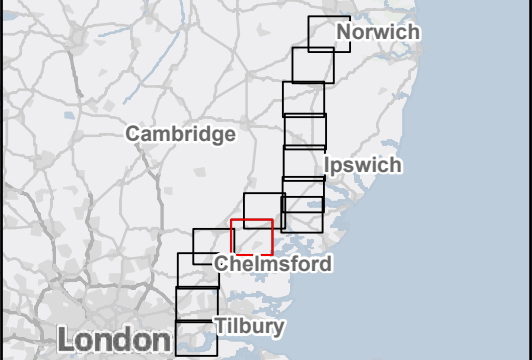
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- Project section line**
- Project section line
- Proposed project design details**
- Proposed standard lattice pylon location
 - Proposed overhead line alignment
 - Environmental mitigation
 - Other temporary and permanent construction and operational works

Discipline specific constraints

Sites subject to a habitat suitability assessment

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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Rev	Date	Description	Drawn	Check	Approv

PROJECT:
nationalgrid Norwich to Tilbury

Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

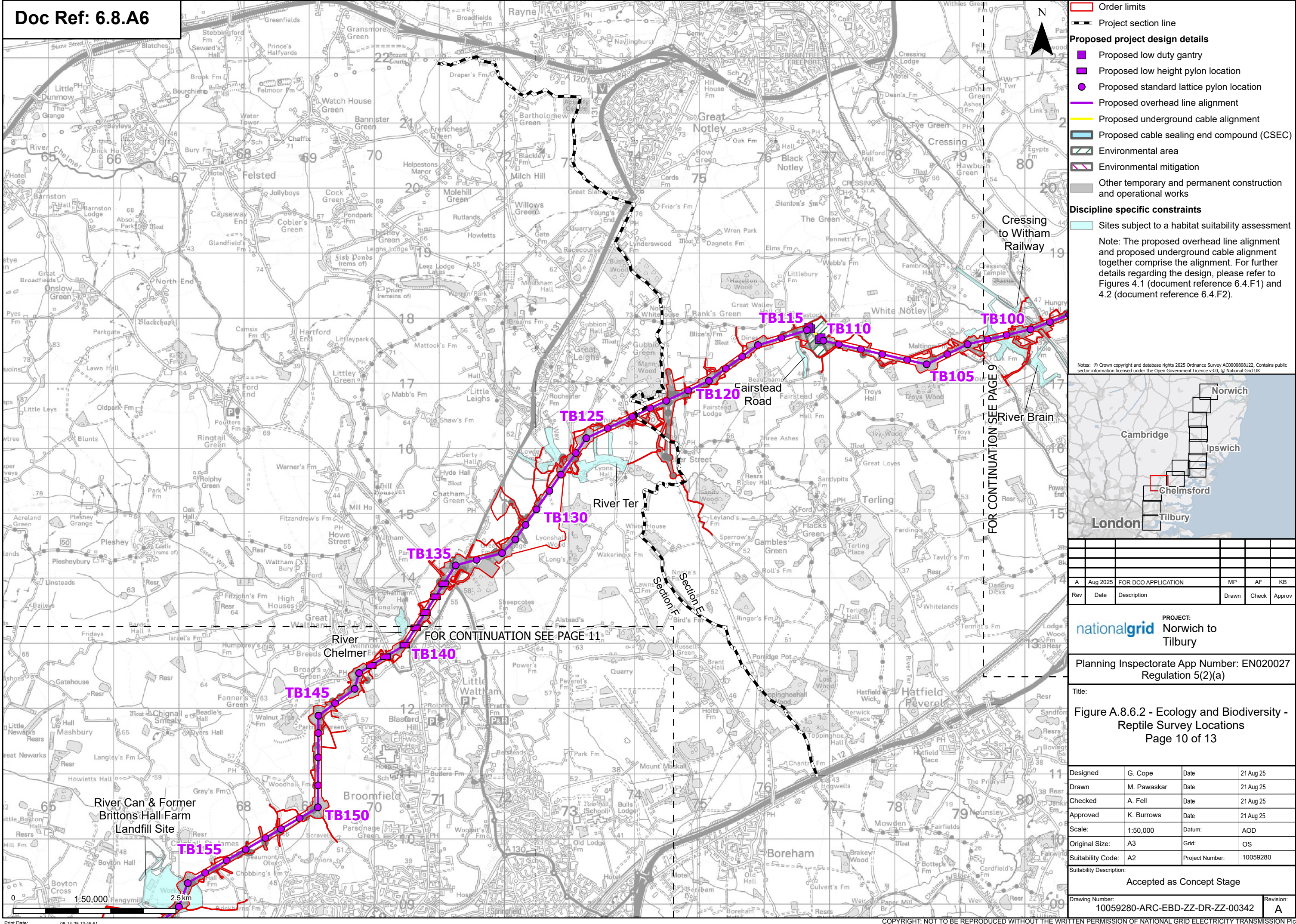
Title:
Figure A.8.6.2 - Ecology and Biodiversity -
Reptile Survey Locations
Page 9 of 13

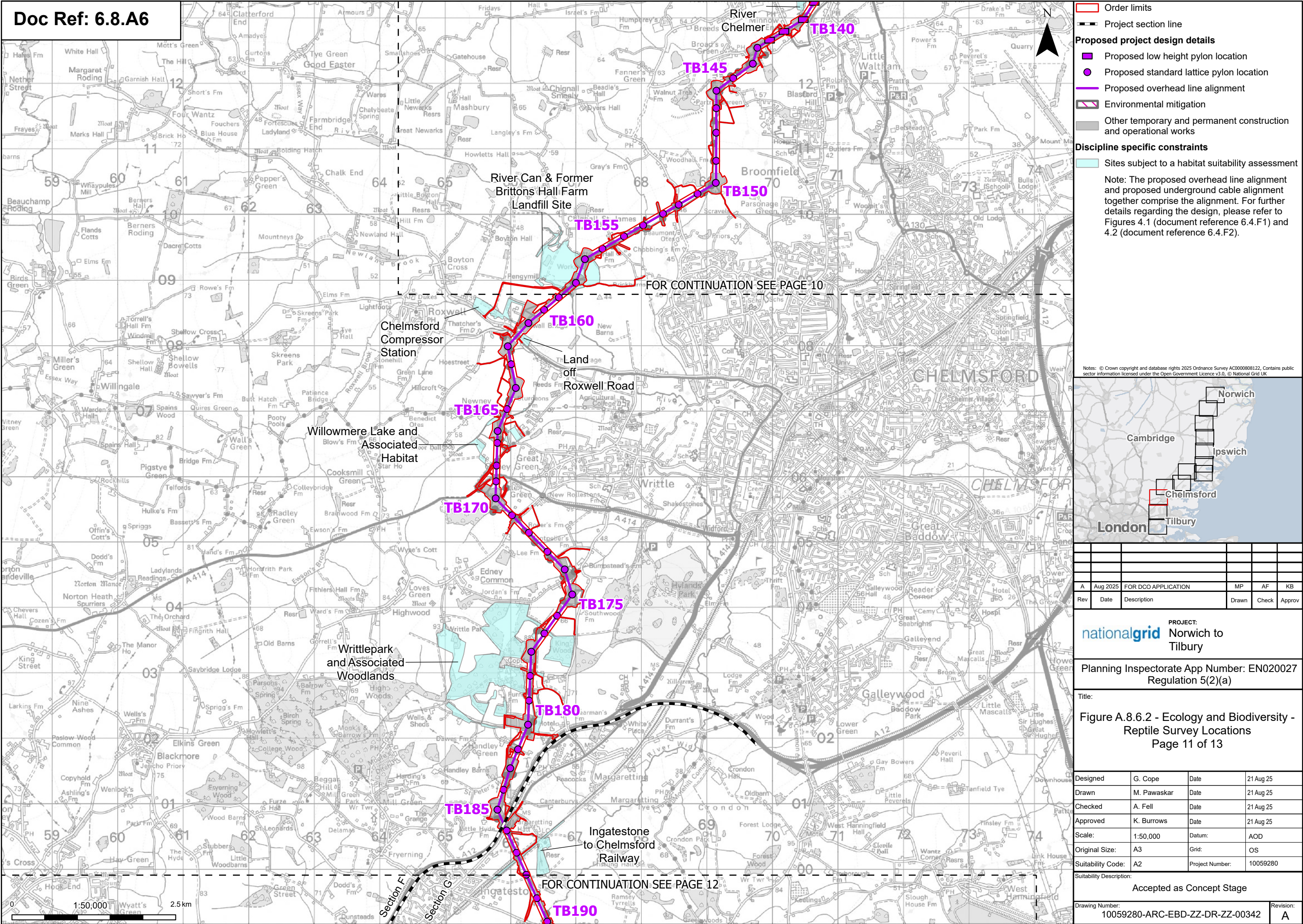
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Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
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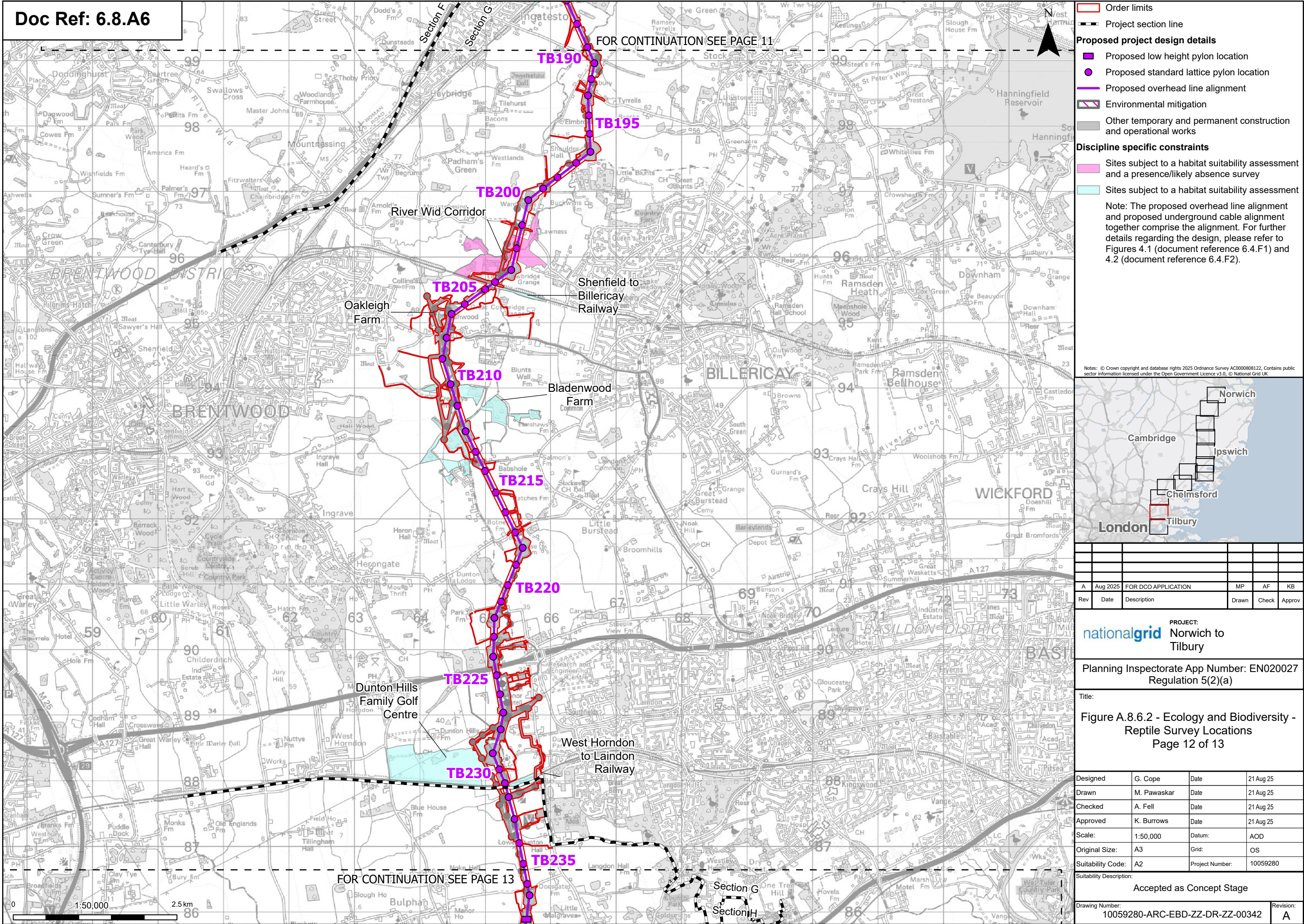
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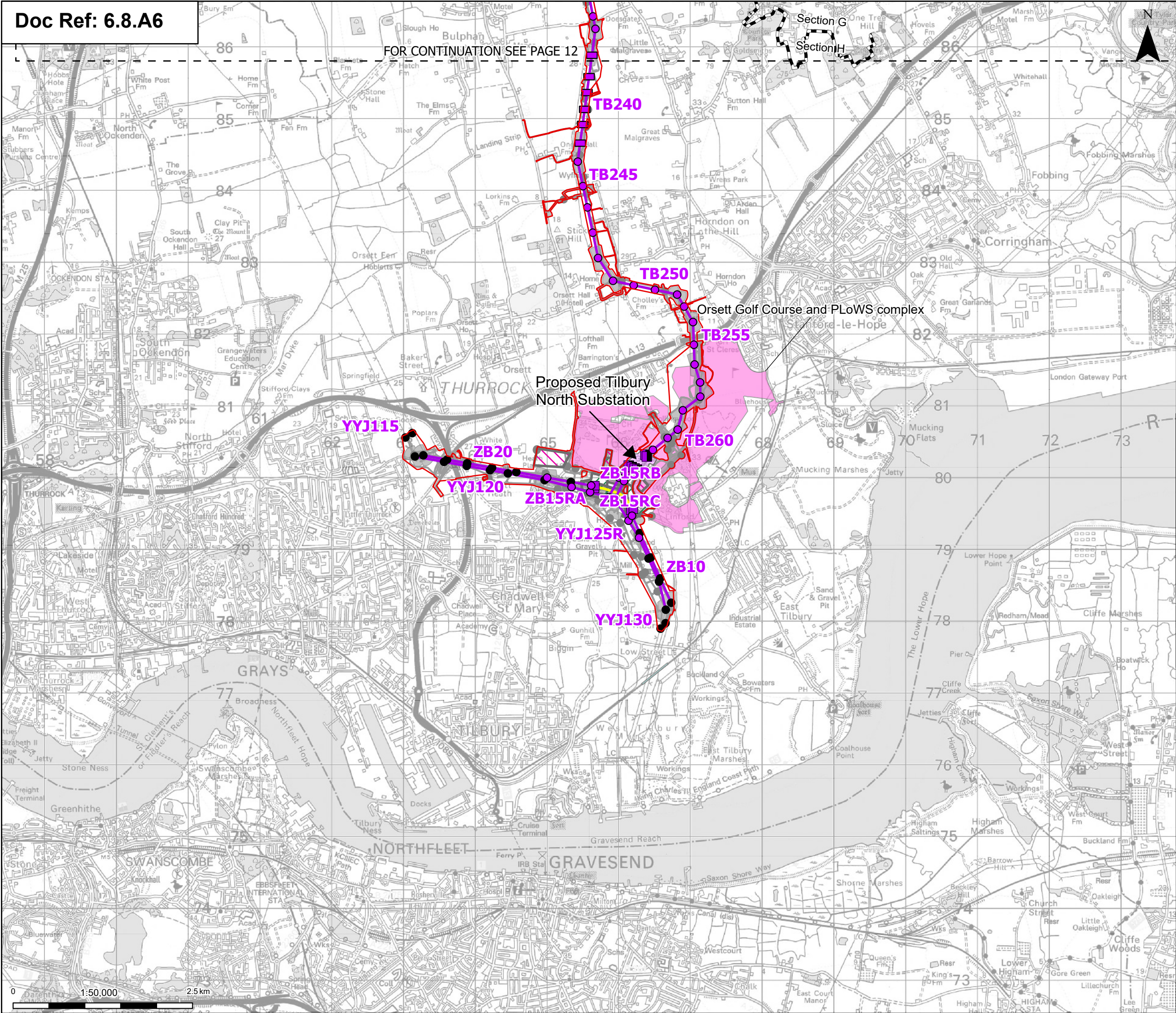
Revision:
A







FOR CONTINUATION SEE PAGE 12



Order limits

Project section line

Proposed project design details

Proposed full line tension gantry

Proposed low duty gantry

Proposed low height pylon location

Existing pylon (modify)

Proposed standard lattice pylon location

Proposed overhead line alignment

Proposed underground cable alignment

Proposed Tilbury North Substation

Proposed cable sealing end compound (CSEC)

Environmental area

Environmental mitigation

Other temporary and permanent construction and operational works

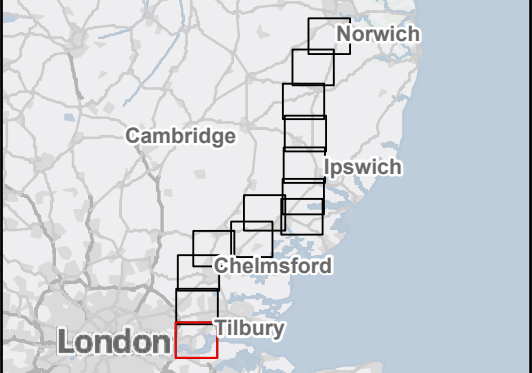
Discipline specific constraints

Sites subject to a habitat suitability assessment and a presence/likely absence survey

Sites subject to a habitat suitability assessment

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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PROJECT:
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Tilbury

Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

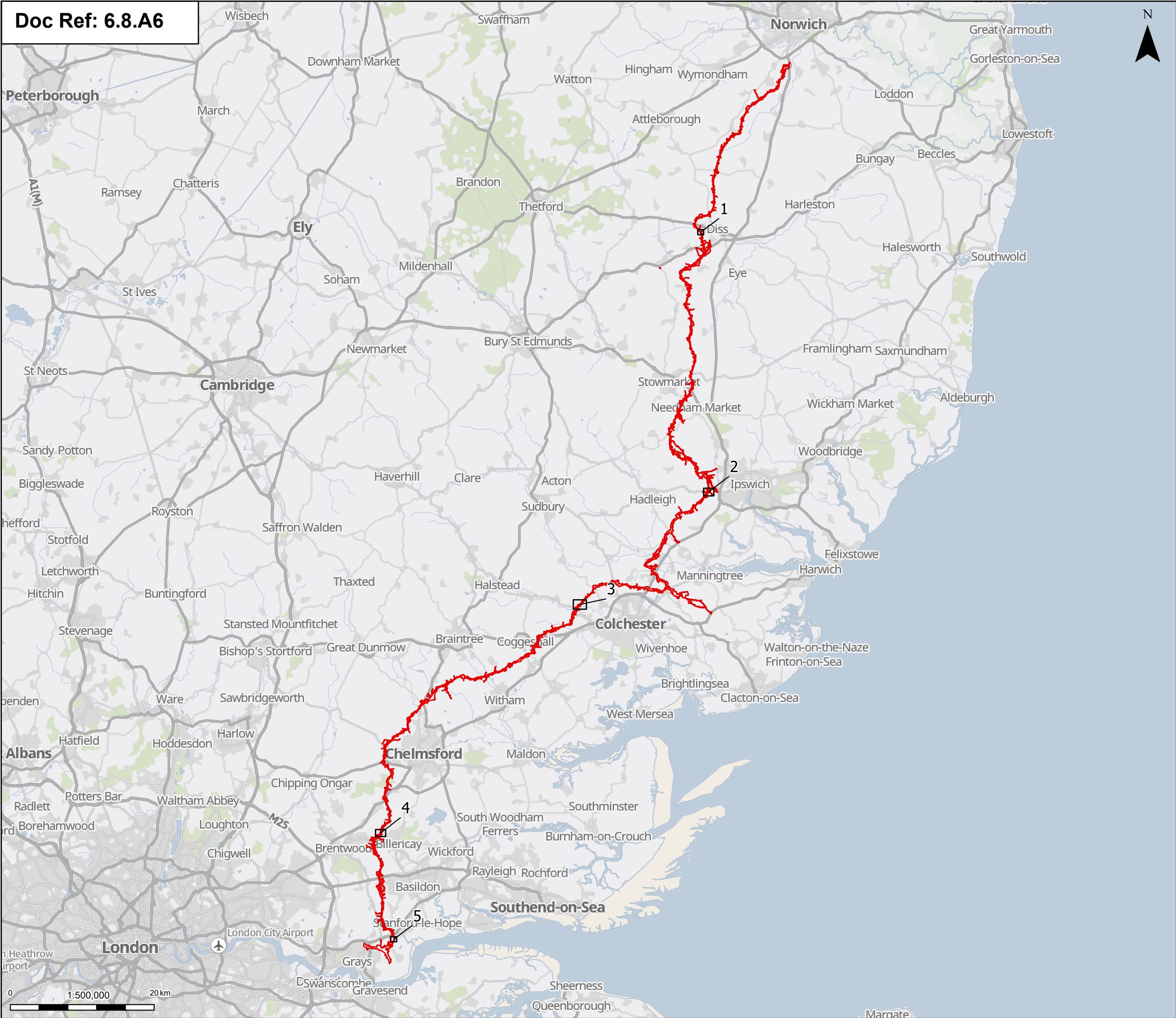
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Figure A.8.6.2 - Ecology and Biodiversity -
Reptile Survey Locations
Page 13 of 13

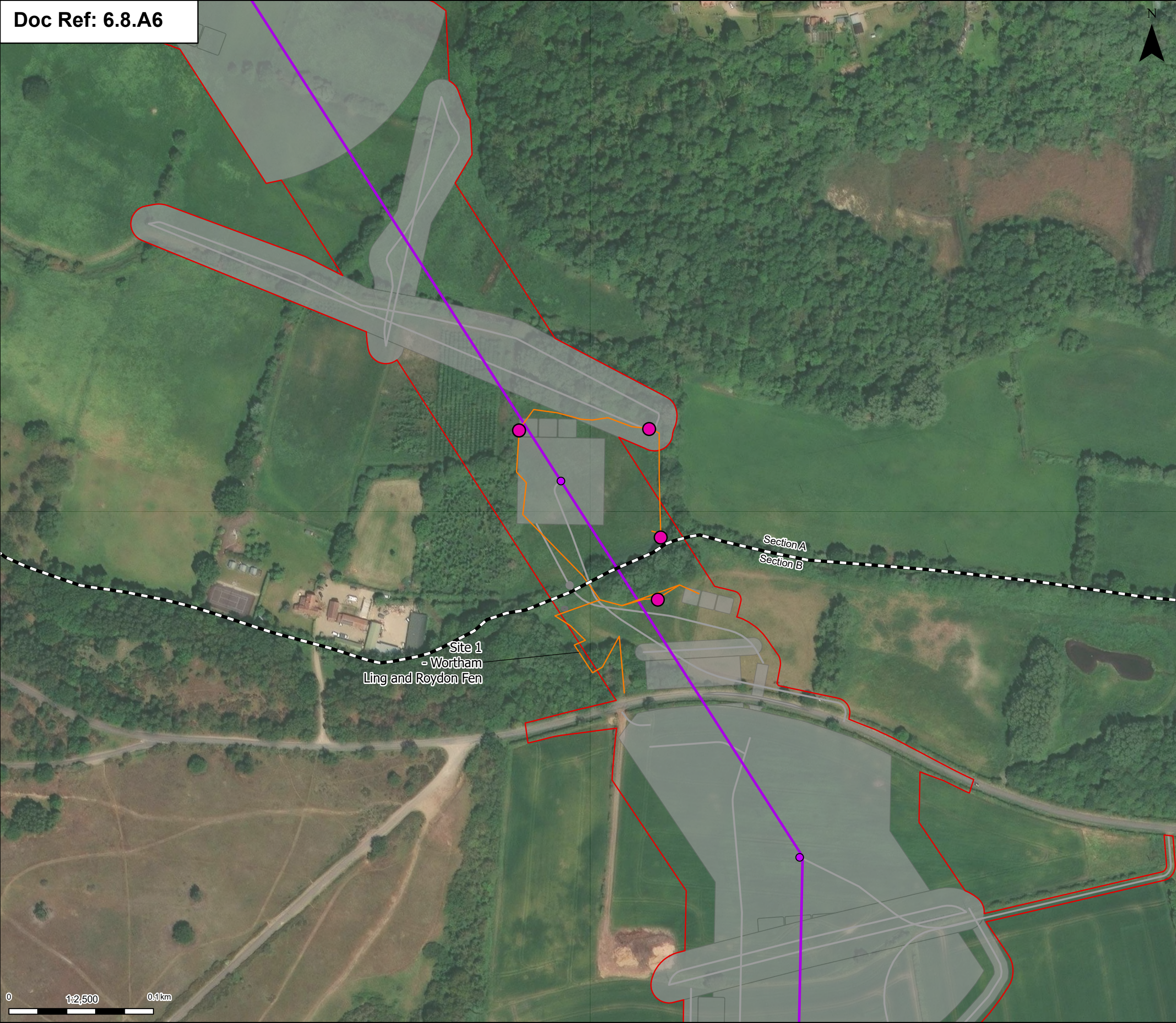
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Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:50,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280
Suitability Description:			

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Order limits

Project section line

●

Proposed standard lattice pylon location

Proposed overhead line alignment

Environmental mitigation

Other temporary and permanent construction and operational works

Discipline specific constraints

Raw reptile data - refugia & incidental

Species

●

Common lizard

Reptile survey transects

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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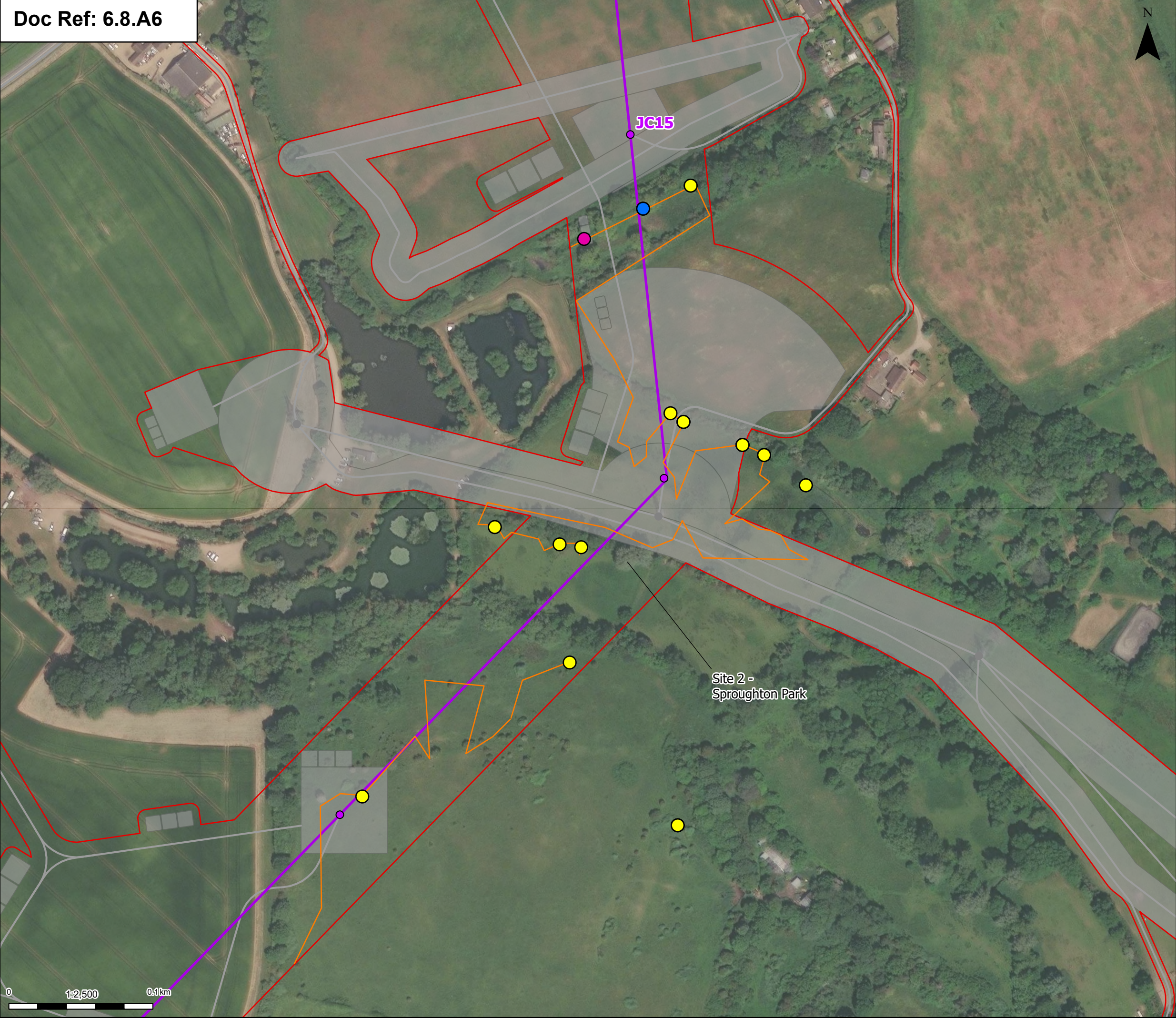
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Figure A8.6.3 - Ecology and Biodiversity -
Reptile Survey Results
Page 1 of 5

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Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:2,500	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	S2	Project Number:	10059280

Suitability Description:
Suitable for Information

Drawing Number: 10059280-ARC-EBD-ZZ-DR-ZZ-00343	Revision: A
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Order limits

Proposed pylon position

Proposed standard lattice pylon location

Proposed overhead line alignment

Other temporary and permanent construction and operational works

Discipline specific constraints

Raw reptile data - refugia & incidental

Species

Common lizard

Grass snake

Slow worm

Reptile survey transects

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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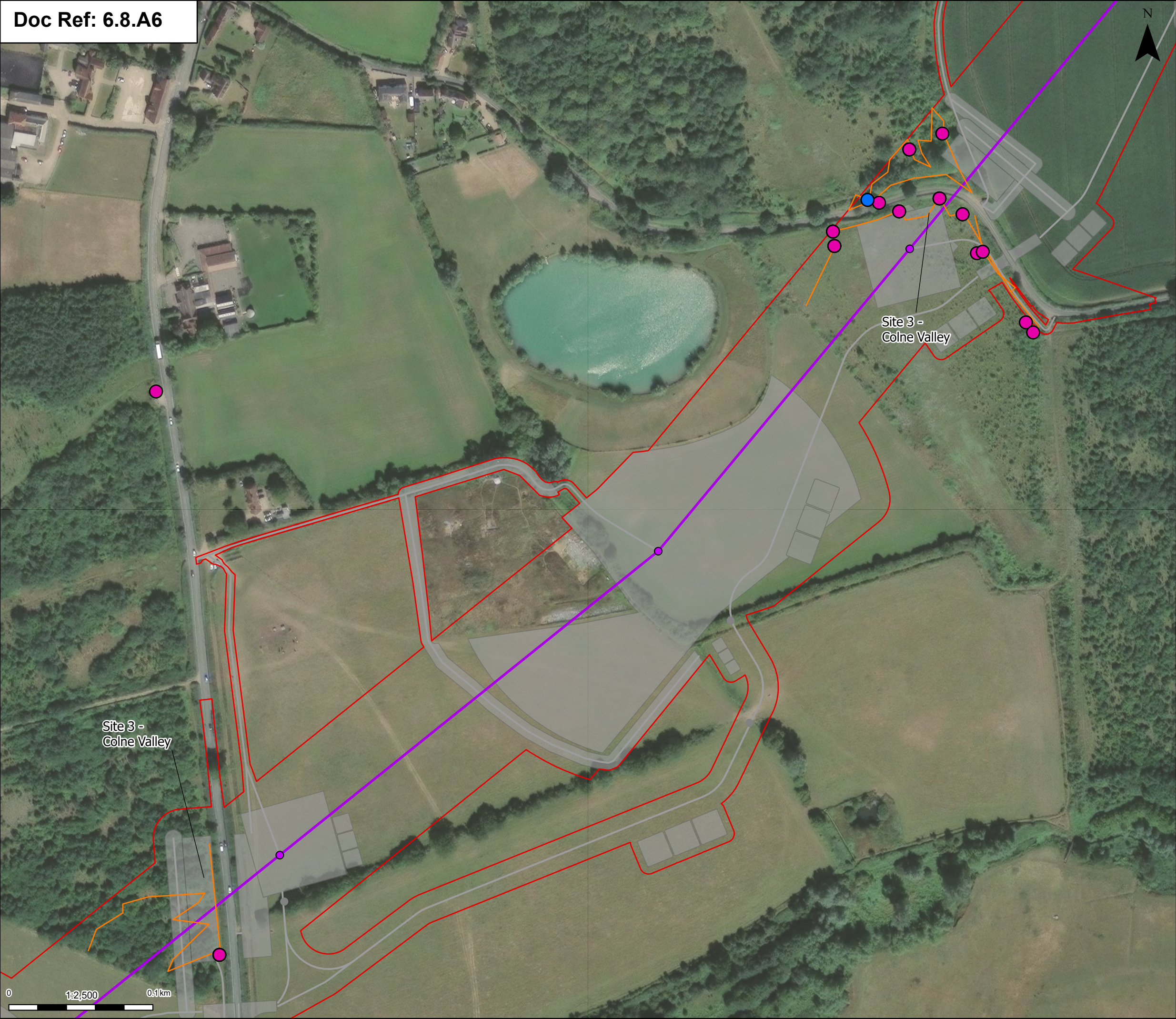
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Reptile Survey Results
Page 2 of 5

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Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
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Suitability Code:	S2	Project Number:	10059280

Suitability Description:

Suitable for Information

Drawing Number: 10059280-ARC-EBD-ZZ-DR-ZZ-00343	Revision: A
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Order limits

Proposed pylon position

Proposed standard lattice pylon location

Proposed overhead line alignment

Other temporary and permanent construction and operational works

Discipline specific constraints

Raw reptile data - refugia & incidental

Species

Common lizard

Grass snake

Reptile survey transects

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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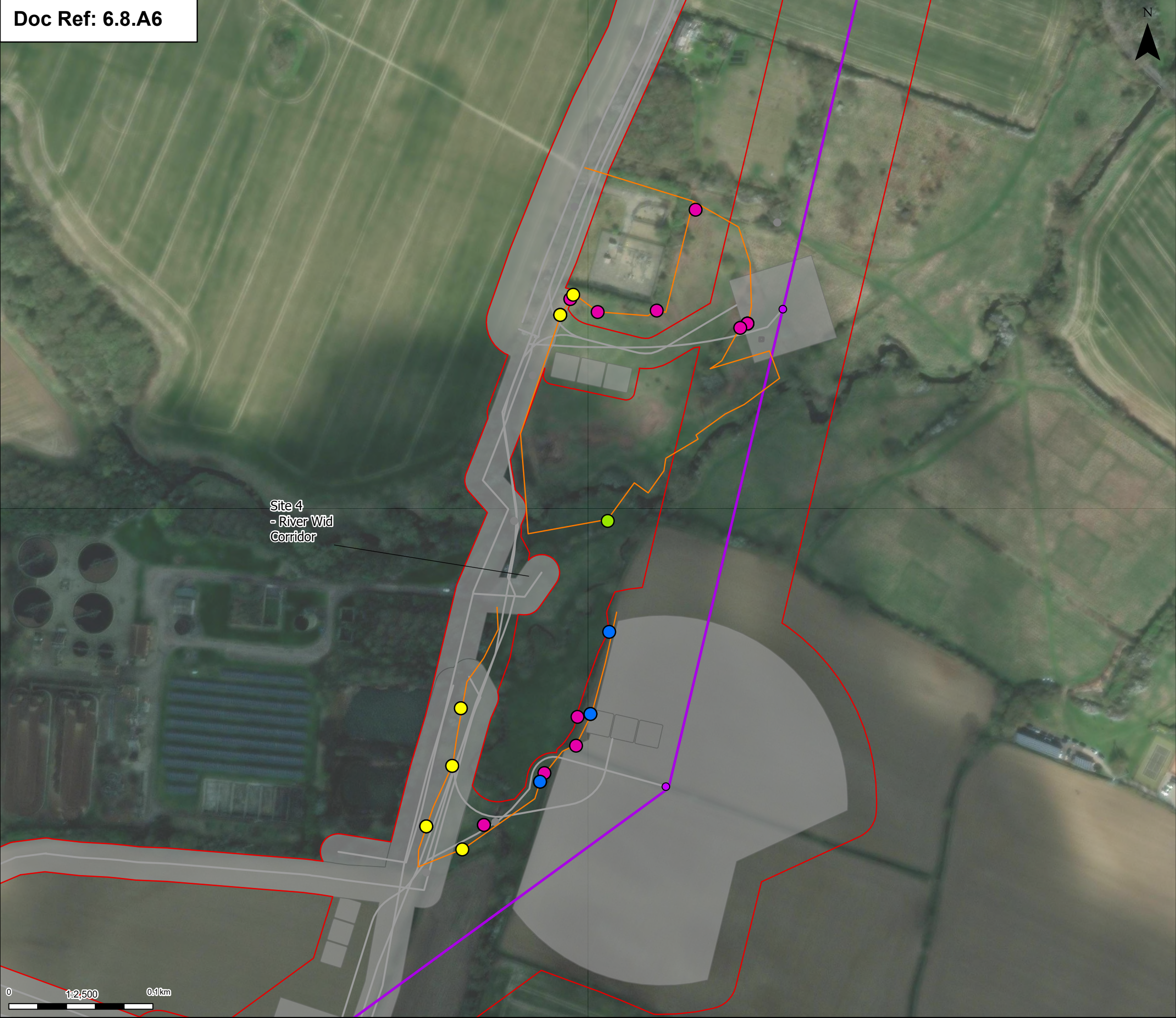
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Reptile Survey Results
Page 3 of 5

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Suitability Code:	S2	Project Number:	10059280

Suitability Description:

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Order limits

Proposed pylon position

Proposed standard lattice pylon location

Proposed overhead line alignment

Environmental mitigation

Other temporary and permanent construction and operational works

Discipline specific constraints

Raw reptile data - refugia & incidental

Species

Adder

Common lizard

Grass snake

Slow worm

Reptile survey transects

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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Title:

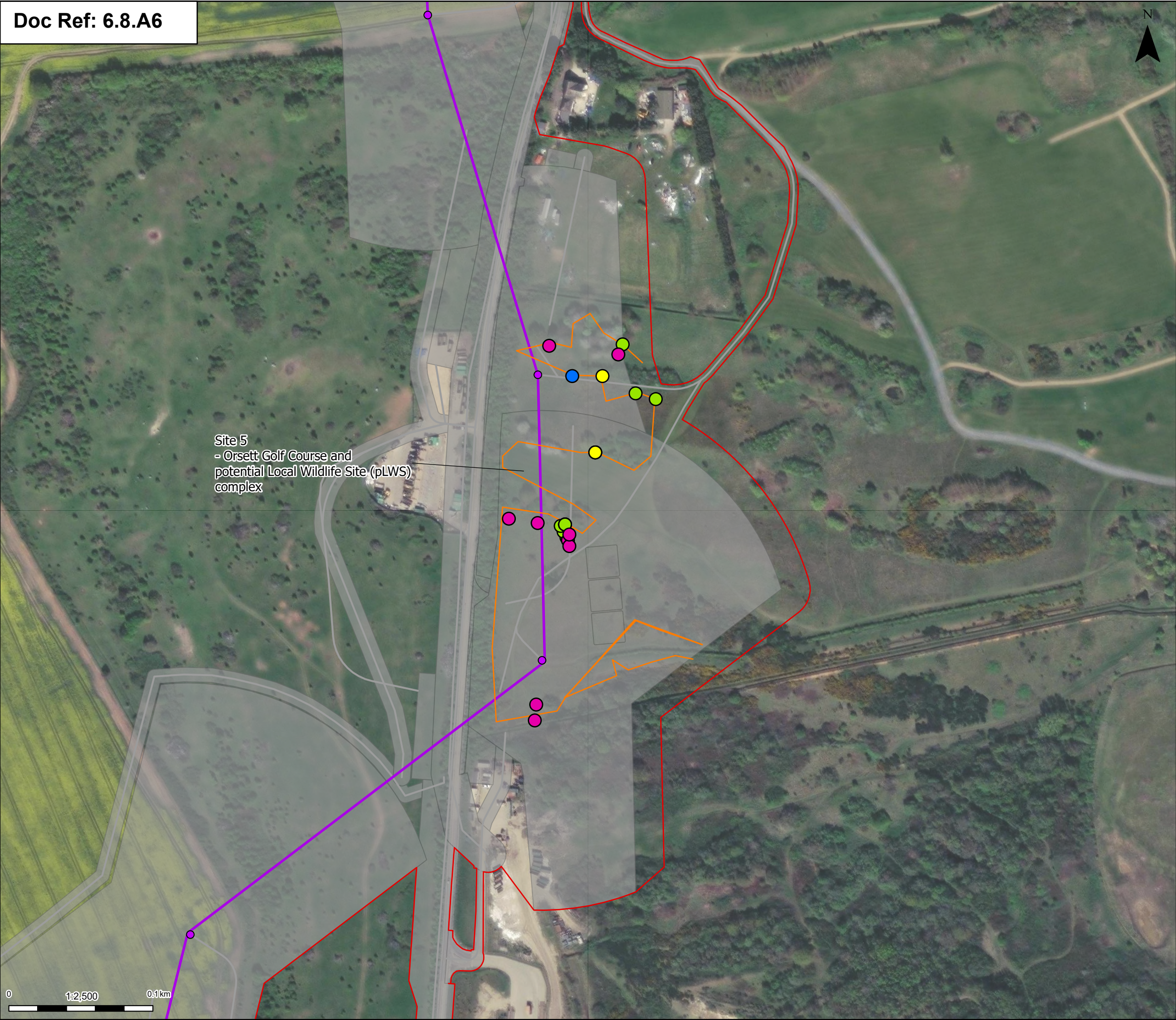
Figure A8.6.3 - Ecology and Biodiversity -
Reptile Survey Results
Page 4 of 5

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Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:2,500	Datum:	AOD
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Suitability Code:	S2	Project Number:	10059280

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Site 5
- Orsett Golf Course and
potential Local Wildlife Site (pLWS)
complex

Order limits

Proposed pylon position

Proposed standard lattice pylon location

Proposed overhead line alignment

Other temporary and permanent construction and operational works

Discipline specific constraints

Raw reptile data - refugia & incidental

Species

Adder

Common lizard

Grass snake

Slow worm

Reptile survey transects

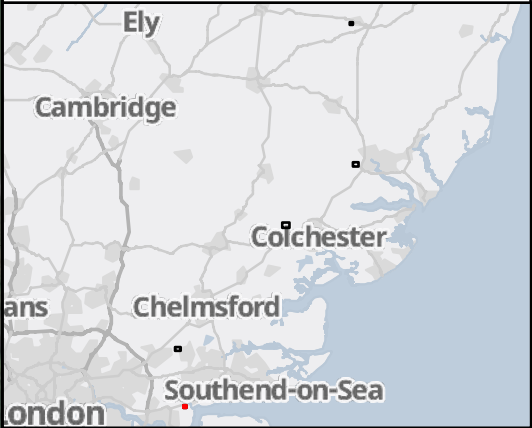
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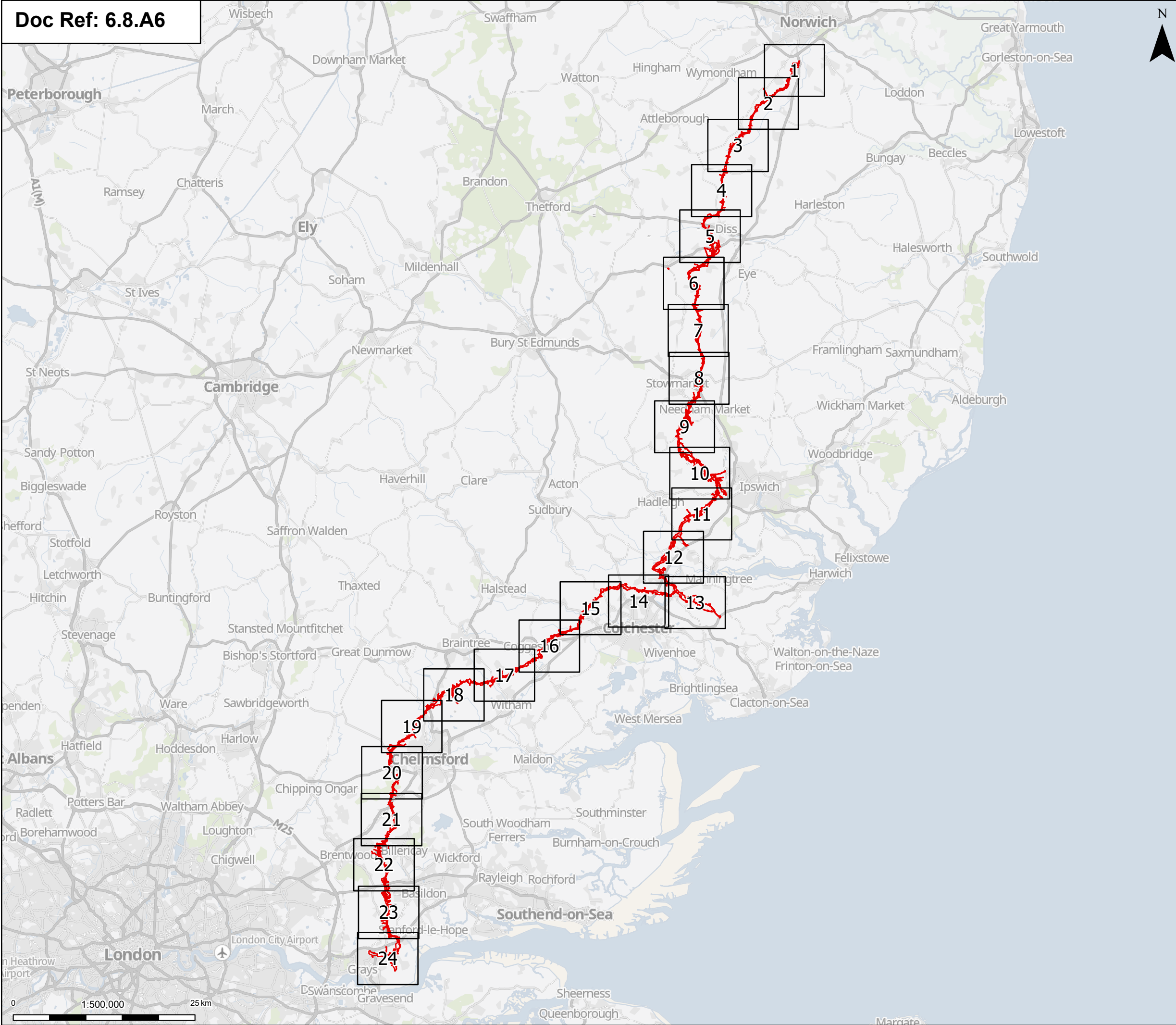
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Reptile Survey Results
Page 5 of 5

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Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
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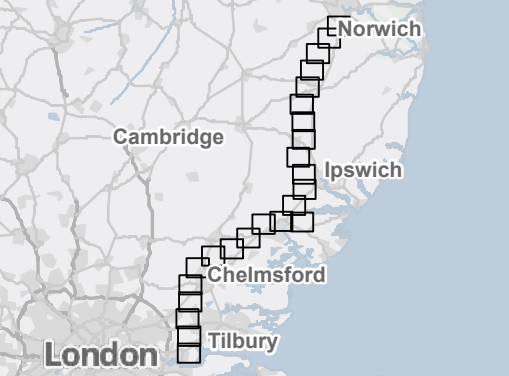
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Order limits
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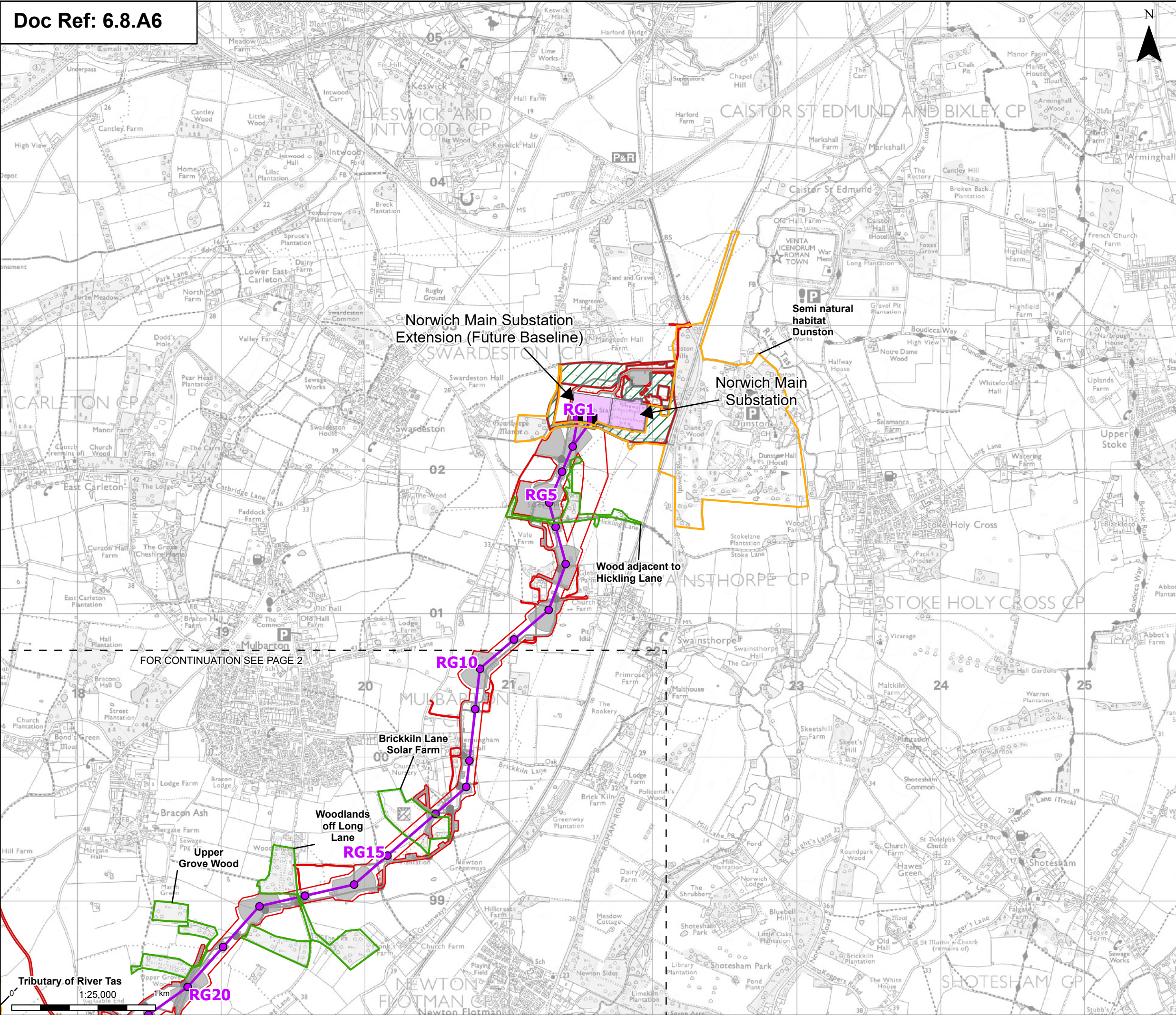
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Figure A8.6.4 - Ecology and Biodiversity -
Key Reptile Sites
Overview

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Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:500,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description:
Accepted as Concept Stage

Drawing Number:
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Revision:
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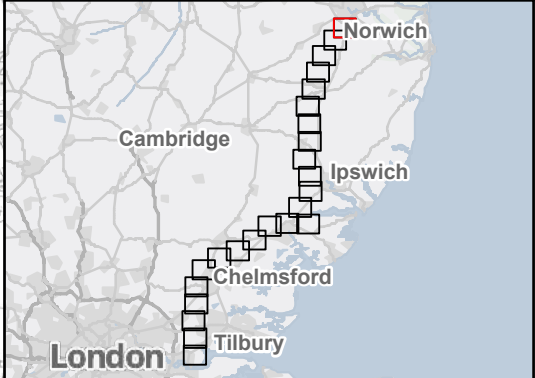


- Order limits**
- Order limits
- Proposed project design details**
- Proposed full line tension gantry
 - Proposed standard lattice pylon location
 - Proposed overhead line alignment
 - Norwich Main Substation
 - Norwich Main Substation Extension (future baseline)
 - Environmental area
 - Other temporary and permanent construction and operational works

- Discipline specific constraints**
- Key reptile sites**
- No
 - Potential

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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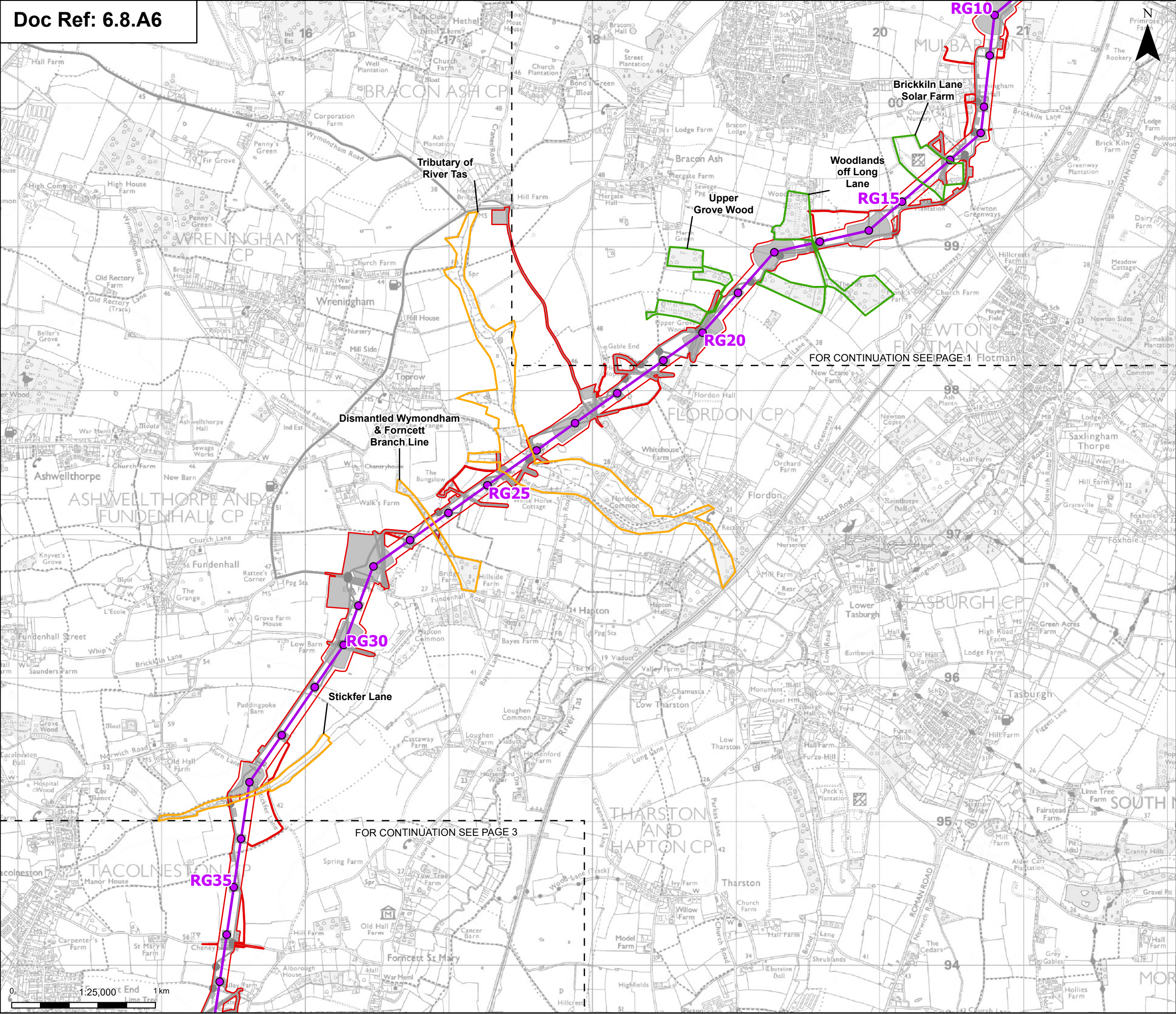
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Title:
Figure A8.6.4 - Ecology and Biodiversity - Key Reptile Sites
Page 1 of 24

Designed	G. Cope	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
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Suitability Code:	A2	Project Number:	10059280
Suitability Description:			
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Order limits

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Environmental mitigation
- Other temporary and permanent construction and operational works

Discipline specific constraints

Key reptile sites

- No
- Potential

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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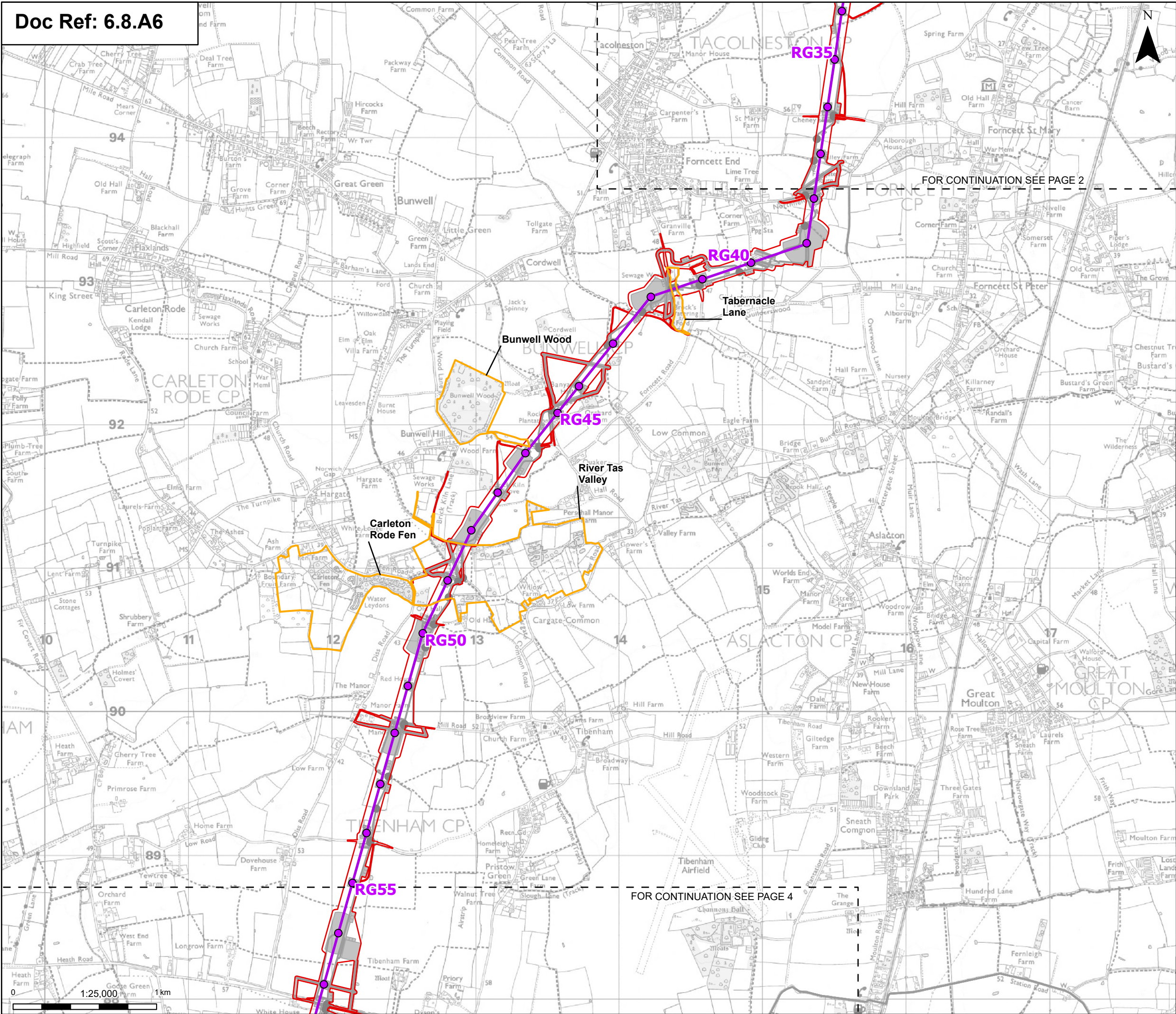
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Figure A8.6.4 - Ecology and Biodiversity - Key Reptile Sites
Page 2 of 24

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Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
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Suitability Description:
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Drawing Number:
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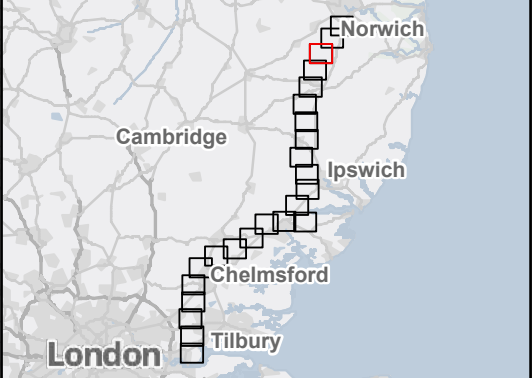
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- Order limits**
- Proposed standard lattice pylon location
 - Proposed overhead line alignment
 - Other temporary and permanent construction and operational works
- Discipline specific constraints**
- Key reptile sites
- Potential

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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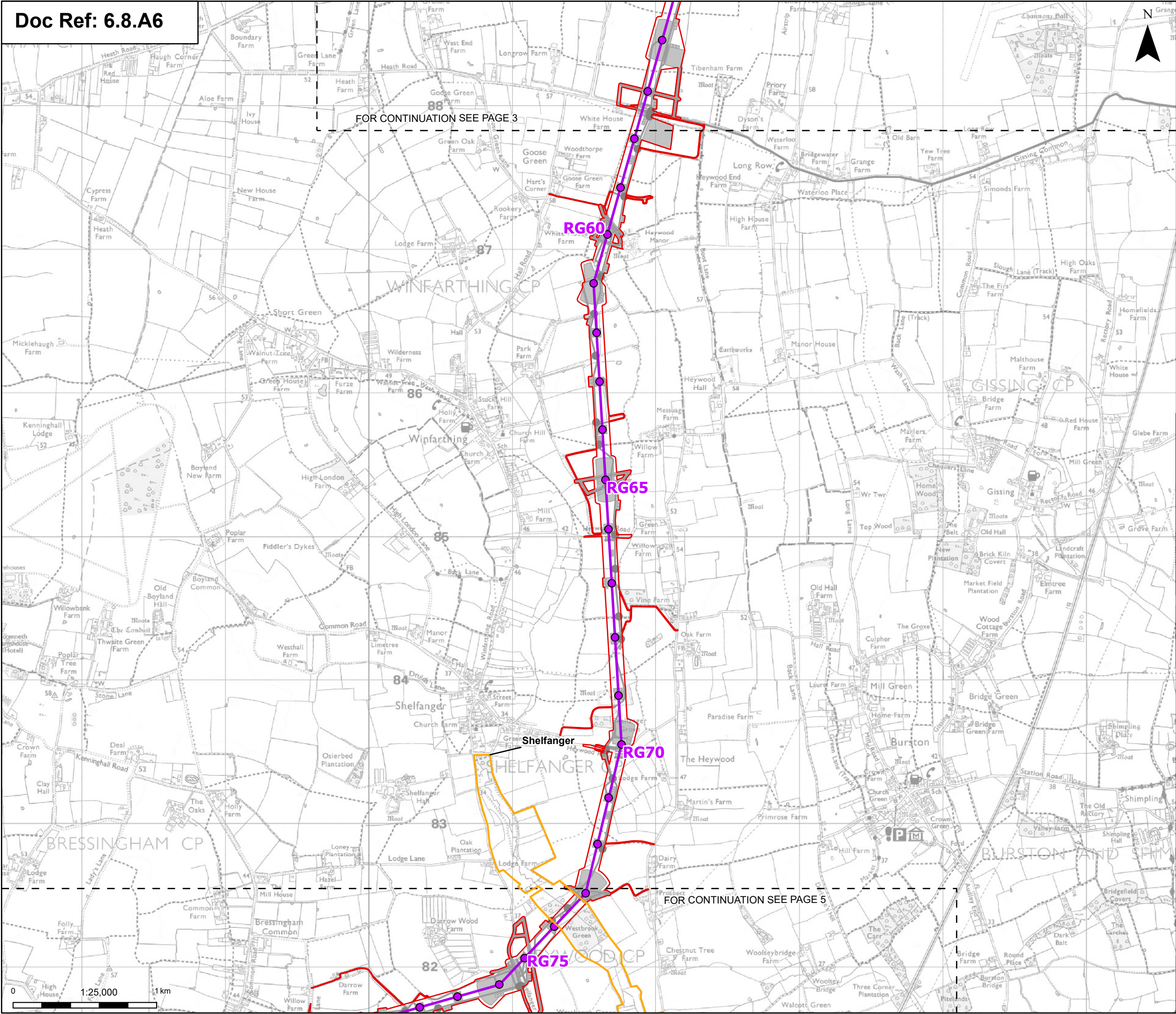
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Title:
Figure A8.6.4 - Ecology and Biodiversity - Key Reptile Sites
Page 3 of 24

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Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

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Revision: A



Order limits

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Other temporary and permanent construction and operational works

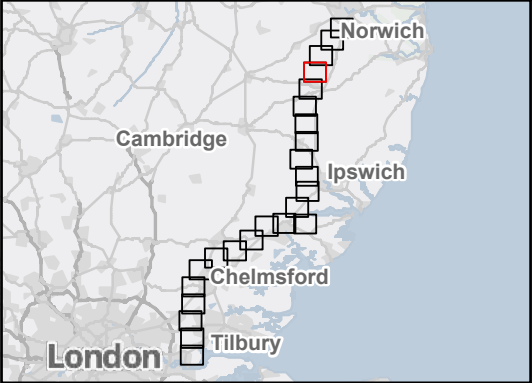
Discipline specific constraints

Key reptile sites

- Potential

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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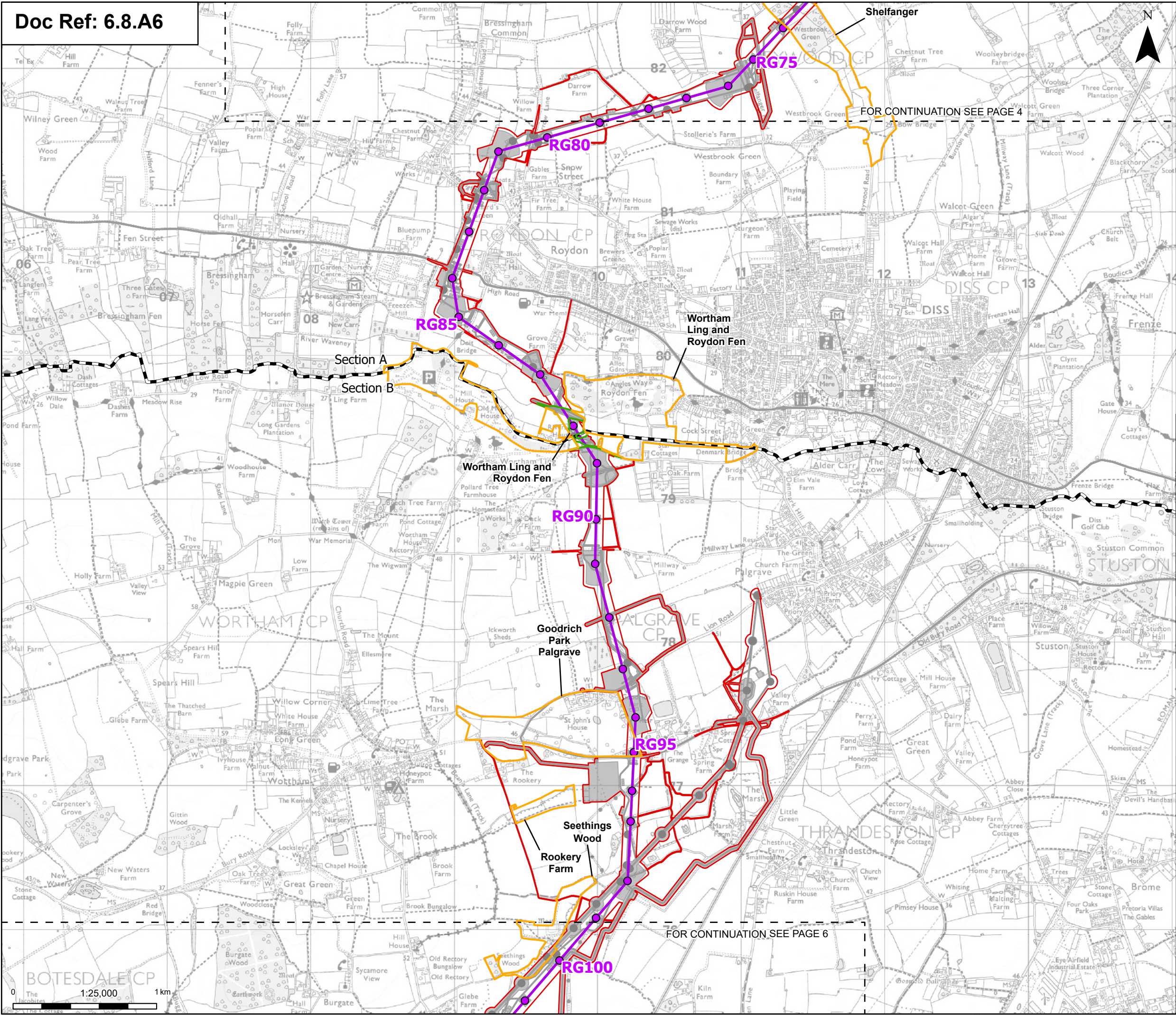
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Figure A8.6.4 - Ecology and Biodiversity - Key Reptile Sites
Page 4 of 24

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Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
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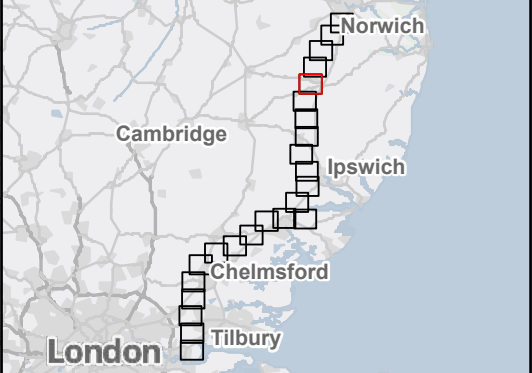
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- Order limits**
- Project section line
- Proposed project design details**
- Proposed standard lattice pylon location
 - Proposed overhead line alignment
 - Environmental mitigation
 - Other temporary and permanent construction and operational works
- Discipline specific constraints**
- Key reptile sites**
- No
 - Potential

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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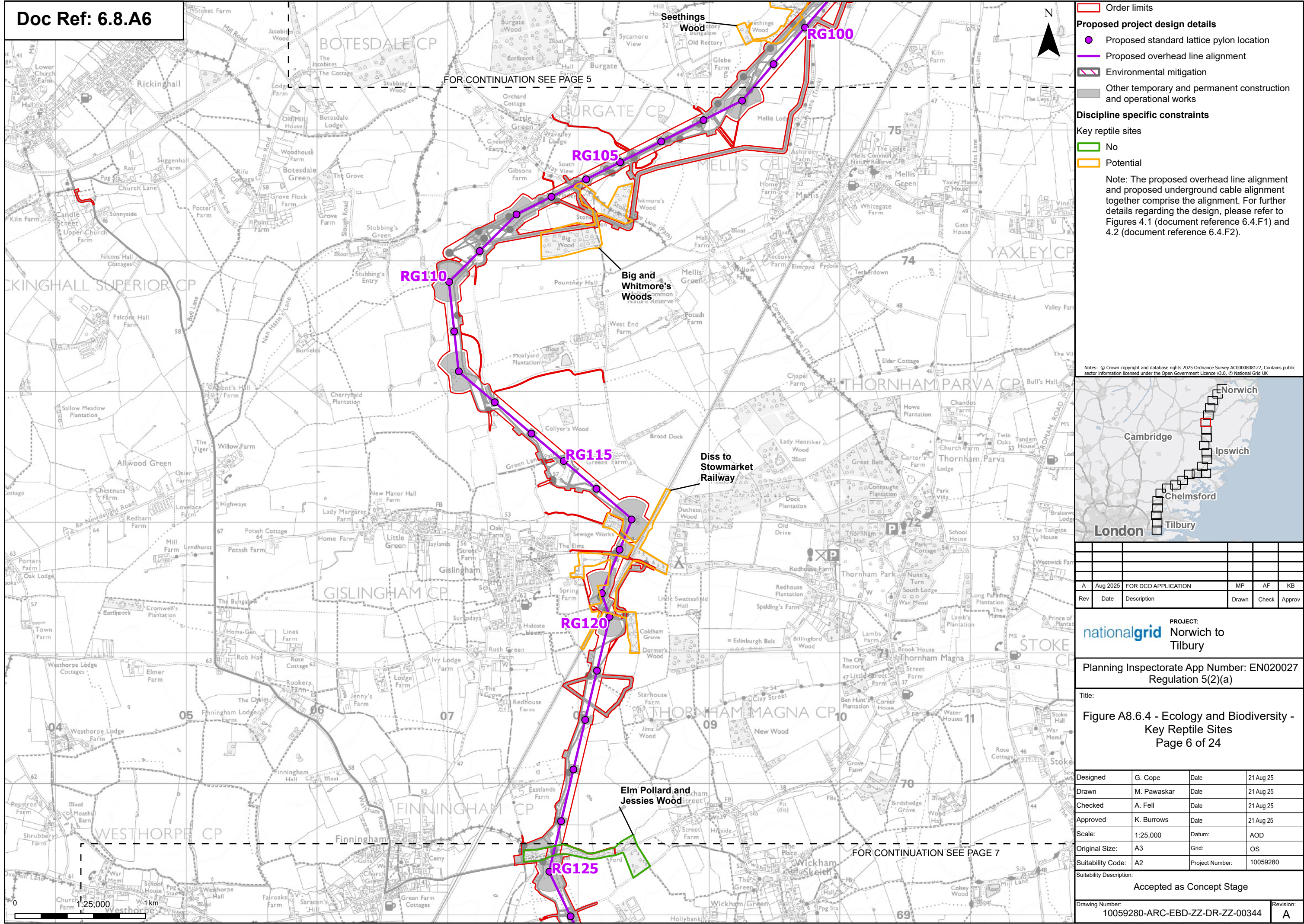
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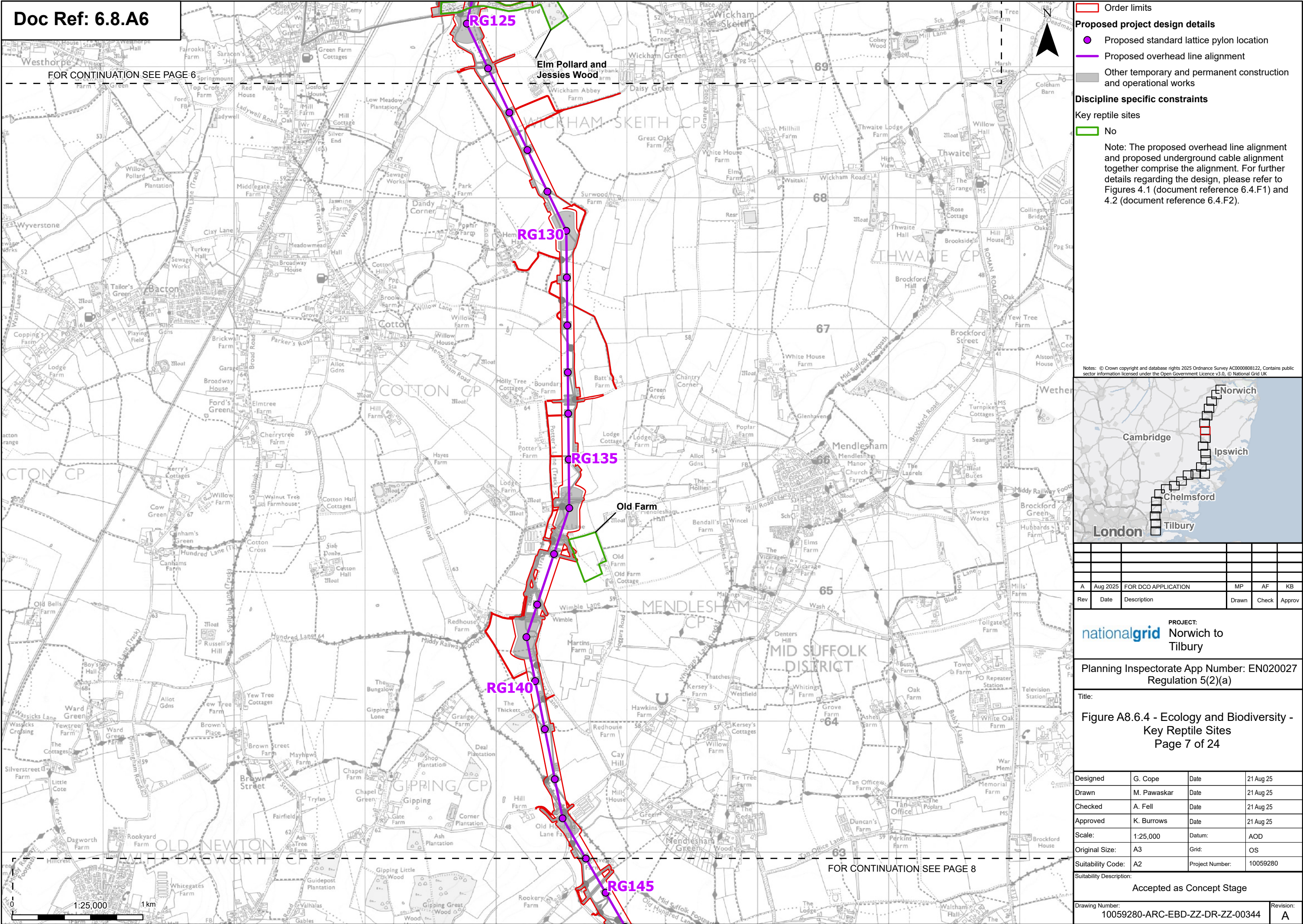
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Key Reptile Sites
Page 5 of 24

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Suitability Description:			

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FOR CONTINUATION SEE PAGE 7

FOR CONTINUATION SEE PAGE 9

- Order limits
- Proposed project design details

Proposed standard lattice pylon location

Proposed overhead line alignment

Environmental mitigation

Other temporary and permanent construction and operational works

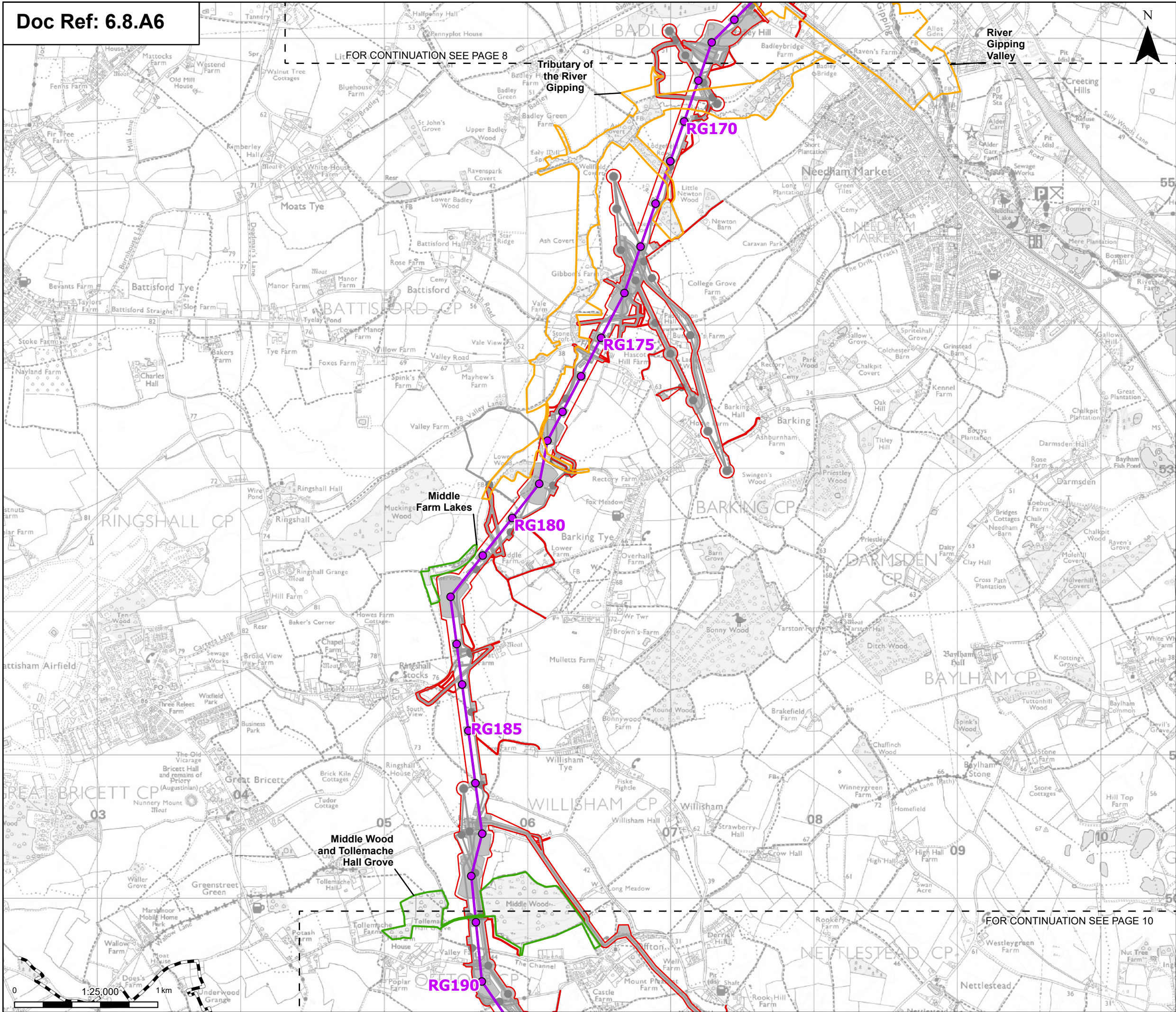
Discipline specific constraints

Key reptile sites

Potential

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).
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- Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)
- Title:
Figure A8.6.4 - Ecology and Biodiversity -
Key Reptile Sites
Page 8 of 24
- | | | | |
|--------------------------|-------------|-----------------|-----------|
| Designed | G. Cope | Date | 21 Aug 25 |
| Drawn | M. Pawaskar | Date | 21 Aug 25 |
| Checked | A. Fell | Date | 21 Aug 25 |
| Approved | K. Burrows | Date | 21 Aug 25 |
| Scale: | 1:25,000 | Datum: | AOD |
| Original Size: | A3 | Grid: | OS |
| Suitability Code: | A2 | Project Number: | 10059280 |
| Suitability Description: | | | |
- Accepted as Concept Stage
- Drawing Number:
10059280-ARC-EBD-ZZ-DR-ZZ-00344

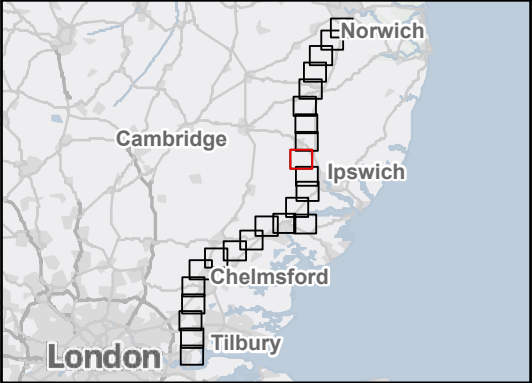
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- Order limits
- Project section line
- Proposed project design details**
 - Proposed standard lattice pylon location
 - Proposed overhead line alignment
 - Environmental mitigation
 - Other temporary and permanent construction and operational works
- Discipline specific constraints**
 - Key reptile sites
 - No
 - Potential

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

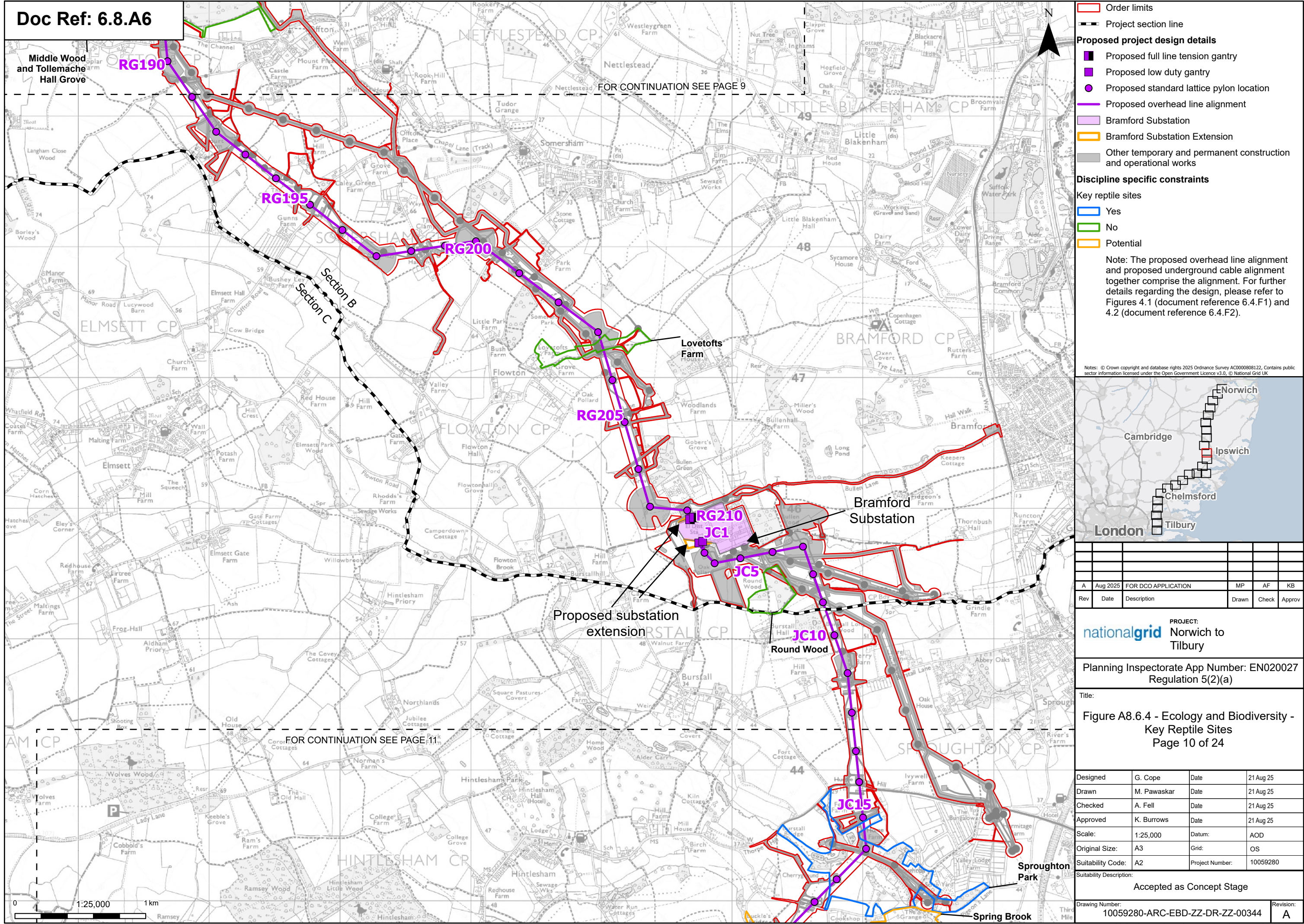
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Figure A8.6.4 - Ecology and Biodiversity - Key Reptile Sites
Page 9 of 24

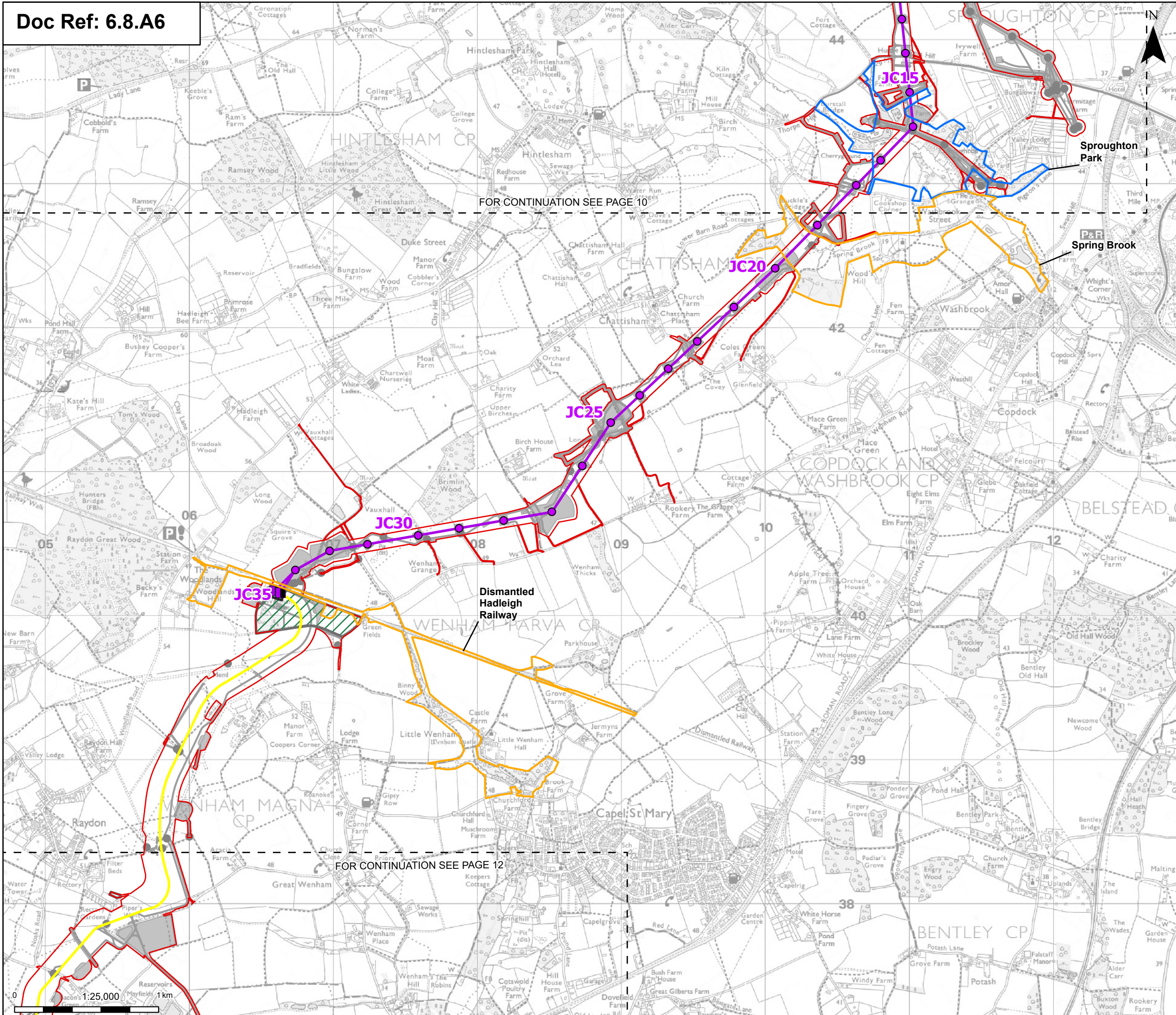
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Checked	A. Fell	Date	21 Aug 25
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Suitability Code:	A2	Project Number:	10059280

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- Order limits**
- Proposed project design details**
- Proposed full line tension gantry
 - Proposed standard lattice pylon location
 - Proposed overhead line alignment
 - Proposed underground cable alignment
 - Proposed cable sealing end compound (CSEC)
 - Environmental area
 - Environmental mitigation
 - Other temporary and permanent construction and operational works

Discipline specific constraints

Key reptile sites

- ☐ Yes
☐ Potential

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Title:

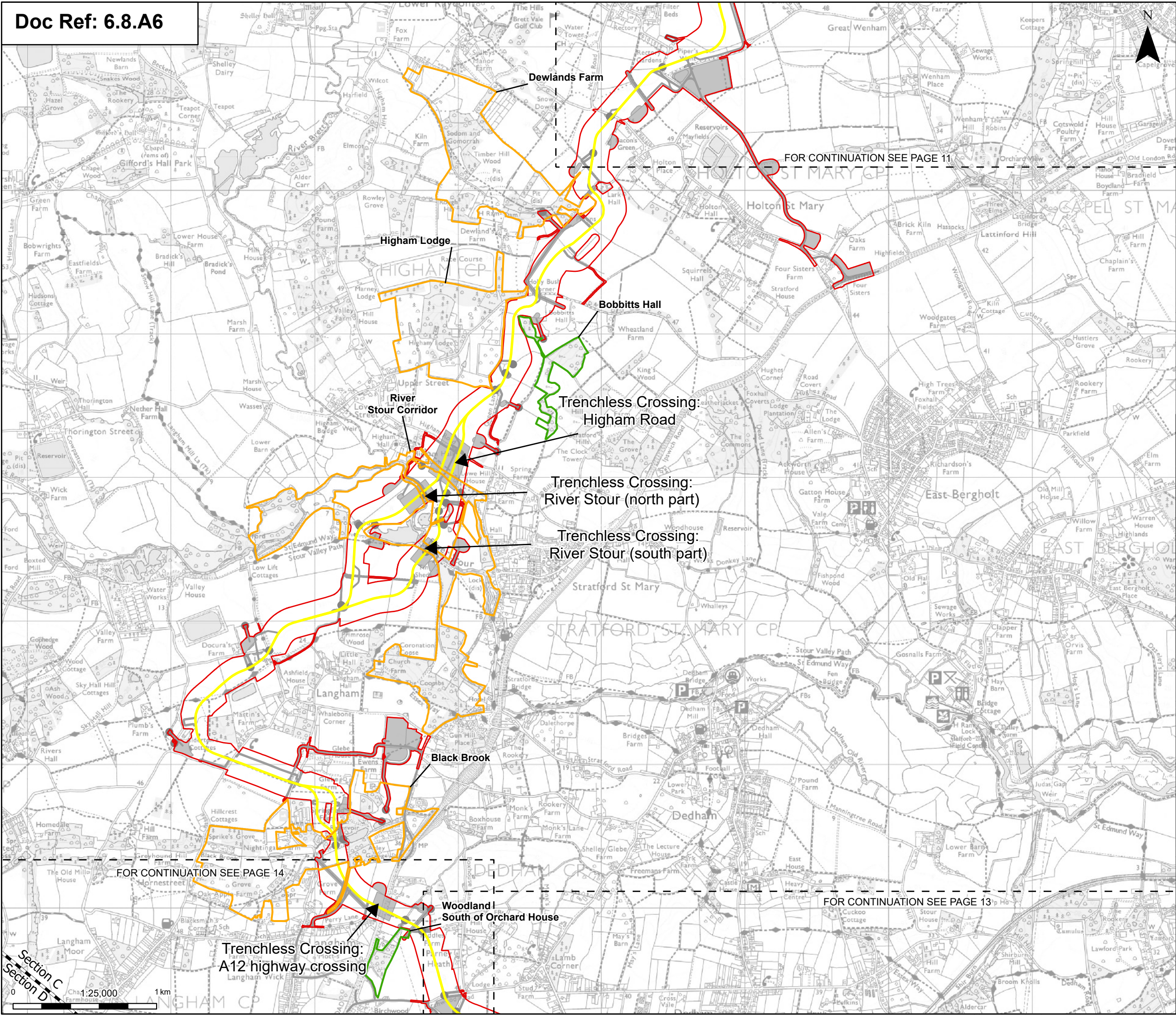
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Key Reptile Sites
Page 11 of 24

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Accepted as Concept Stage

Drawing Number:
10059280-ARC-EBD-ZZ-DR-ZZ-00344

Revision:
A



Order limits

Project section line

Proposed project design details

Proposed underground cable alignment

Environmental mitigation

Other temporary and permanent construction and operational works

Discipline specific constraints

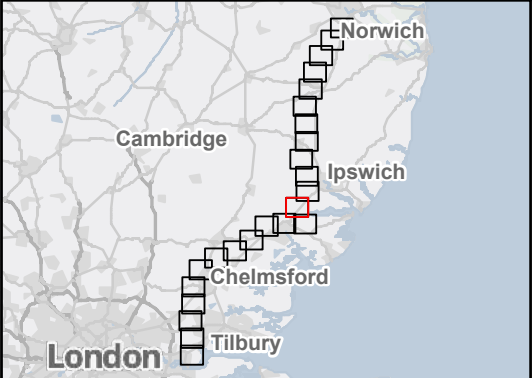
Key reptile sites

No

Potential

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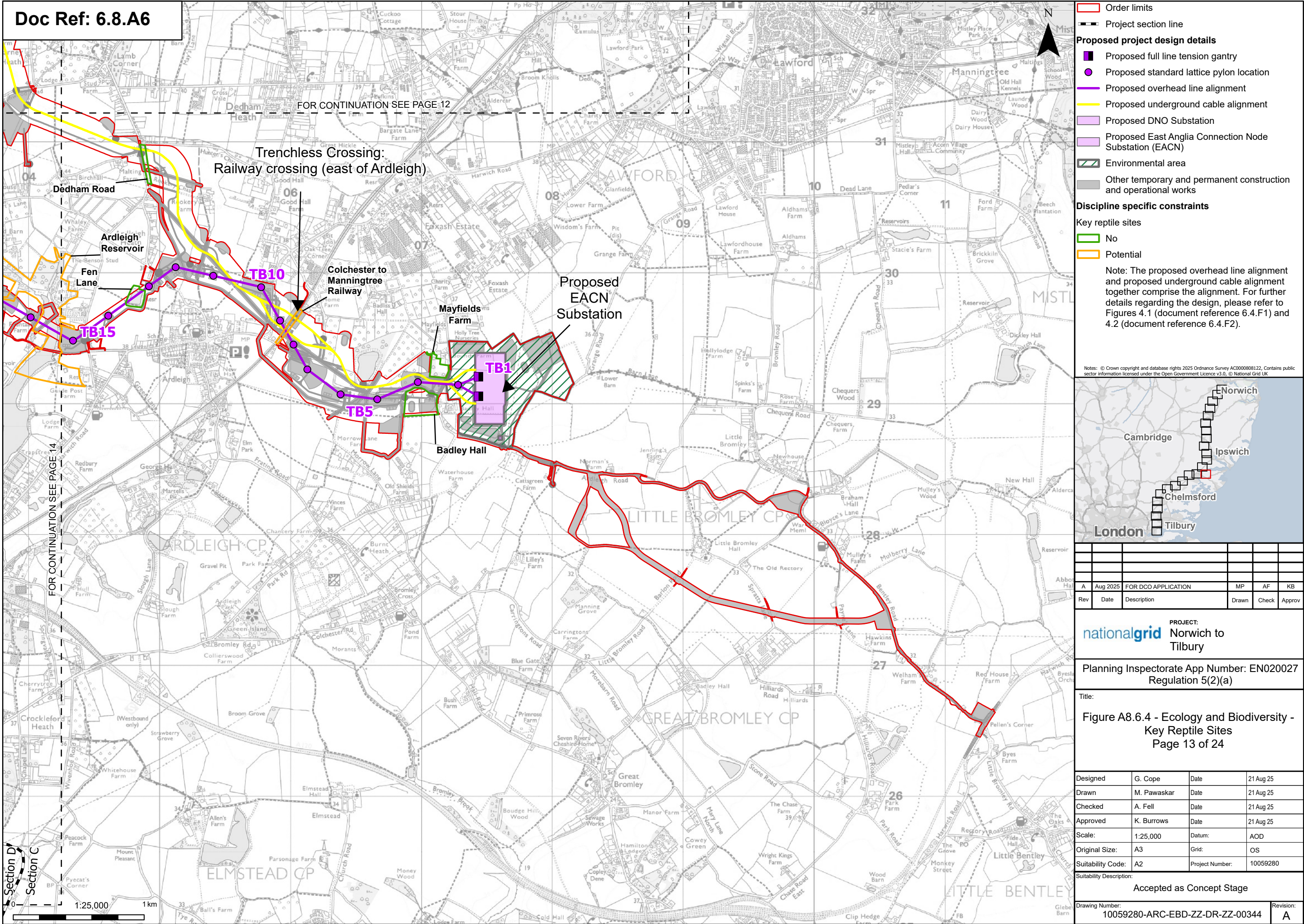
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Norwich to
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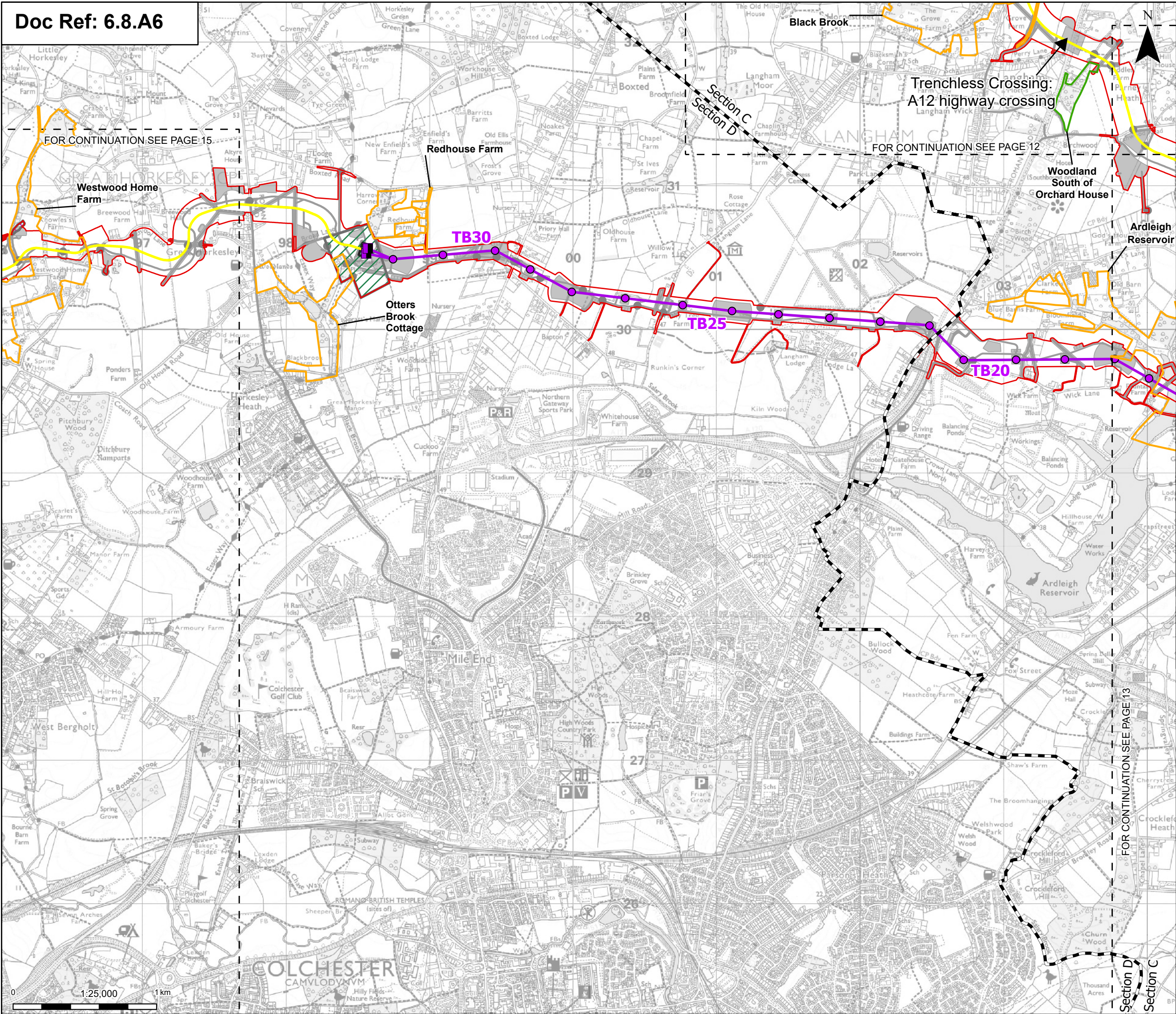
Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

Title:
Figure A8.6.4 - Ecology and Biodiversity -
Key Reptile Sites
Page 12 of 24

Designed	G. Cope	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
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Drawing Number:	10059280-ARC-EBD-ZZ-DR-ZZ-00344	Revision:	A
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Order limits

Project section line

Proposed project design details

- Proposed full line tension gantry
- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Proposed underground cable alignment
- Proposed cable sealing end compound (CSEC)
- Environmental area
- Environmental mitigation
- Other temporary and permanent construction and operational works

Discipline specific constraints

Key reptile sites

- No
- Potential

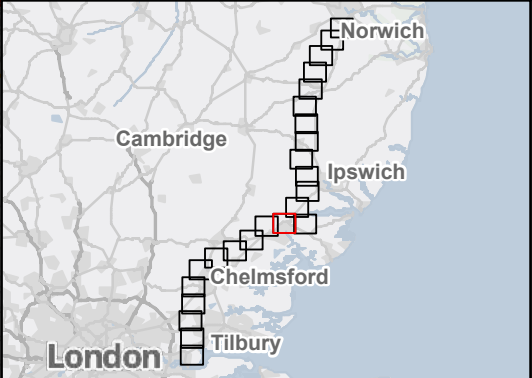
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FOR CONTINUATION SEE PAGE 12

FOR CONTINUATION SEE PAGE 13



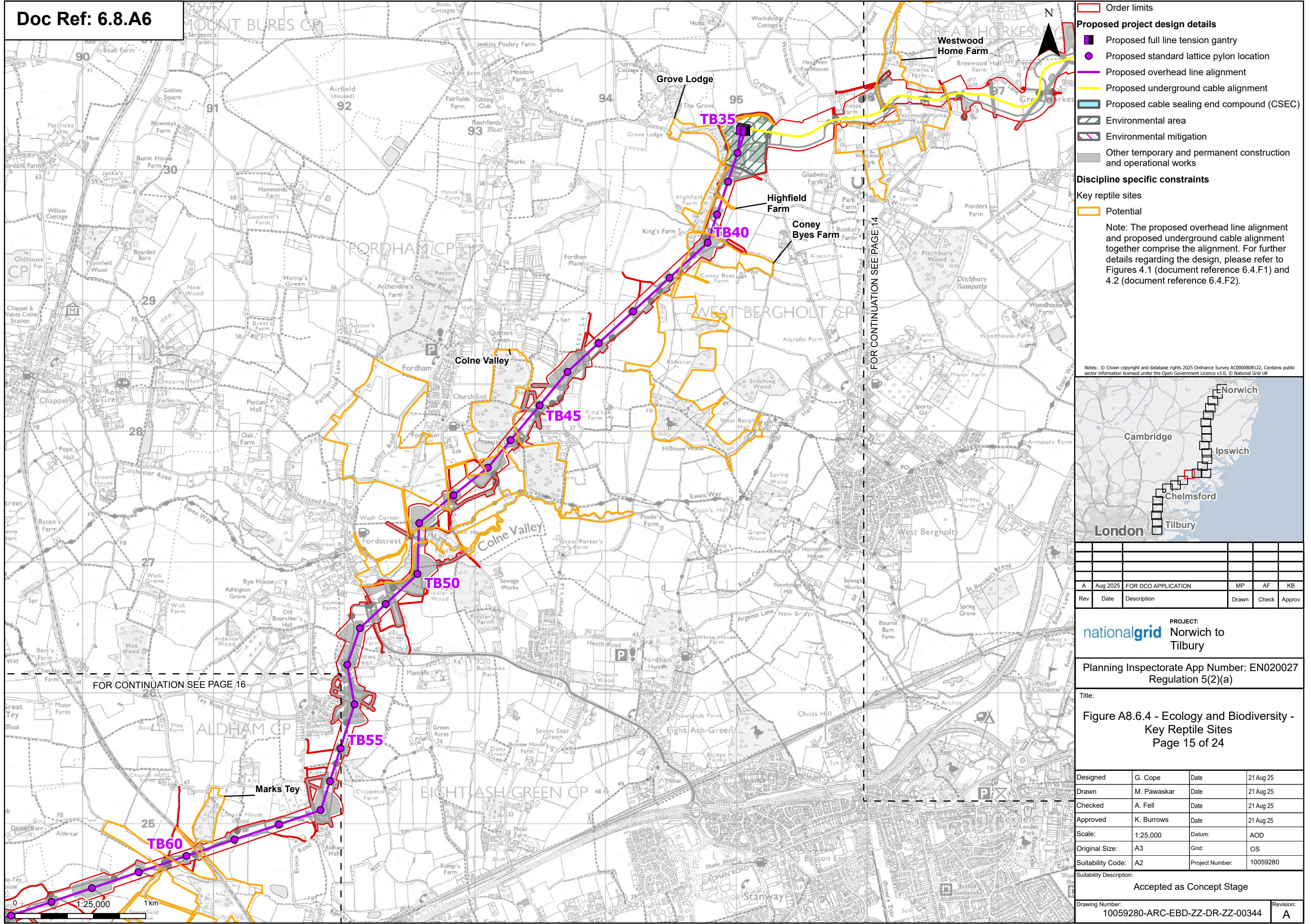
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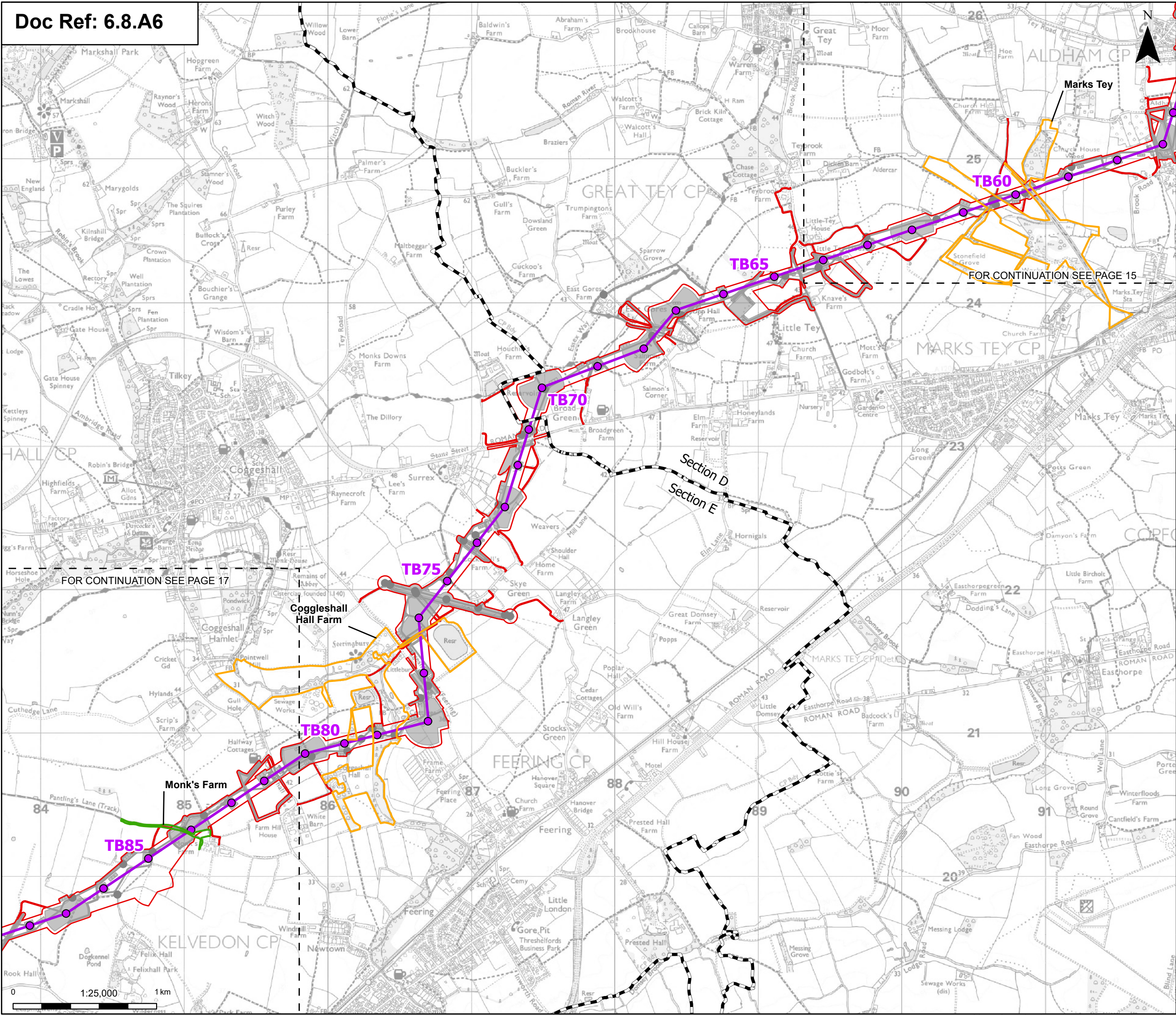
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nationalgrid Norwich to Tilbury

Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

Title:
Figure A8.6.4 - Ecology and Biodiversity - Key Reptile Sites
Page 14 of 24

Designed	G. Cope	Date	21 Aug 25
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Accepted as Concept Stage			
Drawing Number:	10059280-ARC-EBD-ZZ-DR-ZZ-00344		Revision:
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Order limits

Project section line

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Environmental mitigation
- Other temporary and permanent construction and operational works

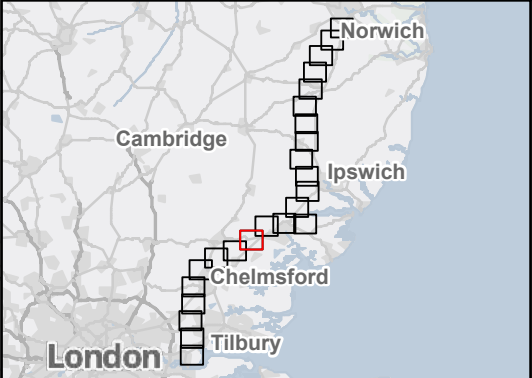
Discipline specific constraints

Key reptile sites

- No
- Potential

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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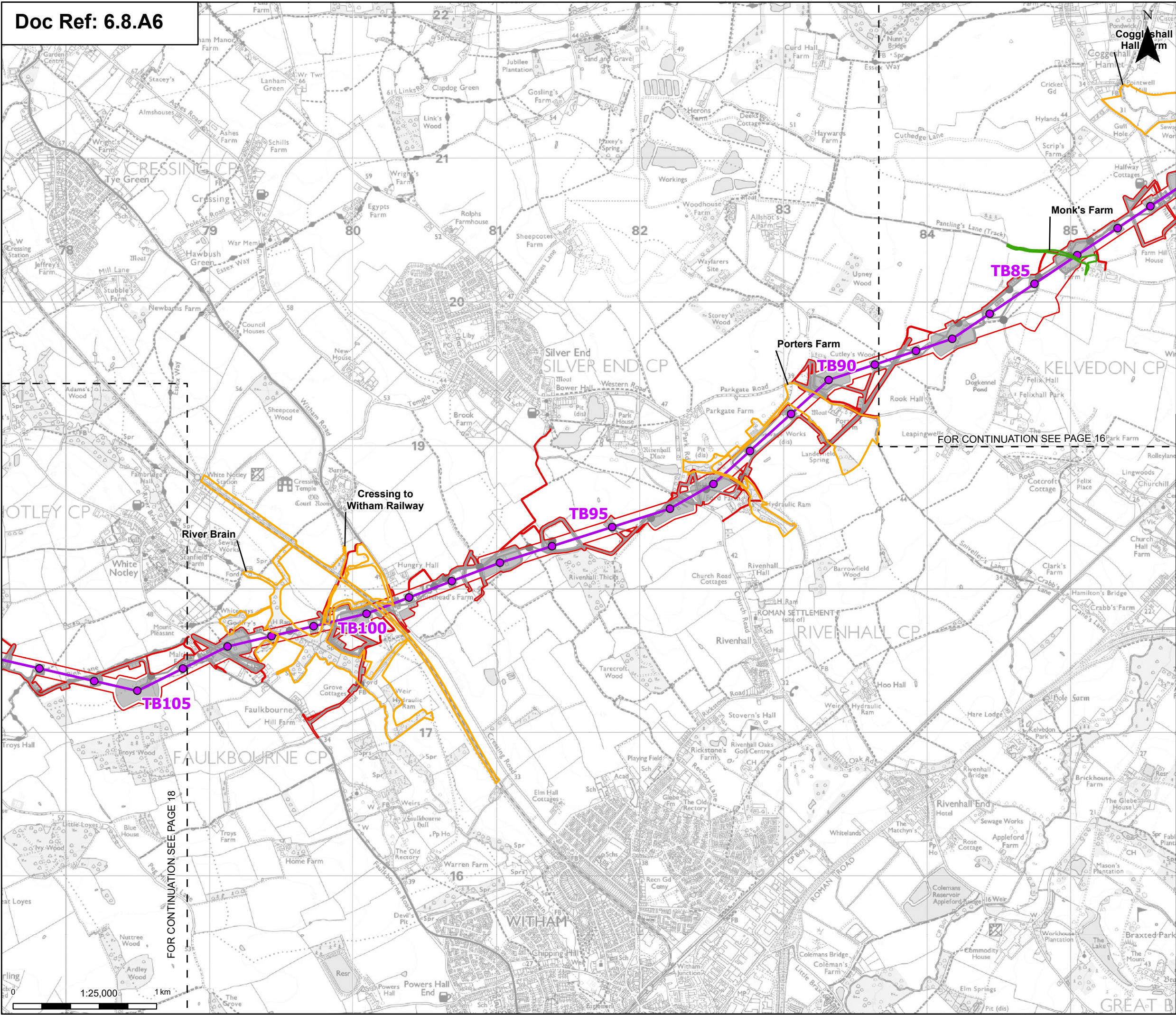
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nationalgrid Norwich to Tilbury

Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

Title:
Figure A8.6.4 - Ecology and Biodiversity - Key Reptile Sites
Page 16 of 24

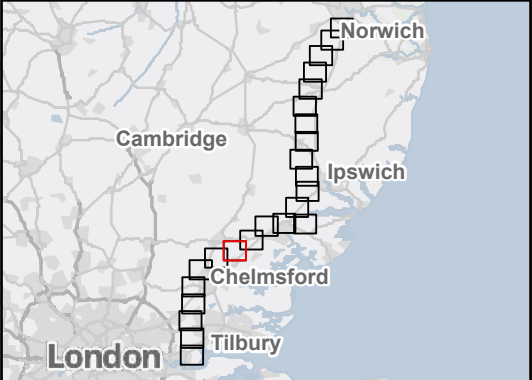
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Drawing Number:	10059280-ARC-EBD-ZZ-DR-ZZ-00344		Revision:
			A



- Order limits
- Proposed project design details
- Proposed standard lattice pylon location
 - Proposed overhead line alignment
 - Other temporary and permanent construction and operational works
- Discipline specific constraints
- Key reptile sites
- No
 - Potential

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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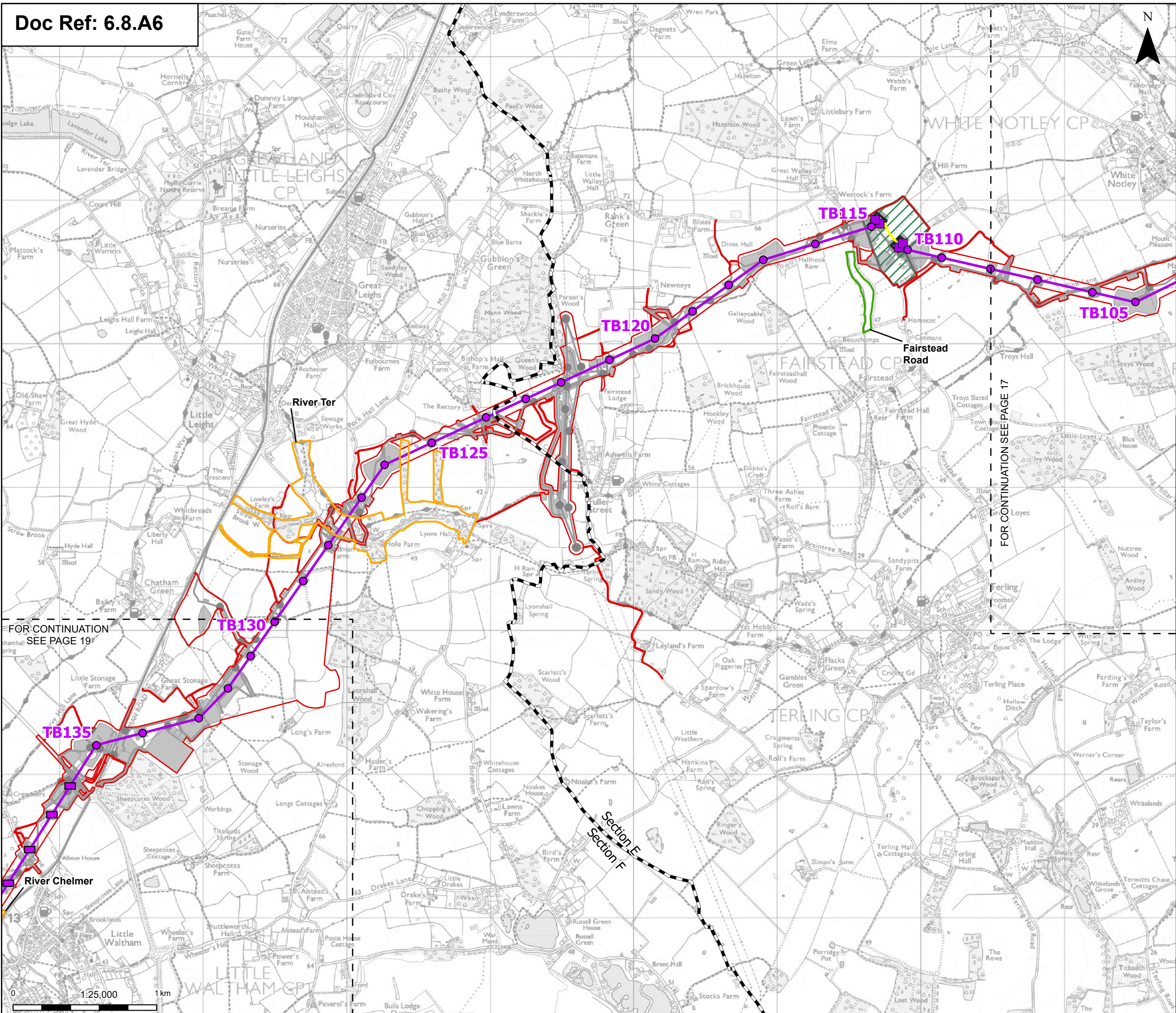
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Accepted as Concept Stage

Drawing Number:	10059280-ARC-EBD-ZZ-DR-ZZ-00344	Revision:	A
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- Order limits**
- Project section line
- Proposed project design details**
- Proposed low duty gantry
 - Proposed low height pylon location
 - Proposed standard lattice pylon location
 - Proposed overhead line alignment
 - Proposed underground cable alignment
 - Proposed cable sealing end compound (CSEC)
 - Environmental area
 - Environmental mitigation
 - Other temporary and permanent construction and operational works

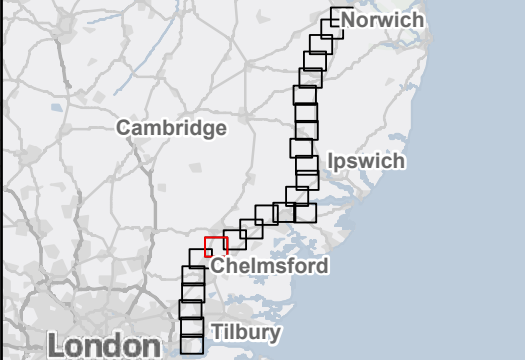
Discipline specific constraints

Key reptile sites

- No
- Potential

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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SEE PAGE 19

FOR CONTINUATION SEE PAGE 17

Rev	Date	Description	Drawn	Check	Approv
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PROJECT:
Norwich to Tilbury

Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

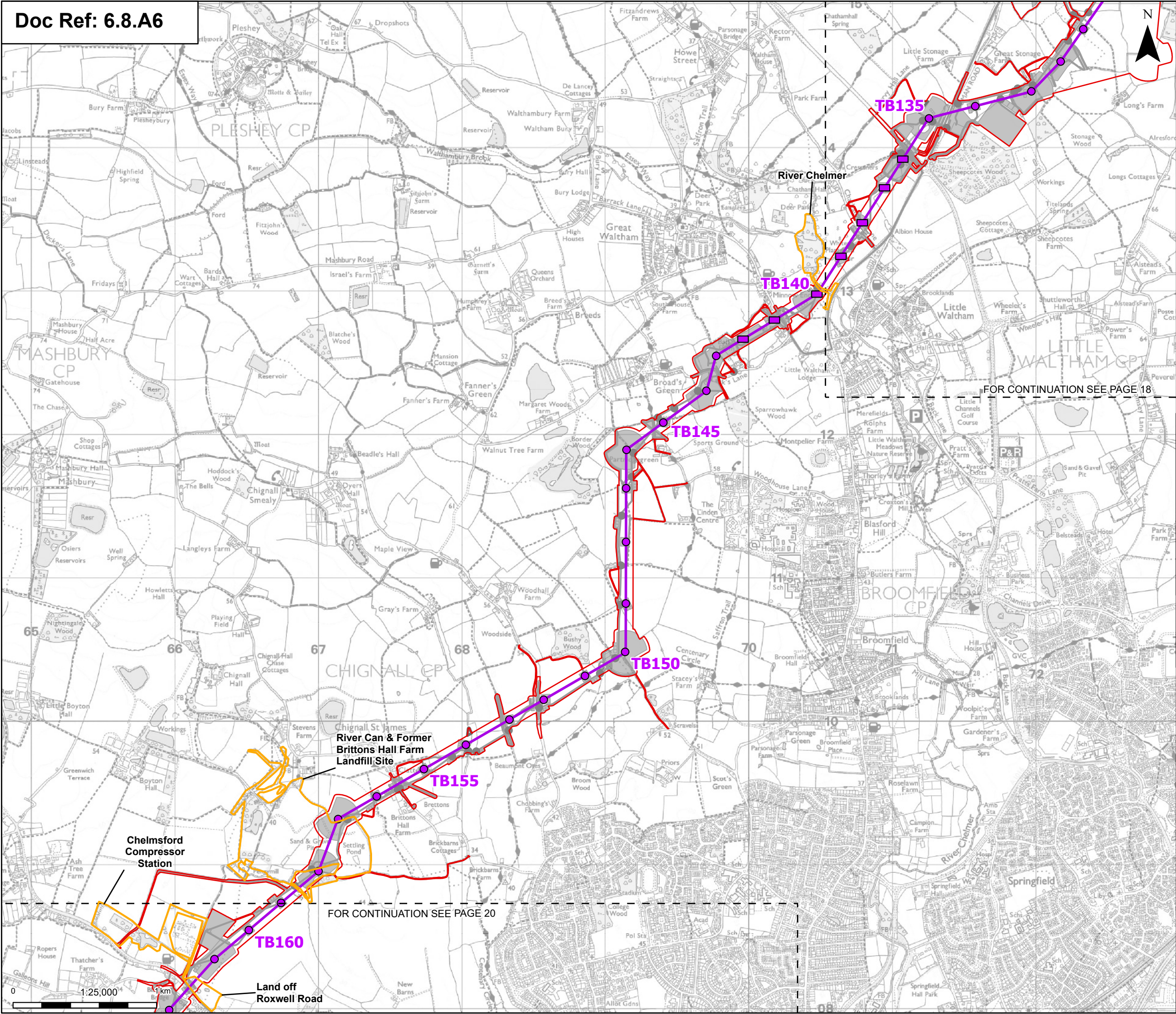
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Key Reptile Sites
Page 18 of 24

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Suitability Code:	A2	Project Number:	10059280

Suitability Description:
Accepted as Concept Stage

Drawing Number:
10059280-ARC-EBD-ZZ-DR-ZZ-00344

Revision:
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Order limits

Proposed project design details

- Proposed low height pylon location
- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Environmental mitigation
- Other temporary and permanent construction and operational works

Discipline specific constraints

Key reptile sites

- Potential

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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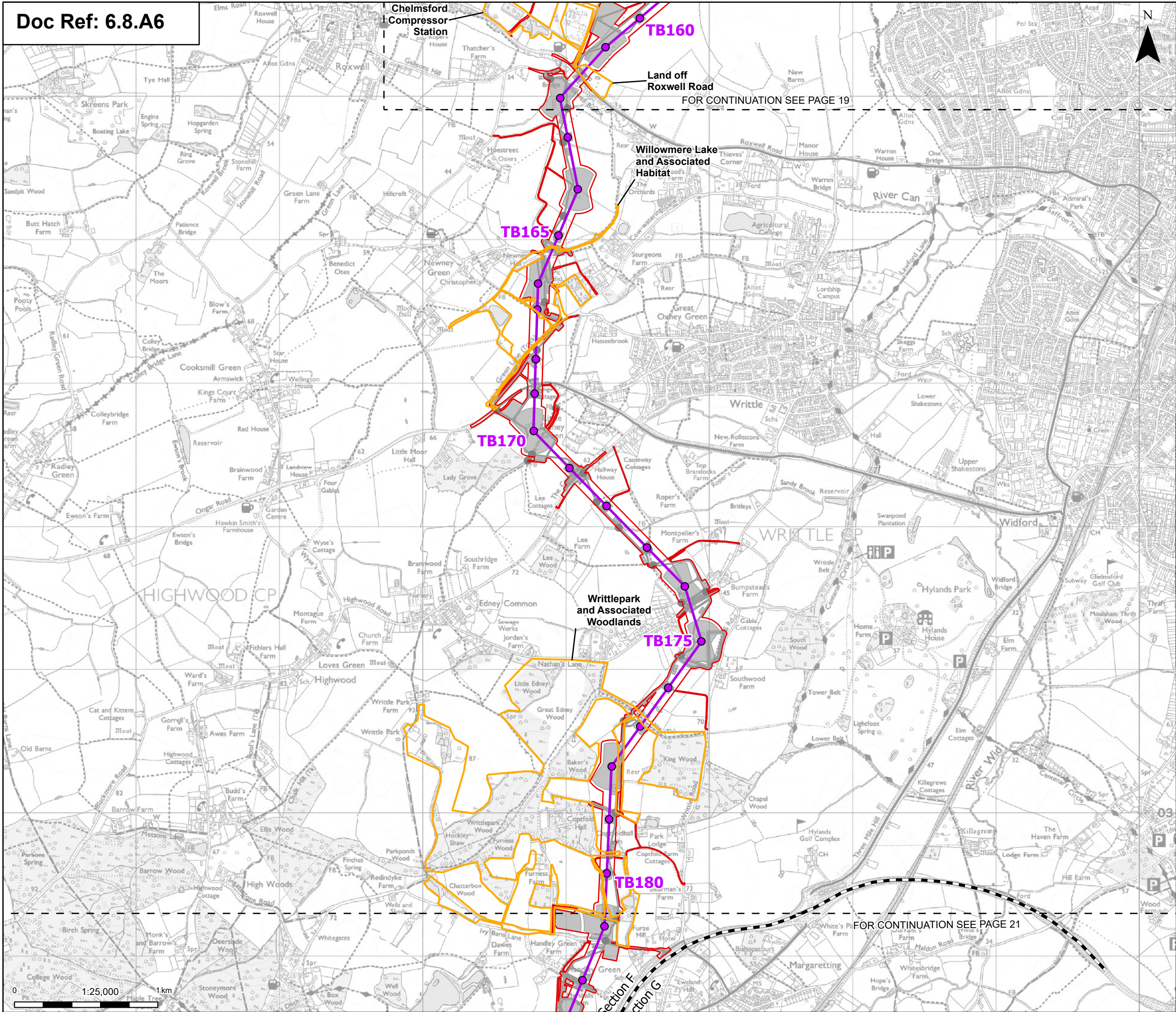
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Page 19 of 24

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- Order limits**
- Order limits
- Project section line**
- Project section line
- Proposed project design details**
- Proposed standard lattice pylon location
 - Proposed overhead line alignment
 - Environmental mitigation
 - Other temporary and permanent construction and operational works

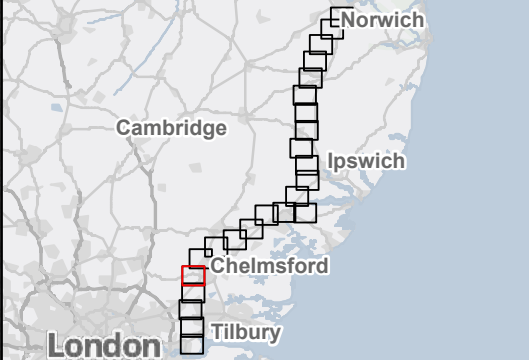
Discipline specific constraints

Key reptile sites

- Potential

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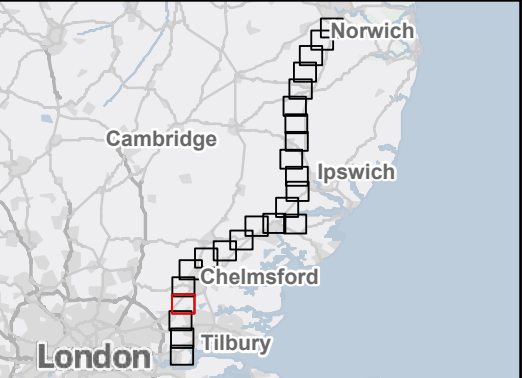
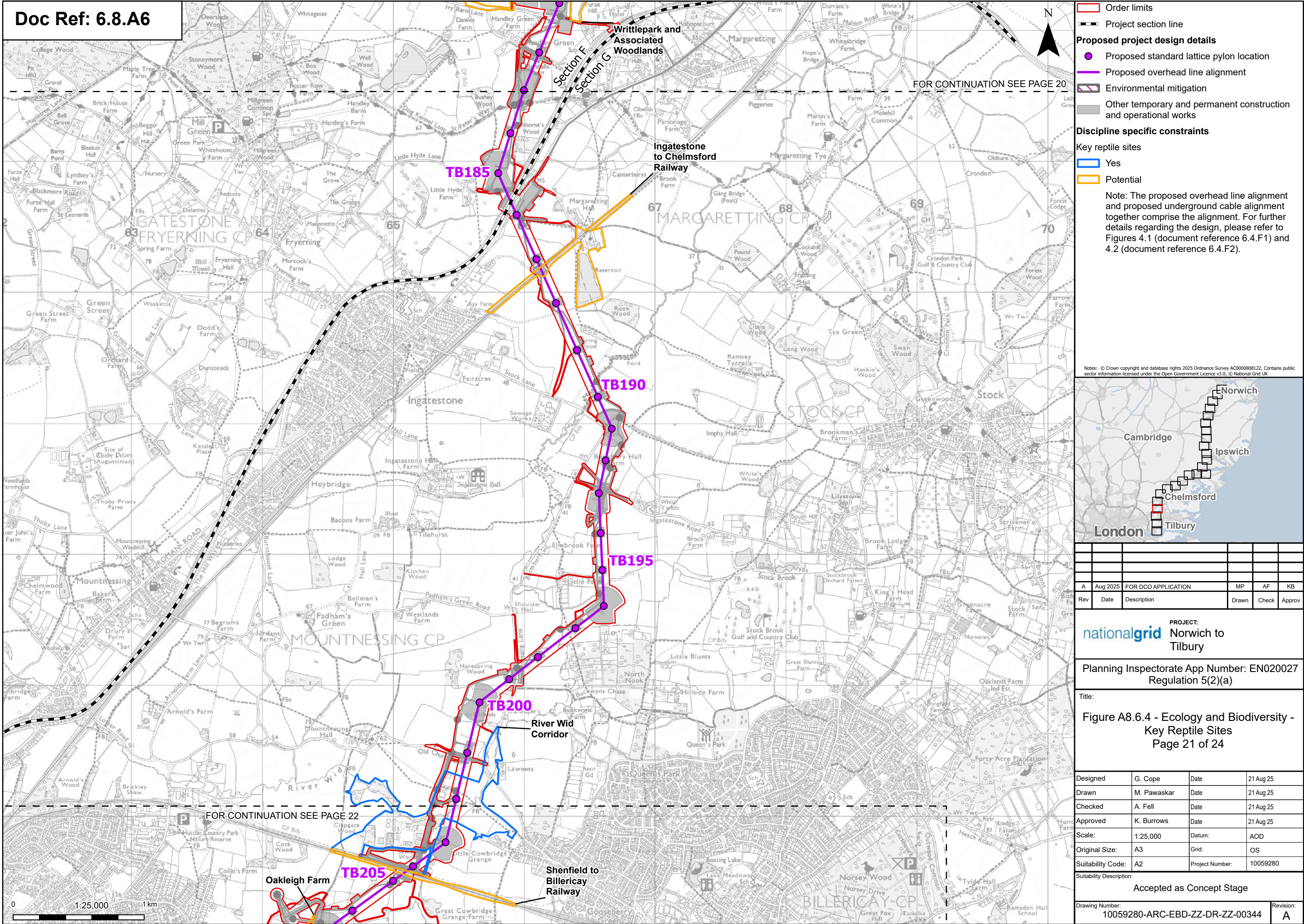
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Regulation 5(2)(a)

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Figure A8.6.4 - Ecology and Biodiversity - Key Reptile Sites
Page 20 of 24

Designed	G. Cope	Date	21 Aug 25
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Regulation 5(2)(a)

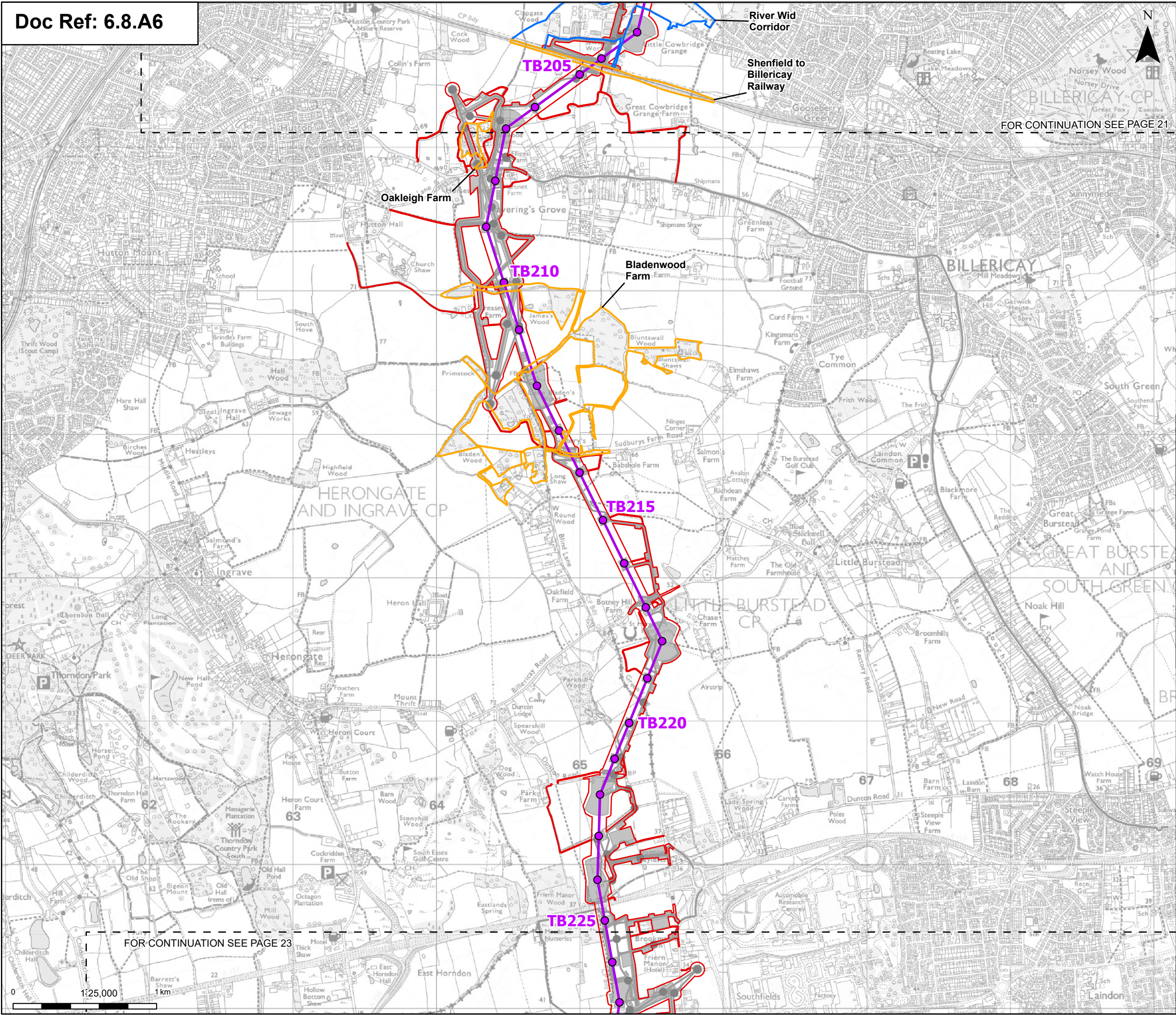
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Key Reptile Sites
Page 21 of 24

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Suitability Description:
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Drawing Number:
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Order limits

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Other temporary and permanent construction and operational works

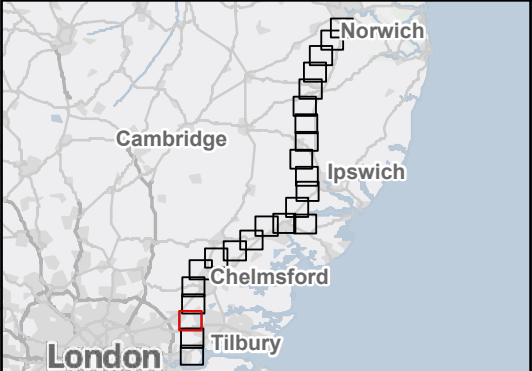
Discipline specific constraints

Key reptile sites

- Yes
- Potential

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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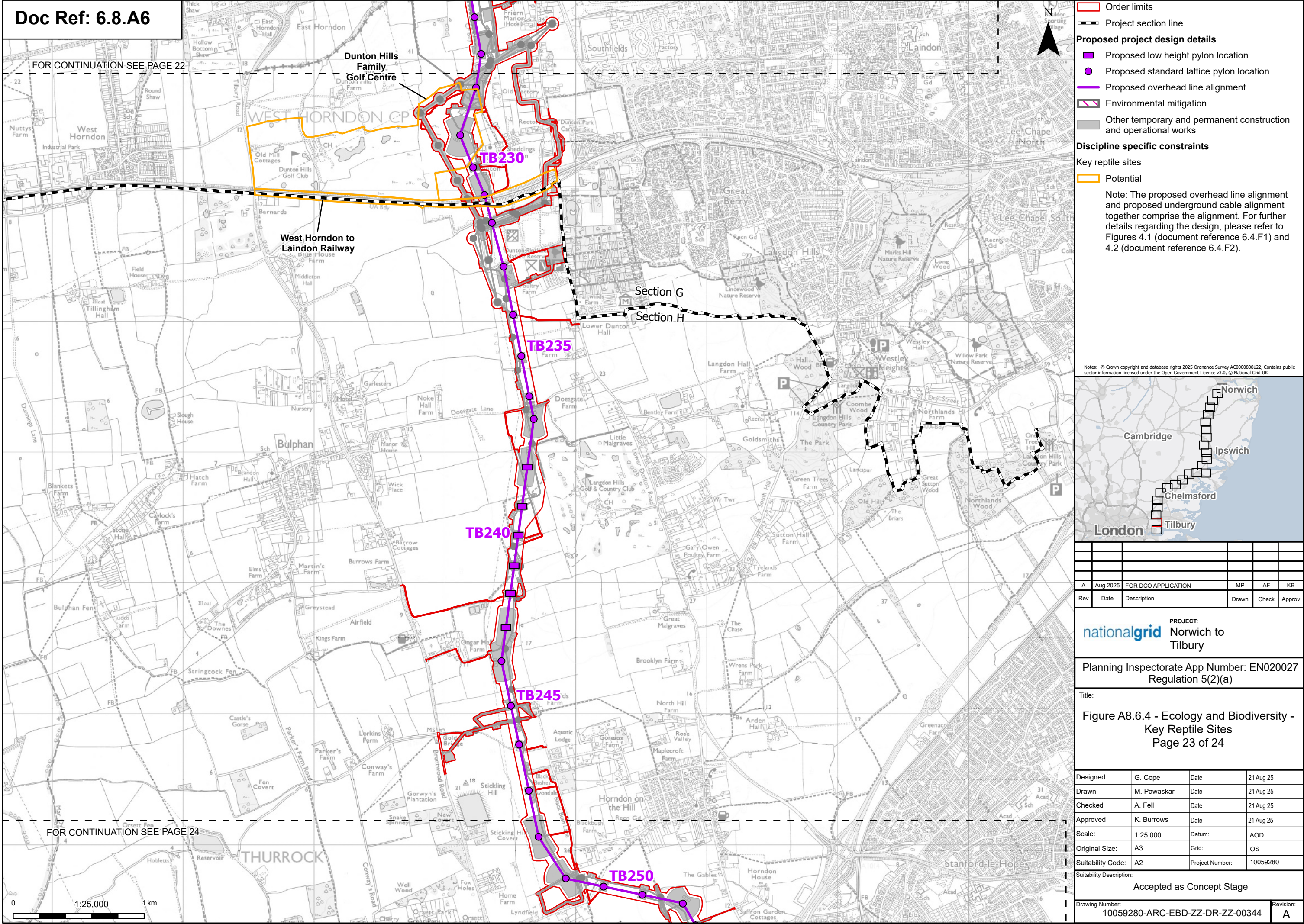
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Page 22 of 24

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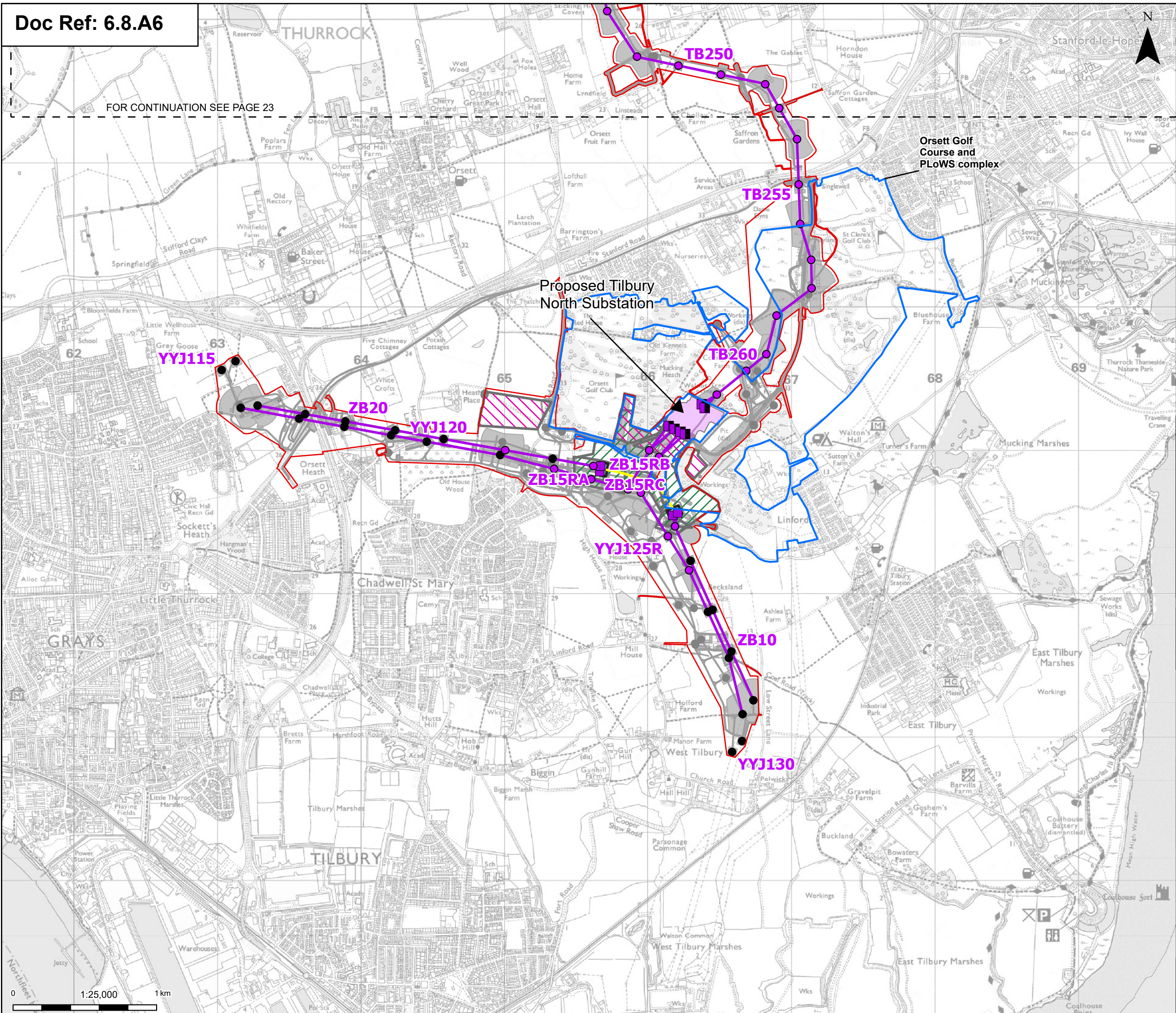
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Drawing Number: 10059280-ARC-EBD-ZZ-DR-ZZ-00344

Revision: A



FOR CONTINUATION SEE PAGE 23



Order limits

Proposed project design details

Discipline specific constraints

Proposed full line tension gantry

Proposed low duty gantry

Existing pylon (modify)

Proposed standard lattice pylon location

Proposed overhead line alignment

Proposed underground cable alignment

Proposed Tilbury North Substation

Proposed cable sealing end compound (CSEC)

Environmental area

Environmental mitigation

Other temporary and permanent construction and operational works

Key reptile sites

Yes

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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Title:

Figure A8.6.4 - Ecology and Biodiversity - Key Reptile Sites

Page 24 of 24

Designed	G. Cope	Date	21 Aug 25
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Suitability Description:

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Drawing Number:

10059280-ARC-EBD-ZZ-DR-ZZ-00344

Revision:

A

Annex B.

Habitat Suitability

Assessment

Annex B

Habitat Suitability Assessment

Table B.1 Habitat suitability assessment summary

Site Name / Reference	Assessment, Suitability Evaluation and Likelihood of Presence
Section A	
Semi natural habitat Dunston	Extensive area of semi-natural habitat extending from the Dunston to Norwich railway line. Includes Dunston Hills, Dunston Common, Diane's Wood, Greenacres, Jayne's Wood, Commonclose Plantation, Susan's Wood, Stokelane Plantation and The Grove. Surveys undertaken in support of the Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects (in 2021) included sections of this site and identified the presence of common lizard (low population) and slow-worm (good population). Desk study also highlighted the presence of grass snake (from 2009) within 2 km. Good suitability habitat and the presence of common lizard and slow-worm has historically been confirmed within sections of the site. There is a low likelihood that the site supports grass snake and negligible likelihood that it supports adder. Potentially qualifies as a KRS (Key Receptor Site) based on criteria 1 and 4 (criteria is presented on Image A8.6.1).
Wood adjacent to Hickling Lane	An unnamed woodland and associated rank grassland that extends adjacent to Hickling Lane from the Dunston to Norwich railway line. Surveys undertaken in support of the Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects (in 2021) included two sections of this site and identified the presence of slow-worm (low population). Poor suitability habitat for reptiles. The presence of slow-worm has historically been confirmed within sections of the site. There is a low likelihood that the site supports common lizard and negligible likelihood that it supports grass snake or adder. Not considered to have the potential to qualify as a KRS.
Brick Kiln Lane Solar Farm	The site appears to comprise an area of rank grassland (between and around the solar panels) with hedgerows and Page's Plantation to the south. There are records of slow-worm within 2 km of the site. Habitats of moderate suitability for reptiles. There is a moderate likelihood that the site supports slow-worm, low likelihood that it supports common lizard and negligible likelihood that it supports grass snake or adder. Not considered to have the potential to qualify as a KRS.
Woodlands off Long Lane	Comprises three woodland blocks, connecting hedgerows and ditches. There are records of slow-worm within 2 km of the site. Habitats of poor suitability. There is a moderate likelihood that the site supports slow-worm, low likelihood this it supports common lizard and negligible likelihood that it supports grass snake or adder. Not considered to have the potential to qualify as a KRS.
Upper Grove Wood	Comprises Upper Grove Woodland, two unnamed woodland blocks and connecting hedgerows and ditches. There are records of slow-worm within 2 km of the site.

Site Name / Reference	Assessment, Suitability Evaluation and Likelihood of Presence
	Habitats of poor suitability. There is a moderate likelihood that the site supports slow-worm, low likelihood this it supports common lizard and negligible likelihood that it supports grass snake or adder. Not considered to have the potential to qualify as a KRS.
Tributary of River Tas	Comprises a tributary of River Tas and associated semi-natural habitats (woodland, scattered trees and scrub, ditches, hedgerows, and field margins), including Flordon Common SSSI and Flordon Meadow (west and east) CWS. Flordon Common is reported to support grass snake, common lizard, and slow-worm in low densities but there are no records of reptiles within 2 km of the site. Habitats of good suitability and there is a moderate likelihood that the site supports grass snake, slow-worm and common lizard, and negligible likelihood that it supports adder. Potentially qualifies as a KRS based on criteria 1 and 4.
Dismantled Wymondham and Forngett Branch Line	Comprises a section of the Dismantled Wymondham and Forngett Branch Line which has since colonised with trees and scrub. Good connectivity with Bayes Meadow and Hapton Common CWSs. There are no records of reptiles within 2 km of the site. The habitats of good suitability for reptiles. There is a low likelihood that the site supports slow-worm, common lizard and grass snake, and negligible likelihood that it supports adder. Potentially qualifies as a KRS based on criteria 1 and 4.
Stickfer Lane	A narrow corridor comprising an unnamed watercourse (tributary of the River Tas) and associated riparian woodland, scrub, and rank grassland. Good connectivity with Hapton Common and Bayes Meadow CWSs. There are records of grass snake within 2 km of the site. The habitats of good suitability for reptiles. There is a low likelihood that the site supports slow-worm, common lizard and grass snake, and negligible likelihood that it supports adder. Potentially qualifies as a KRS based on criteria 1 and 4.
Tabernacle Lane	Comprises a sewage treatment works and associated grassland and woodland/scrub. Good connectivity with Brocks Watering CWS. There are records of grass snake within 2 km of the site. The habitats of good suitability for reptiles. There is a moderate likelihood that the site supports grass snake, low likelihood that it supports slow-worm and common lizard and negligible likelihood that it supports adder. Potentially qualifies as a KRS based on criteria 1.
Bunwell Wood	Comprises Bunwell Wood CWS and associated grassland and woodland/scrub. Good connectivity with Brocks Watering CWS. There are records of grass snake within 2 km of the site. The habitats of good suitability for reptiles. There is a moderate likelihood that the site supports grass snake, low likelihood that it supports slow-worm and common lizard and negligible likelihood that it supports adder. Potentially qualifies as a KRS based on criteria 1.
River Tas Valley	Comprises River Tas and associated semi-natural habitats (woodland, scattered trees and scrub, ditches, hedgerows, and field margins), including

Site Name / Reference	Assessment, Suitability Evaluation and Likelihood of Presence
	Brick Kiln Lane, Bunwell Hill CWS. Has good connectivity to Carlton Rode Fen CWS. There are records of grass snake (from 2013) within the site. The habitats of exceptional suitability for reptiles. There is a high likelihood that the site supports grass snake, low likelihood it supports slow-worm and common lizard, and negligible likelihood that it supports adder. Potentially qualifies as a KRS based on criteria 1 and 4.
Carleton Rode Fen	Comprises grassland, woodland, wetland (River Tas corridor), scrub, hedgerow, and Carlton Rode Fen CWS. Good connectivity with River Tas Valley. There are records of grass snake within 2 km of the site. The habitats of exceptional suitability for reptiles. There is a high likelihood that the site supports grass snake, low likelihood it supports slow-worm and common lizard, and negligible likelihood that it supports adder. Potentially qualifies as a KRS based on criteria 1 and 4.
Shelfanger	Includes Shelfanger Meadows SSSI, Westbrook Green and agricultural land within a valley of an unnamed watercourse. There are records no records of reptiles within 2 km of the site. Exceptional suitability habitat for reptiles, where there is a moderate likelihood that the site supports grass snake, low likelihood that it supports slow-worm and common lizard and negligible likelihood that it supports adder. Potentially qualifies as a KRS based on criteria 1 and 4.
Section B:	
Wortham Ling and Roydon Fen- Site 1 (Section A and B)	Extensive area of suitable habitat associated with the River Waveney and including Roydon Fen LNR and part of Wortham Ling SSSI. There are no records of reptiles within 2 km of the site; however, (the wider) Wortham Ling has good connectivity to records of adder, grass snake and slow-worm. The habitats of exceptional suitability for reptiles. There is a confirmed presence that the site supports common lizard from the 2024 reptile surveys, and moderate likelihood that the site supports grass snake, slow-worm. There is low likelihood that the site supports adder. Potentially qualifies as a KRS.
Goodrich Park Palgrave	Includes Goodrich Park Palgrave, c. 22 ha of historic park land, and adjacent agricultural land that does not appear to be intensively managed. There are records of grass snake and adder within 2 km of the site. The habitats of poor suitability for reptiles where there is a moderate likelihood that the site supports grass snake, low likelihood that it supports slow-worm and common lizard and negligible likelihood that it supports adder. Potentially qualifies as a KRS based on criteria 1 and 4.
Rookery Farm	Wetland corridor centred around an unnamed watercourse with ponds, scrub, and rank grassland. There are records of grass snake and adder within 2 km of the site. Good suitability habitat where there is a moderate likelihood that the site supports grass snake, low likelihood that it supports slow-worm and common lizard and negligible likelihood that it supports adder. Potentially qualifies as a KRS based on criteria 1 and 4.
Seethings Wood	Wetland corridor centred around a tributary of Upper Waveney with Seethings Wood, an unnamed woodland and agricultural land that does not appear to be

Site Name / Reference	Assessment, Suitability Evaluation and Likelihood of Presence
	intensively managed. There are records of grass snake and adder within 2 km of the site. The habitats of good suitability for reptiles where there is a moderate likelihood that the site supports grass snake, low likelihood that it supports slow-worm and common lizard and negligible likelihood that it supports adder. Potentially qualifies as a KRS based on criteria 1 and 4.
Big and Whitmore's Woods	Comprises Big Wood, Whitmore's Wood, associated grassland, and a wide field margin that connects the woodlands. There are no records of reptiles within 2 km of the site. The habitats of good suitability for reptiles where there is a low likelihood that the site supports grass snake, slow-worm and common lizard and negligible likelihood that it supports adder. Potentially qualifies as a KRS based on criteria 1.
Diss to Stowmarket Railway	Comprises a section of the Diss to Stowmarket railway line and adjoining semi-natural habitat, including Thornham Estate Woods (ancient and semi-natural woodland), three other unnamed woodlands, an unnamed watercourse corridor and agricultural land that does not appear to be intensively managed. There are no records of reptiles within 2 km of the site but adder, grass snake and slow-worm have been recorded in proximity of the railway line at a greater distance. The habitats of good suitability for reptiles, where there is a low likelihood that the site supports all four species of reptile. Potentially qualifies as a KRS based on all criteria.
Elm Pollard and Jessies Wood	Two areas of plantation woodland associated with Wickham Road. Elm Pollard (to the north) contains an unnamed watercourse and a pond. There are records of slow-worm within 2 km of the site. The habitats of poor suitability for reptiles. There is a low likelihood that the site supports slow-worm and grass snake and a negligible likelihood that it supports common lizard and adder. Not considered likely to qualify as a KRS.
Old Farm	Area of isolated young plantation on rank grassland. There are no records of reptiles within 2 km of the site and the habitats are considered to be of poor suitability for reptiles. There is a low likelihood that the site supports slow-worm and common lizard and a negligible likelihood that it supports grass snake and adder. Not considered likely to qualify as a KRS.
A14 Soft Estate	Northern and southern soft estate of A14 comprising mosaic of trees, scrub and grassland and creating an extensive corridor (although the A14 will inhibit movements from north to south). Good connectivity with Fen Alder Carr LNR and Creeting St Mary Meadows CWS which form part of an extensive area of semi-natural vegetation where grass snake have been recorded. There are records of slow-worm and grass snake within 2 km of the site. The habitats of poor suitability for reptiles. There is a low likelihood that the site supports grass snake, slow-worm and common lizard and a negligible likelihood that it supports adder. Potentially qualifies as KRS based on criteria 1 and 4.

Site Name / Reference	Assessment, Suitability Evaluation and Likelihood of Presence
River Gipping Valley	The River Gipping Valley is a wide non-intensive agricultural corridor with wide field margins and multiple smaller watercourses and ditches. It contains a section of the River Gipping CWS and Stowmarket to Ipswich Railway (both creating a wildlife corridor through this area). The desk study identified multiple records of grass snake and slow-worm within (associated with the river and railway corridors) and in proximity of the site. The habitats within the site are considered to be of good habitat suitability for reptiles and there is a high likelihood that this site supports grass snake and slow-worm, a low likelihood that it supports common lizard and negligible likelihood that it supports adder. Potentially qualifies as a KRS based on criteria 1 and 4.
Tributary of the River Gipping	This site comprises the tributary of the River Gipping, Hascott Hill LNR/SSSI, multiple woodland blocks (including Ash Covert, Wellfield Covert, Lodgefield Row, Great Newton Wood, and Lower Wood) and interspersed rough grassland and areas of scattered scrub. The desk study identified records of grass snake and slow-worm within the site which is well connected to multiple records of the same species within the River Gipping Valley site. The habitats within the site are considered to be of exceptional habitat suitability for reptiles and there is a high likelihood that this site supports grass snake and slow-worm, a low likelihood that it supports common lizard and negligible likelihood that it supports adder. Potentially qualifies as a KRS based on criteria 1 and 4.
Middle Farm Lakes	A small, isolated site with three angling lakes and associated semi-natural habitats, including grassland, scrub, and woodland. The desk study identified no records of reptiles within 2 km of the site. The habitats within the site of poor habitat suitability for reptiles and there is a low likelihood that the site supports grass snake and negligible likelihood that it supports adder, slow-worm, and common lizard. Not considered likely to qualify as a KRS.
Middle Wood and Tollemache Hall Grove	Comprises Middle Wood SSSI and nearby Tollemache Hall Grove and the desk study identified records of grass snake within 2 km of the site. Good habitat suitability for reptiles and there is a moderate likelihood that the site supports grass snake. There is negligible likelihood that it supports adder, slow-worm, and common lizard. Not considered likely to qualify as a KRS.
Lovetofts Farm	A relatively small and isolated area of non-intensively managed farmland with woodland block, hedgerow, and scattered trees. The desk study identified no records of reptile within 2 km of the site. Poor suitability habitat where there is a low likelihood that the site supports grass snake. There is negligible likelihood that it supports adder, slow-worm, and common lizard. Not considered likely to qualify as a KRS.
Round Wood	Comprises Round Wood ancient semi-natural woodland and an area of non-intensively managed farmland. The desk study identified records of grass snake within 2 km of the site.

Site Name / Reference	Assessment, Suitability Evaluation and Likelihood of Presence
	Good suitability habitat where there is a low likelihood that the site supports grass snake. There is negligible likelihood that it supports adder, slow-worm, and common lizard. Not considered likely to qualify as a KRS.
Section C	
Sproughton Park- Site 2	Comprises an extensive area of non-intensively managed farmland and associated woodland, scrub, and rough grassland, Sproughton Park CWS and Hintlesham Fisheries. Common lizard was recorded on a woodpile within the site during a Project field survey (26/04/2023). Anecdotal evidence grass snake and slow-worm were also provided on the same date by the land manager; multiple records of both species are present locally. Exceptional suitability habitat. Common lizard, slow-worm and grass snake presence has been confirmed as of the 2024 reptile surveys. slow-worm. There is negligible likelihood that it supports adder. The site qualifies as a KRS based on criteria 1 and 4.
Spring Brook	Spring Brook corridor, comprising multiple woodland blocks, scattered trees and scrub and non-intensively managed farmland. The desk study identified records of grass snake, common lizard, and slow-worm within 2 km of the site. Good suitability habitat, where there is a moderate likelihood that the site supports grass snake, common lizard, and slow-worm. There is negligible likelihood that it supports adder. Potentially qualifies as a KRS based on criteria 1 and 4.
Dismantled Hadleigh Railway	The site comprises a section of the extensive dismantled railway corridor and connected woodlands (including The Woodlands and Binny's Wood) and riparian corridor of an unnamed watercourse. Well connected to additional areas of semi-natural vegetation in the wider landscape including the locations of records of adder, grass snake and slow-worm. The latter was recorded during a Project field survey (02/05/2023) on a trackway field margin that extends between sections of the site. Good habitat suitability for reptiles with a high likelihood of supporting adder, grass snake and slow-worm and a low likelihood of supporting common lizard. Potentially qualifies as a KRS based on all criteria.
Dewlands Farm	Site comprises Higham Meadow CWS, two disused pits and a mosaic of woodlands (Soddom and Gomorrah, Timber Hill Wood, and Rough Hill), scrub, rank grassland, a tributary of the River Brett. Good connectivity with the wider landscape where grass snake and slow-worm have been recorded within 2 km. Exceptional habitat suitability for reptiles with a high likelihood of supporting grass snake and slow-worm and a low likelihood of supporting common lizard and adder. Potentially qualifies as a KRS based on all criteria.
Higham Lodge	Site comprises a mosaic of woodlands, scrub, rank grassland and ponds within the grounds of Higham Lodge. Good connectivity with the wider landscape and slow-worm have been recorded within 2 km. Good habitat suitability for reptiles with a high likelihood of supporting slow-worm, a low likelihood of supporting grass snake and common lizard and a negligible likelihood of supporting adder. Potentially qualifies as a KRS based on criteria 1 and 4.

Site Name / Reference	Assessment, Suitability Evaluation and Likelihood of Presence
Bobbitts Hall	Site comprises a complex of connected plantation woodlands within pasture associated with Bobbitts Hall farm. Connectivity with the wider landscape is limited to defunct hedgerows but the site does connect with the Higham Lodge site and slow-worm have been recorded within 2 km. Poor habitat suitability for reptiles with a low likelihood of supporting slow-worm and grass snake and a negligible likelihood of supporting adder and common lizard. Not considered likely to qualify as a KRS.
River Stour Corridor	Site comprises the River Stour, its riparian corridor and associated areas of wetlands, rough grasslands, and woodlands (including Gutter Wood, Church Wood, Gun Hill Wood, New Plantation and Hobbs). The site also includes St Mary's Churchyard, Langham Hall, The Coombs, and Gun Hill Grassland LWS's, sections of the River Box and River Brett, and a large wetland area named Black Barn. The site is well connected to the wider landscape via the River Stour, River Box and River Brett and the sympathetically managed Langham Hall Estate. Wasses Marshes CWS is also situated immediately north. Adder, common lizard, and slow-worm have been recorded within 2 km of the site within habitats connected to the site. Exceptional habitat suitability for reptiles with a high likelihood of supporting common lizard and slow-worm and a low likelihood of supporting grass snake and adder. Potentially qualifies as a KRS based on all criteria.
Black Brook	The site comprises Black Brook and its riparian corridor (partially designated an LWS), and associated woodlands (including Sprike's Grove, and The Grove), rough grasslands, wetlands, and a large irrigation reservoir. Well connected to the wider landscape. Grass snake, adder and common lizard were recorded within 2 km to the east, although connectivity is reduced to these records due to the presence of the A12. Exceptional habitat suitability for reptiles with a high likelihood of supporting grass snake and common lizard, a moderate likelihood of supporting slow-worm and a low likelihood of supporting adder. Potentially qualifies as a KRS based on all criteria.
South of Orchard House	Site comprises of an isolated woodland and small plantation situated directly adjacent to the A12 within an agricultural area. Common lizard has been recorded within 2 km of the site but with minimal connectivity. Poor habitat suitability for reptiles with a low likelihood for common lizard, and a negligible likelihood for grass snake, adder, and slow-worm. Not considered likely to qualify as a KRS.
Boxhouse Lane	Site comprises an area of parkland habitat, woodland blocks, and patches of rough grassland. The site also includes a small pond, connected to a ditch that cuts through the whole of the site. Moderate connectivity to the wider landscape via hedgerows and the Black Brook riparian corridor (which extends to the north of the site). Common Lizard has been recorded within the site, as well as grass snake and adder within 2 km of the Site. Good suitability habitat with a high likelihood of common lizard, a moderate likelihood of grass snake, and a low likelihood of adder and slow-worm. Potentially qualifies as a KRS based on criteria 1, 2 and 4.

Site Name / Reference	Assessment, Suitability Evaluation and Likelihood of Presence
Dedham Road	Small, isolated strip of woodland adjacent to Denham Road (B1029). Grass snake and common lizard have been recorded within 2 km of the Site; however, these locations are unconnected to the site. Poor habitat suitability with a negligible likelihood of grass snake, adder, common lizard, and slow-worm. Not considered likely to qualify as a KRS.
Colchester to Manningtree Railway	Site comprises a section of the Colchester to Manningtree Railway Line which creates a narrow corridor of rough grassland and scrub (on both sidings) through an otherwise intensively managed area. The railway corridor is to areas of semi-natural vegetation including Shir Burn Wood and Meadow LWS to the north-east and Manor House Meadow and Springhead Corner Meadow LWSs to the south-west. Hedgerows provide limited connectivity to the Home Farm Reservoir site. Grass snake has been recorded within 2 km of the site. Good habitat suitability with a moderate likelihood of grass snake and a low likelihood of common lizard and slow-worm. There is a negligible likelihood of adder. Potentially qualifies as a KRS based on criteria 1 and 4.
Little Bromley Road	An 8-acre irrigation pond that is used recreationally for angling and is surrounded by grassland, woodland, and scrub. Somewhat isolated with limited connectivity to the Colchester to Manningtree Railway corridor via a hedgerow. The immediate surroundings of the site comprises heavily extensively managed grassland and agricultural land. Grass snake has been recorded within close proximity (less than 500 m) of the site, connected via hedgerows. Good suitability habitat with a high likelihood of grass snake, a low likelihood of common lizard and slow-worm, and a negligible likelihood of adder. Potentially qualifies as a KRS based on criteria 1 and 4.
Mayfields Farm	Small woodland strip bordering a managed/grazed grassland and small patch of rough grassland with scattered scrub. The site is poorly connected to the wider landscape, limited to a couple of defunct hedgerows. Small, scattered parcels of woodland and Little Bromley Road are in close proximity to the site; however, connectivity to these locations is poor. Grass snake has been reported in close proximity to the site (less than 100 m), connected via one of the limited hedgerows. Poor suitability habitat with a high likelihood of grass snake presence, and a negligible likelihood for adder, common lizard, and slow-worm. Not considered likely to qualify as a KRS.
Badley Hall	Site comprises a small area of managed grassland enclosing two sections of fenced scrub and surrounded by mixed woodland. Situated within an intensively managed area, the site has poor connectivity via hedgerow and other small, thin strips of woodland to the north and south. During a Project field survey (26/04/2023), grass snake was recorded within a connecting hedgerow (40 m north of the site). Poor suitability habitat with a high likelihood of grass snake presence, and a negligible likelihood for adder, common lizard, and slow-worm. Not considered likely to qualify as a KRS.
Fen Lane	Isolated reservoir with thin band of scrub and scattered trees on its banks. No records of reptiles were reported within 2 km of the site.

Site Name / Reference	Assessment, Suitability Evaluation and Likelihood of Presence
Ardleigh Reservoir	Poor habitat suitability with a low likelihood of grass snake and a negligible likelihood of adder, common lizard, and slow-worm. Not considered likely to qualify as a KRS. The site comprises part of Ardleigh Reservoir, its riparian corridor, and associated areas of wetlands (including a series of smaller adjacent reservoirs/ponds), rough grasslands and woodlands. The site is well connected to wider landscape, via the reservoir continuing south of the site, and then round to the west. Ardleigh Reservoir Grassland LWS and Ardleigh Reservoir Wood LWS are also situated adjacent south. Grass snake and common lizard have been recorded with 2 km, within habitats well connected to the site. Exceptional suitability habitat with a high likelihood of grass snake and common lizard and a low likelihood of adder and slow-worm. Potentially qualifies as a KRS based on all criteria.
Section D	
Redhouse Farm	The site comprises of a combination of grassland (varying level of management), woodland, scrub and includes Harrow Wood LWS. Largely isolated with limited connectivity to the wider area via hedgerows. No reptiles have been recorded within 2 km of the site. Good suitability habitat, with a moderate likelihood of grass snake, low likelihood of common lizard and slow-worm, and a negligible likelihood of adder. Potentially qualifies as a KRS based on criteria 1 and 4
Otters Brook Cottage	The site comprises Black Brook, its riparian corridor, woodland, plantation (including Horkesley Plantation), rough grassland and scrub. The site also includes a series of ponds and reservoirs. The site is well connected to the wider landscape to the south and west. No reptiles have been recorded within 2 km of the site. Exceptional suitability habitat with a moderate likelihood of grass snake, common lizard and slow-worm, and a low likelihood of adder. Potentially qualifies as a KRS based on criteria 1, 2 and 4.
Westwood Home Farm	The site comprises connected woodland parcels, grassland (varying degrees of management), scrub, hedgerows, and wetland areas (including a pond and a reservoir). The site also includes Slough Grove LWS, and a ditch network that passes through the area, continuing north. Situated within an intensively managed landscape but with good connectivity to the north. Common lizard has been recorded within 2 km of the site. Good suitability habitat with a high likelihood of common lizard, a moderate likelihood of grass snake and slow-worm, and a negligible likelihood of adder. Potentially qualifies as a KRS based on criteria 1,3 and 4.
Grove Lodge	A large wetland area (reservoir) with rough grassland, scrub, small areas of woodland and a ditch network. The majority of the adjacent landscape is arable; however, there is a moderate connection to the wider landscape through the ditch network which continues to the north, east and south. To the south, the site is connected to the Highfield Farm site. Common lizard has been recorded within 2 km of the site.

Site Name / Reference	Assessment, Suitability Evaluation and Likelihood of Presence
	Good suitability habitat with a high likelihood of grass snake and common lizard, moderate likelihood of slow-worm, and negligible likelihood of adder. Potentially qualifies as a KRS based on criteria 1,3 and 4.
Highfield Farm	The site resembles parkland type habitat with a pond, scrub, woodland, and areas of grassland. A ditch network runs north to south through the site connecting with the Grove Lodge and Coney Byes Farm sites. Grass snake has been recorded within 2 km of the site. Good suitability habitat with a high likelihood of grass snake and common lizard, moderate likelihood of slow-worm, and negligible likelihood of adder. Potentially qualifies as a KRS based on criteria 1, 3 and 4.
Coney Byes Farm	An extensive area of rough grassland, hedgerows, scrub, woodland, and a ditch network that extends further south connecting with the River Colne. Multiple LWS are situated within the site: Wood near Fordham Place, West Bergholt Alderwoods, Hillhouse Wood and West Bergholt Hall Church. Stitching Wood LWS is also situated adjacent east, as well as Spring Wood LWS and Grove Wood LWS to the south. Grass snake has been reported on the boundary of the site and common lizard within 2 km. Exceptional suitability habitat with a high likelihood of grass snake and common lizard, a moderate likelihood of slow-worm and a negligible likelihood of adder. Potentially qualifies as a KRS based on criteria 1, 3 and 4.
Colne Valley	An extensive area of connected semi-natural habitats, including the River Colne riparian corridor, Fordham Bridge Meadow LWS and a large area of young, open plantation woodland associated with Fordham Hall Estate. The site is well connected to the wider landscape; grass snake and slow-worm have been recorded within 2 km. Exceptional suitability habitat that has confirmed presence of common lizard and grass snake as identified during the 2024 reptile surveys. There is a moderate likelihood of supporting slow-worm and a negligible likelihood that it supports adder. The site possibly qualifies as a KRS based on criteria 3 and 4.
Marks Tey	Comprises woodland, rough grassland, hedgerows, scrub, and wetland areas including the Roman River and its riparian corridor, a reservoir, and a small pond. The site also includes the Chappel and Wakes Colne to Mark's Tey railway line, Stonefield Strip LWS, Church House Wood LWS, Marks Tey Brick Pit LWS and Marks Tey Brick Pit SSSI. The area is well connected to the wider landscape via the railway and river corridors. slow-worm was recorded within 2 km of the site. Exceptional suitability habitat with a high likelihood of grass snake, common lizard and slow-worm, and a low likelihood of adder. Potentially qualifies as a KRS based on all criteria.
Section E	
Coggeshall Hall Farm	An extensive area associated with the River Blackwater and including woodland, rough grassland, scrub, hedgerows, and other wetland features (including The Rise fishery, and a smaller reservoir). The site also includes Coggeshall Hall Farm LWS. The site is well connected to the wider landscape via the River Blackwater continuing. Coggeshall Hall Farm LWS also

Site Name / Reference	Assessment, Suitability Evaluation and Likelihood of Presence
	continues out of the site to the south-east. Grass snake and common lizard have been recorded with 2 km of the site. Exceptional suitability habitat with a high likelihood of grass snake and common lizard, a moderate likelihood for slow-worm, and a low likelihood of adders. Potentially qualifies as a KRS based on all criteria.
Monk's Farm	A small, largely isolated area of plantation woodland and scrubby ditch. Grass snake and common lizard have been recorded within 2 km of the site. Poor suitability habitat with a low likelihood of grass snake and common lizard, and a negligible likelihood for adder and slow-worm. Considered unlikely to qualify as a KRS.
Porters Farm	Site contains the River Blackwater, its riparian corridor, woodland (including Landerfield Spring), rough grassland, scrub, and other wetland features (including two ponds, one named Fish Pond). The site is well connected to the wider landscape via the River Blackwater and there are multiple LWS within close proximity to the site: Upney Wood, Storey's Wood, Barrowfield Wood and Rivenhall Thicks. Grass snake, common lizard and slow-worm have been recorded within 2 km of the site. Exceptional suitability habitat with a high likelihood of grass snake, common lizard and slow-worm, and a negligible likelihood of adder. Potentially qualifies as a KRS based on criteria 1, 3 and 4.
Cressing to Witham Railway	A c.25 - 45 m wide corridor of rough grassland and scrub associated with the railway line and areas of connected woodland. Created an extensive wildlife corridor and grass snake, common lizard, and slow-worm have been recorded within 2 km of the site. Good habitat suitability with a high likelihood of common lizard and slow-worm, a moderate likelihood of grass snake, and a low likelihood of adder. Potentially qualifies as a KRS, based on all criteria.
River Brain	An extensive riparian corridor and associated areas of woodland, rough grassland, scrub, and a small wetland area (reservoir). A small section of this area is associated with Faulkbourne Hall Gardens and the site is well connected to the wider landscape. Grass snake and common lizard have been recorded within 2 km of the site. Exceptional suitability habitat with a high likelihood of grass snake and common lizard, a moderate likelihood of slow-worm, and a low likelihood of adder. Potentially qualifies as a KRS based on all criteria.
Fairstead Road	An area of grassland with a sparse plantation and a wooded riparian corridor associated with an unnamed tributary of the River Ter. Limited connectivity with the wider landscape. slow-worm has been recorded within 2 km of the site. Poor habitat suitability with a low likelihood of common lizard and slow-worm and a negligible likelihood of grass snake and adder. Considered unlikely to be a KRS
Section F	
River Ter	The site comprises the River Ter and associated areas of woodland, rough grassland, hedgerow, scrub, and other wetland areas such as a reservoir. The site also includes part of the River Ter SSSI and Lowley's Farm Meadow

Site Name / Reference	Assessment, Suitability Evaluation and Likelihood of Presence
	LWS. Straw Brook Plantation LWS is also situated adjacent to west and St Mary the Virgin, Great Leighs LWS to the east. The site is well connected to the wider landscape. Grass snake and common lizard have been recorded within 2 km. Exceptional suitability habitat with a high likelihood of grass snake and common lizard, a moderate likelihood of slow-worm and a low likelihood of adder. Potentially qualifies as a KRS based on all criteria.
River Chelmer	The sites comprises a section of the River Chelmer and associated, rough grassland, scrub, and woodland; Whites Plantation which is also part of the Langley Deer Park LWS (which covers a much larger area to the north-east of the site). The site is well connected to the wider landscape. Grass snake and slow-worm have been recorded within 2 km. Good suitability habitat with a high likelihood of grass snake and slow-worm, a moderate likelihood of common lizard, and a low likelihood of adder. Potentially qualifies as a KRS based on all criteria.
River Can and Former Brittons Hall Farm Landfill Site	The site is a reclaimed landfill site (previously Brittons Hall Farm Landfill site), restored into a local nature park with public access through bridleways. It consists of rough grassland, woodland (including over 100-year-old ash trees), scrub, and wetland areas including a lake and pond. The River Can passes through the site to the west. The site is moderately connected to the wider landscape through the River Can and hedgerows/field boundaries. Grass snake has been recorded within the site, and slow-worm within 2 km. Good suitability habitat with a high likelihood of grass snake, common lizard and slow-worm, and a negligible likelihood of adder. Potentially qualifies as a KRS based on criteria 1, 3 and 4.
Chelmsford Compressor Station	The site contains wetland habitat (a reservoir and a ditch), woodland, grassland, and hedgerows with limited connectivity to the wider landscape. Grass snake and common lizard have been recorded within 2 km of the site. Good suitability habitat with a moderate likelihood of grass snake, common lizard and slow-worm, and a negligible likelihood of adder. Potentially qualifies as a KRS based on criteria 1 and 4.
Land off Roxwell Road	An area of rough grassland with scrub, woodland, and a pond, with limited connectivity to the wider landscape. Grass snake has been recorded within 2 km of the site. Good suitability habitat with a moderate likelihood of grass snake, common lizard and slow-worm, and a negligible likelihood of adder. Potentially qualifies as a KRS based on criteria 1, 3 and 4.
Willowmere Lake and Associated Habitat	A network of woodland with a wetland area (named Willowmere Lake) connected via a series of wide hedgerows and woodland strips, that surround agricultural land and Writtle college campus. The site is fairly connected to the wider landscape and grass snake has been recorded within 2 km of the site. Good suitability habitat with a high likelihood of grass snake, a low likelihood of common lizard and slow-worm, and a negligible likelihood of adder. Potentially qualifies as a KRS based on criteria 1, 3 and 4.
Writtlepark and Associated Woodlands	An extensive area containing multiple local wildlife sites (including Great/Little Edney Woods LWS, King Wood LWS, Writtlepark Woods LWS and James's Spring LWS), connected by hedgerows and a ditch network, alongside

Site Name / Reference	Assessment, Suitability Evaluation and Likelihood of Presence
	woodland, rough grassland, and wetland areas. The site is well connected to the wider landscape and other areas of semi-natural vegetation including multiple LWS that are present locally. All four reptile species have been recorded within 2 km of the site. Exceptional suitability habitat with a high likelihood of grass snake, common lizard and slow-worm, and a moderate likelihood of adder. Potentially qualifies as a KRS based on all criteria.
Section G	
Ingatestone to Chelmsford Railway	The c.30 m wide railway corridor with rough grassland and scrub sidings, an associated reservoir and pond situated around St Margaret's Church. The site is well connected to the wider landscape and two local wildlife sites situated adjacent to the south: Rock Wood LWS and Spring Wood LWS. Adder, common lizard, and slow-worm have been recorded within 2 km of the site. Good suitability habitat with a high likelihood of common lizard and slow-worm, and a low likelihood of grass snake and adder. Potentially qualifies as a KRS based on all criteria.
River Wid Corridor – Site 4	The site comprises a section of the River Wid, two unnamed tributaries of the River Wid, Clapgate Wood LWS, Mountnessing Hall Woods LWS, young woodland plantation associated with Hawthorn Cottages and habitats associated with a water recycling centre. An extensive area of connected semi-natural habitats, including the River Colne riparian corridor, Fordham Bridge Meadow LWS and a large area of young, open plantation woodland associated with Fordham Hall Estate. The site is well connected to the wider landscape via the River Wid and railway line; grass snake, common lizard and slow-worm have been recorded within 2 km and adder has been recorded within Norsey Wood LNR, which is c. 5 km away but well connected to the site via a railway corridor. Exceptional suitability habitat that has confirmed presence of grass snake, slow-worm, common lizard and adder as a result of the 2024 reptile surveys. This site qualifies as a Key Reptile Site based on criteria 1, 2, 4 and possibly criteria 5.
Shenfield to Billericay Railway	Site comprises a c. 20-45 m wide railway corridor with rough grassland, scrub, and wooded sidings. Round Wood LWS is situated directly south, and Clapgate Wood directly north, and the corridor is connected to Hutton Country Park LWS, Cock Wood/Collins's Shaw LWS, and Arnold's Wood Complex. Grass snake, common lizard and slow-worm have been recorded within 2 km of the site. Good suitability habitat with a high likelihood of common lizard and slow-worm, and a low likelihood of grass snake. There is a negligible likelihood of adder. Potentially qualifies as a KRS based on criteria 1, 3 and 4.
Oakleigh Farm	Site consists of a large pond surrounded by rough grassland, shrub, and woodland, directly adjacent to an equine livery business. The site is rather isolated, surrounded by grazed or managed grassland, or agricultural land. Grass snake, common lizard and slow-worm have been recorded within 2 km of the site.

Site Name / Reference	Assessment, Suitability Evaluation and Likelihood of Presence
Bladenwood Farm	Good suitability habitat with a moderate likelihood of grass snake, common lizard and slow-worm, and a negligible likelihood of adder. Potentially qualifies as a KRS based on criteria 1 and 4. An extensive network of woodlands connected by hedgerows and thin woodland strips. Woodlands include James Wood LWS, Bluntswall Wood LWS, Bluntswall Shaws LWS, Primstock LWS, Little Bladen's Wood LWS, Blind Lane LWS and Bladen's Wood LWS. The site also includes areas of rough grassland, and multiple, small areas of wetland. Hedgerows connect the site to other areas of semi-natural vegetation including Hall Wood, Ingrave LWS, Sutton Shaw LWS, High Field Wood LWS, St Margarets Wood and Lane LWS, Parkhill Wood Meadow LWS, Park Hill Wood LWS and Long Shaw and Round Wood woodlands. Grass snake, common lizard and slow-worm have been recorded within 2 km of the site. Good suitability habitat with a high likelihood of common lizard and slow-worm, a moderate likelihood of grass snake, and a low likelihood of adder. Potentially qualifies as a KRS based on all criteria.
Section H	
Dunton Hills Family Golf Centre	A golf course containing heavily managed grassland, rough grassland, multiple areas of wetland (varying from a large lake to small ponds), a ditch bisecting the site, and areas of woodland. The site has connectivity to the wider landscape via the adjacent West Horndon to Laindon railway line and hedge and ditch networks. Grass snake has been recorded on the site, as well as adder, common lizard, and slow-worm within 2 km. Exceptional suitability habitat with a high likelihood of grass snake, common lizard and slow-worm, and a moderate likelihood of adder. Potentially qualifies as a KRS based on all criteria.
West Horndon to Laindon Railway	A c. 40-60 m wide railway corridor with rough grassland, scrub, and woodland sidings. The site is situated adjacent to the Dunton Hills Family Golf Centre site and connect with suitable habitat on Bernard's Farm and Langdon Complex LWS (both situated to the west). All four reptile species have been recorded within 2 km of the site. Good suitability habitat with a moderate likelihood of grass snake, common lizard and slow-worm, and a low likelihood of adder. Potentially qualifies as a KRS based on criteria 1, 2 and 4.
Orsett Golf Course and potential Wildlife Site – Site 5	The land situated between Orsett and Linford comprises an extensive area of semi-natural vegetation including sections of the North Thames Estuary and Marshes SSSI extension interest area, Orsett Golf Course and multiple LWSs (Linford Pit, Rainbow Wood and Ashen Shaw, Linford Wood, Mucking Heath, Buckingham Hill). Habitats present include wetlands, woodlands, scrub, open mosaic habitats, ancient heathlands and unimproved grasslands and the area is well connected to the wider landscape via Tilbury Town to East Tilbury Railway which connects with additional LWS and areas of semi-natural vegetation to the east. Adder were recorded within two separate locations (both on 09/08/2023) within 300 m of the site during a Project field survey and the desk study identified multiple records of all four reptiles within this site. Two sections of

Site Name / Reference	Assessment, Suitability Evaluation and Likelihood of Presence
	this site were also surveyed by LTC in 2018 and 2019 (see National Highways, 2022b). The LTC survey separated the land into several survey areas in proximity of the Order Limits and survey areas N16 and N30 were of relevance for this site: N16 – situated in the southwest corner of Orsett Golf Course. Reptile presence was recorded as follows: adder (none), grass snake (none), common lizard (low population size class) and slow-worm (low). N30 – situated to the south of the site adjacent to Tarmac Linford Bagging Plant, this survey area was reported as KRS and reptile presence was recorded as follows: adder (none), grass snake (none), common lizard (low population size class) and slow-worm (good). The habitats within the site are of exceptional habitat suitability for reptiles and there is confirmed presence that this site supports all four reptile species (common lizard, slow-worm, grass snake and adder) as a result of the 2024 reptile surveys. The site qualifies as a KRS based on criteria 1, 2 and 4.

Annex C.

Survey Weather

Conditions

Annex C

Survey Weather Conditions

Table C.1 Summary of survey weather conditions

Site	Visit No.	Date	Temperature (°C)	Weather Conditions	Comments
Site 1 - Worthing Ling and Roydon Fen (Section A and B)	1	17/04/2024	9	Dry	None
	2	23/04/2024	10	Dry	Weather overcast, dry during the survey. Due to heavy rain the night before, some refugia were damp.
	3	02/05/2024	18	Dry	None
	4	07/05/2024	16	Dry	None
	5	13/05/2024	19	Dry	None
	6	20/05/2024	19	Dry	None
	7	31/05/2024	13	Drizzle	None
Site 2- Sproughton Park (Section C)	1	16/04/2024	11	Light rain shower(s)	None
	2	24/04/2024	9	Dry	Surveyors attended the site during short periods of sun and dry weather. It had rained the night before, with some patches of habitat still damp.
	3	29/04/2024	16	Dry	None
	4	08/05/2024	15	Dry	None
	5	14/05/2024	16	Drizzle	Light drizzle at the start of the survey.
	6	21/05/2024	16	Dry	None
	7	30/05/2024	17	Dry	None
Site 3 - Colne Valley (Section D)	1	19/04/2024	10	Dry	None
	2	22/04/2024	10	Dry	Dry at the start of survey. It drizzled during the last 10 mins of the survey.
	3	01/05/2024 – 02/05/2024	15	Dry	None

Site	Visit No.	Date	Temperature (°C)	Weather Conditions	Comments
	4	08/05/2024	13	Dry	None
	5	15/05/2024	16	Dry	None
	6	22/05/2024	15	Drizzle	It had rained in the previous night so ground conditions were wet. Surveyors attended site during the warmest and dry periods of the day to survey.
	7	30/05/2024	14	Dry	None
	1	18/04/2024	13	Dry	None
	2	25/04/2024	11	Dry	None
	3	30/04/2024	14	Dry	None
Site 4 - River Wid Corridor (Section G)	4	09/05/2024	17	Dry	None
	5	16/05/2024	15	Dry	It rained prior to the survey, and the ground was wet.
	6	23/05/2024	16	Dry	None
	7	29/05/2024	16	Dry	None
	1	18/04/2024	11	Dry	None
	2	26/04/2024	11	Dry	None
	3	01/05/2024	15	Dry	None
Site 5 - Orsett Golf Course and potential Local Wildlife Site (pLWS) complex (Section H)	4	09/05/2024	14	Dry	None
	5	17/05/2024	17	Dry	None
	6	24/05/2024	15	Dry	None
	7	29/05/2024	17	Dry	None

Annex D. Non-statutory Designated Sites with Reptiles

Annex D

Non-statutory Designated Sites with Reptiles

Table D.1 Summary of non-statutory designated sites with reptiles

Site	Distance and Direction to Order Limits	Summary
Section A		
Swardeston Common CWS	1.16 km north-west	Reptiles not noted within description, but desk study highlighted the presence of common lizard (large population) and grass snake in proximity, so the CWS is considered likely to support them.
The Carrs Woodland CWS	1.86 km west	Reptiles not noted within description, but desk study highlighted the presence of common lizard (large population) and grass snake in proximity, so the CWS is considered likely to support them.
Mulbarton Common CWS	0.96 km west	Reptiles not noted within description, but desk study highlighted the presence of slow-worm in proximity, so the CWS is considered likely to support them.
Street Plantation and Bracon Hall Lake CWS	1.15 km west	Reptiles not noted within citation, but desk study highlighted the presence of slow-worm in proximity, so the CWS is considered likely to support them.
Smockmill Common CWS	1.31 km east	Reptiles not noted within description, but desk study highlighted the presence of slow-worm in proximity, so the CWS is considered likely to support them.
Muir Lane Meadow CWS	1.42 km east	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Eagle Farm Pond CWS	0.81 km east	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Tas Pond CWS	1.1 km east	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Bunwell Fen CWS	0.71 km east	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Brick Kiln Lane, Bunwell Hill CWS	Adjacent to the Order Limits	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Section B		

Site	Distance and Direction to Order Limits	Summary
The Marsh CWS	0.23 km north-west	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Wortham Long Green CWS	0.46 km west	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Burgate Great Green CWS	1.07 km north-west	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Gittin Wood CWS	1.57 km north-west	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Thrandeston Marsh CWS	Within the Order Limits	Reptiles not noted within description, but desk study highlighted the presence of grass snake and adder in proximity, so the CWS is considered likely to support them.
Railway Meadows CWS	0.15 km east	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Topcroft Farm Meadows CWS	1.89 km south-west	Reptiles not noted within description, but desk study highlighted the presence of slow-worm in proximity, so the CWS is considered likely to support them.
Ash Plantation CWS	0.51 km south-west	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Gipping Little Wood CWS	0.95 km west	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Guidepost Plantation CWS	1.07 km west	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Forrold Meadow CWS	1.31 km east	Description notes that grass snake has been previously recorded within the site.
RNR 169	0.82 km west	Reptiles not noted within description, but desk study highlighted the presence of slow-worm in proximity, so the CWS is considered likely to support them.
RNR 211	1.14 km west	Reptiles not noted within description, but desk study highlighted the presence of slow-worm in proximity, so the CWS is considered likely to support them.
RNR 212	0.72 km west	Reptiles not noted within description, but desk study highlighted the presence of slow-worm in proximity, so the CWS is considered likely to support them.

Site	Distance and Direction to Order Limits	Summary
Creeping St Mary Meadows CWS	0.41 km north-east	Reptiles not noted within description but records of grass snake in proximity so likely supports reptiles.
Fen Alder Carr CWS	0.21 km south-east	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Creeping St Mary Churchyard CWS	0.7 km east	Description notes that slow-worm have been recorded within the site.
River Gipping (Sections) CWS	Within the Order Limits	Reptiles not noted within description, but desk study highlighted the presence of grass snake and slow-worm in proximity, so the CWS is considered likely to support them.
Keyfield Groves CWS	0.12 km north-west	Reptiles not noted within description, but desk study highlighted the presence of grass snake and slow-worm in proximity, so the CWS is considered likely to support them.
Suffolk Business Park Meadow – Formerly EEB CWS	0.86 km north-west	Reptiles not noted within description, but desk study highlighted the presence of grass snake and slow-worm in proximity, so the CWS is considered likely to support them.
Flordon Road Grassland CWS	1.56 km south-east	Description describes the site as providing a rich habitat for reptiles.
Little Newton Wood CWS	Adjacent to the Order Limits	Reptiles not noted within description, but desk study highlighted the presence of grass snake and slow-worm in proximity, so the CWS is considered likely to support them.
Great Newton Wood CWS	Adjacent to the Order Limits	Reptiles not noted within description, but desk study highlighted the presence of grass snake and slow-worm in proximity, so the CWS is considered likely to support them.
Lion Inn Meadow and Chalk Pit CWS	1.79 km east	Reptiles not noted within description, but desk study highlighted the presence of grass snake and slow-worm in proximity, so the CWS is considered likely to support them.
Chalkeith Road Meadow CWS	1.72 km east	Reptiles not noted within description, but desk study highlighted the presence of grass snake and slow-worm in proximity, so the CWS is considered likely to support them.
Bushey Ley Farm (Arable Fields) CWS	Within the Order Limits	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Miller's Wood CWS	Within the Order Limits	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.

Site	Distance and Direction to Order Limits	Summary
Bullen Wood CWS	Within the Order Limits	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Bramford Meadows CWS	0.59 km north-east	Description states that the site supports slow-worm, grass snake and common lizard.
Hazel Wood CWS	0.87 km east	Reptiles not noted within description, but desk study highlighted the presence of grass snake and slow-worm in proximity, so the CWS is considered likely to support them.
Chantry Park, Beechwater and Meadow CWS	1.23 km east	Description states that a reptile survey (in 2011) found an exceptional population of grass snake and that 1300 slow-worm and common lizard were translocated into the site in 2014.
Section C		
Sproughton Park CWS	Within the Order Limits	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Squire`s Wood CWS	0.13 km north-west	Reptiles not noted within description, but desk study highlighted the presence of grass snake and adder in proximity, so the CWS is considered likely to support them.
Long Wood CWS	0.4 km north-west	Reptiles not noted within description, but desk study highlighted the presence of grass snake and adder in proximity, so the CWS is considered likely to support them.
Tom`s / Broadoak Wood CWS	0.78 km north-west	Reptiles not noted within description, but desk study highlighted the presence of grass snake and adder in proximity, so the CWS is considered likely to support them.
Raydon Great Wood CWS	0.13 km west	The description states that its large size, habitat variation and structural diversity provide habitat opportunities for a wide range of wildlife including reptiles.
Hadleigh Railway Walk CWS	0.37 km north-west	Reptiles not noted within description, but desk study highlighted the presence of grass snake and adder in proximity, so the CWS is considered likely to support them.
Water Farm Meadow CWS	0.94 km west	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the CWS is considered likely to support them.
Wasses Marshes CWS	0.05 km west	Reptiles not noted within description, but desk study highlighted the presence of slow-worm in proximity, so the CWS is considered likely to support them.
Cophedge Wood LWS	0.92 km west	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the LWS is considered likely to support them.

Site	Distance and Direction to Order Limits	Summary
Ash Wood LWS	0.70 km west	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the LWS is considered likely to support them.
Section D		
High Woods LWS	1.53 km south	The description notes that the site supports grass snake and common lizards.
Kiln Wood LWS	0.21 km south	Reptiles not noted within description, but desk study highlighted the presence of grass snake and common lizard in proximity, so the LWS is considered likely to support them.
Section E and F:		No non-statutory designated included reptiles in their description, nor did the desk study show records in close proximity.
Section G		
Little Burstead Common LWS	0.04 km east	Description notes that the site supports common lizard.
Gun Hill Place LWS	0.02 km east	Description notes that the site supports adder, grass snake and slow-worm.
Section H		
Low Street Pit LWS	0.55 km east	Reptiles not noted within description, but desk study highlighted the presence of adder, grass snake, common lizard, and slow-worm in proximity, so the LWS is considered likely to support them.
Tilbury Power Station LWS	0.95 km south	Description states SC16 Hotspots for Reptile Diversity as part of its selection criteria. The site is noted because sites supporting all four Essex reptile species are rare and because the adder population here is especially large.
West Tilbury Church LWS	0.28 km west	Reptiles not noted within description, but desk study highlighted the presence of adder in proximity, so the LWS is considered likely to support them.
West Tilbury Hall LWS	0.38 km west	Reptiles not noted within description, but desk study highlighted the presence of adder in proximity, so the LWS is considered likely to support them.
Broom Hill LWS	0.55 km north-west	Reptiles not noted within description, but desk study highlighted the presence of adder in proximity, so the LWS is considered likely to support them.
Hob Hill and Sandy Lane Pit, Chadwell St Mary LWS	0.81 km south	Reptiles not noted within description, but desk study highlighted the presence of adder in proximity, so the LWS is considered likely to support them.

Site	Distance and Direction to Order Limits	Summary
Linford Pit LWS	Within the Order Limits	Reptiles not noted within description, but desk study highlighted the presence of adder, grass snake, common lizard, and slow-worm in proximity, so the LWS is considered likely to support them.
Rainbow Wood and Ashen Shaw LWS	Within the Order Limits	Reptiles not noted within description, but desk study highlighted the presence of adder, grass snake, common lizard, and slow-worm in proximity, so the LWS is considered likely to support them.
Mucking Heath Complex, Southfields LWS	Within the Order Limits	Description notes that this site has a good population of adder, common lizard, and slow-worm.
Linford Wood LWS	0.54 km south-east	Reptiles not noted within description, but desk study highlighted the presence of adder and slow-worm in proximity, so the LWS is considered likely to support them.
Buckingham Hill LWS	Within the Order Limits	Reptiles not noted within description, but desk study highlighted the presence of adder, common lizard, and slow-worm in proximity, so the LWS is considered likely to support them.
Thurrock Thameside Nature Park, Mucking LWS	0.84 km south-east	Description notes that this site is of great importance for its reptile population, with a large adder population being particularly notable.
Mucking Creek Wetlands LWS	0.79 km south-east	Description notes that the site supports adder, grass snake and common lizard.
Warren Lakes LWS	1.50 km south-east	Reptiles not noted within description, but desk study highlighted the presence of adder, and grass snake in proximity, so the LWS is considered likely to support them.
Victoria Road Grassland, Stanford-le-Hope LWS	0.76 km north-east	Description notes that the site supports grass snake, common lizard, and slow-worm.
Goldsmith's Meadow LWS	1.48 km east	Reptiles not noted within description, but desk study highlighted the presence of grass snake in proximity, so the LWS is considered likely to support them.

Annex E.

Projects with no

Supporting

Information

Annex E

Projects with no Supporting Information

Table E.1 Summary of projects with no supporting information

Planning Portal	Local Planning Authority Project
South Norfolk Council (2023)	2023/1095 Land North of Hickling Lane
Chelmsford City Council (2023)	None
Essex County Council (2023)	None
Babergh and Mid Suffolk District Councils (2023)	DC/21/02958 Greybarn Solar Energy Farm DC/23/01208 Eastern Gateway (Former Sugar Beet Factory) DC/23/01638 Land East of The Constable Country Medical Centre DC/21/06346 Land North West of Moores Lane DC/23/01385 Land West of Blacksmiths Lane DC/23/01642 The Old Rectory The Green Hartest DC/21/02867 Land North of A143 DC/23/02362 Marsh Lane Solar Farm At Land North of Lion Road
Basildon Borough Council (2023)	21/01765/FULL Highways Land Dunton Road 22/00141/TPOBAS Ford Research and Engineering Centre 19/00981/FULL Dunroamin Gardiners Close 19/00290/FULL Little Blunts Farm 17/01229/FUL 2 The Nazeing
Braintree District Council (2023)	22/01585/FUL 16 Old Road 18/00102/LBC Rivenhall Place
Brentwood Borough Council (2023)	23/00456/FUL Land At Margaretting Hall Estate 21/01666/OUT Broadfields Innovation and Business Park 19/00986/S191 South Essex Golf and Country Club 20/00688/ADV South Essex Golf and Country Club 18/01598/AGR Land Adj Junction of Old Church Lane and Wash 19/00603/CAT Murcocks Farm 18/00966/FUL 63 Coxtie Green Road Pilgrims Hatch 19/01338/FUL Fryerning Fisheries
Tendering District Council (2023)	22/00916/FUL Old Trowel and Hammer Waterhouse Lane 22/00121/FUL 32 Brennan Road 18/01289/FUL 71 Brooklands and Land Fronting
Thurrock Council (2023)	19/00052/CV National Power PLC Tilbury Power Station 19/01276/CV Rainbow Shaw Quarry

Planning Portal	Local Planning Authority Project
	22/01604/NMA Essex Wildlife Trust Thameside Nature Park
	21/00249/DVOB Land West of Butts Lane
	22/00042/DVOB DP World Development London Gateway Drive
	22/00461/NMA Thameside Nature Park
	21/00834/FUL Carbis Bay High Road
	22/00121/FUL 32 Brennan Road
	22/01242/CONDC 13 Loewen Road
	22/00538/FUL Land North of Wharf Road
	22/00667/FUL Thames Industrial Park
	20/01281/FUL Anglian Water Pumping Station
	19/01804/FUL Thames Enterprise Park

Annex F. Projects that De-scoped Reptiles

Annex F

Projects that De-scoped Reptiles

Table F.1 Summary of projects that de-scoped reptiles

District	Local Planning Authority Project
South Norfolk Council (2023)	2022/0867 Construction and operation of Energy Balancing Infrastructure (EBI) (Ørsted, 2022) 2021/2495 Bloy's Grove Solar Farm (Engena, 2021) 2021/1072 Land off Marsh Lane (Wild Frontier Ecology, 2021) 2018/0872 Land East of Norwich Road (Wild Frontier Ecology, 2018)
Babergh and Mid Suffolk District Councils (2023)	DC/20/05587 Great Bricett Business Park (Castle Hill Ecology, 2020) DC/21/06672 Bury St Edmunds to Colchester Pipeline Scheme (Strategic Pipeline Alliance, 2021) DC/19/05169 Land off Upper Street (Skilled Ecology Consultancy Ltd, 2019) DC/18/05313 Land On The South Side of Bildeston Road (The Landscape Partnership, 2018) DC/21/06273 Land off Old Station Road and Glebe Way (Framlingham Environmental, 2020) DC/21/04933 Howard and Kooij Nurseries (Huckle Ecology, 2021) DC/20/04125 Land to south of Church Farm (Headland Archaeology, 2020) DC/22/00683 Land South of Tye Lane (Otnei, 2022) DC/17/03568 Great Bricett Business Park (Castle Hill, 2017) DC/20/05895 Land To The South of Church Farm (Enso Energy, 2022a) DC/21/00060 Land To The East of The Channel (Enso Energy, 2022b) DC/21/02073 Land South East of Back Lane (Geosphere Environmental, 2020) DC/22/01530 Land At Woodlands Farm (Arcus, 2022) 21/02042/EIASCRLand adjoining Ipswich Road and Wick Lane (JCTR Ltd, 2021)
Essex ²	22/01324/EIASO Chelmsford Garden, Community (Lichfields, 2022) (NB: it was noted that survey was to be conducted between July and September 2023) 21/02252/FUL Land South of Vandyke (Greenlight Environmental Consultancy, 2021) 21/03735/FUL Land West of Park Road (Places Services, 2015) 23/00803/FUL Coggeshall Hall Farm Yard (T4 Ecology Ltd, 2023) 22/00860/FUL Cressing Equestrian, Cressing Farm (T4 Ecology Ltd, 2022) 20/00592/OUT Land to The North of Wick Lane (Delta Simons, 2020) ESS/01/18/CHL Sheepcotes Farm (Susan Deakin Ecology, 2017)

² Chelmsford City Council (2023), Essex County Council (2023), Basildon Borough Council (2023), Braintree District Council (2023), Brentwood Borough Council (2023) and Tendering District Council (2023)

District	Local Planning Authority Project
	CC/CHL/14/20/SPO Chelmsford Northeast Bypass (CNEB) (Jacobs U.K. Limited, 2020) (NB: reptile survey was recommended) 20/00911/FULL Land South of Dunton Road (Practical Ecology Ltd, 2023) 20/00005/SCR Land South West of Rivenhall Oaks Golf Course (Andrew Martin Planning, 2020) 21/00850/OUT Land West of Boars Tye Road (Geosphere Environmental, 2021b) 22/00683/FUL Martells Quarry (MHE Consulting, 2022)
Thurrock Council (2023)	18/00549/SCO Tilbury Energy Centre (RWE, 2018) 23/00549/DCOAPP Thurrock Flexible Generation Plant (RPS, 2023) 12/00571/CV Cory Waste Management (Enovert South Limited, 2018) 21/00781/SCR Gothards Field Rear of The George and Dragon East (Iceni Projects Limited, 2021) 22/00948/FUL Pipeline Borough Boundary to Horndon on the Hill (ARUP, 2022) 19/01524/SCR Langdon Hills Golf and Country Club (Iceni Projects Limited, 2019) 22/00812/SCR Thurrock Hydrogen Plant (RPS, 2022) 21/02110/FUL Land Adjacent 39 and 41 and to the South of St Johns Road (The Ecology Co-operation, 2021) 20/00592/OUT The Springhouse (T4 Ecology Ltd, 2019)

Annex G. Reptile Survey 2024 Results

Annex G

Reptile Survey 2024 Results

Table G.1 Summary of reptile survey 2024 results

Site ³	Date (2024)	Visit No.	Incidental or Refugia	Adder	Grass Snake	Common Lizard	Slow-worm	Grid Reference/ Comment
1	17/04	Visit 1	Refugia	-	-	1 1	-	TM0989779430 TM0989179548
1	23/04	Visit 2	-	-	-	-	-	No reptiles
1	02/05	Visit 3	-	-	-	-	-	No reptiles
1	07/05	Visit 4	Refugia	-	-	1	-	TM0989979473
1	13/05	Visit 5	Refugia	-	-	1	-	TM0980179547
1	20/05	Visit 6	Refugia	-	-	1	-	TM0980179547
1	31/05	Visit 7	-	-	-	-	-	No reptiles
2	16/04	Visit 1	Refugia	-	-	-	1 1	TM1103043445 TM1108043423
2	24/04	Visit 2	Refugia	-	-	-	1 1	TM1103943439 TM1108043423
2	29/04	Visit 3	Refugia	-	-	-	3	TM1108043423
2	08/05	Visit 4	Refugia	-	-	-	3 1 1	TM1108043423 TM1109543416 TM1103543159
2	14/05	Visit 5	Refugia	-	-	-	1 1 1 1 1	TM1104443603 TM1103943439 TM1090843366 TM1081643179 TM1103543159
2	21/05	Visit 6	Refugia	-		1	1 2 2 1 1 2	TM1103943439 TM1108043423 TM1112443395 TM1090843366 TM1095343354 TM1096843352

³ Site Locations
Site 1 = Wortham Ling and Roydon Fen (Section A and B)
Site 2 = Sroughton Park (Section C)
Site 3 = Colne Valley (Section D)
Site 4 = River Wid Corridor (Section G)
Site 5 = Orsett Golf Course and pLWS complex (Section H)

Site ³	Date (2024)	Visit No.	Incidental or Refugia	Adder	Grass Snake	Common Lizard	Slow-worm	Grid Reference/ Comment
								TM1097043566
					1			TM1101143587
					1			TM1109543416
2	30/05	Visit 7	Refugia	-		-	1	TM1104443603
							1	TM1109543416
							2	TM1112443395
							3	TM1096043272
							2	TM1103543159
					1			TM1101143587
3	19/04	Visit 1	-	-	-	-	-	No reptiles
3	22/04	Visit 2	Incidental	-	-	1	-	TL9325327967
						1		TL9335527884
						1		TL9332127932
3	22/04	Visit 2	Refugia	-	-	3	-	TL9327428004
						1		TL9332527933
						1		TL9329527970
						1		TL9322127947
						1		TL9322227937
3	01/05	Visit 3	Refugia	-		2	-	TL9332527933
						2		TL9279527445
					1			TL9324527969
3	08/05	Visit 4	Refugia	-	-	1	-	TL9322127947
3	15/05	Visit 5	Refugia	-	-	1	-	TL9327428004
						1		TL9324527969
						1		TL9329728015
						1		TL9336027877
						5		TL9331127959
						1		TL9329527970
						1		TL9326727961
						3		TL9322227937
						1		TL9279527445
3	22/05	Visit 6	Incidental	-	-	1	-	TL9275127836
3	22/05	Visit 6	Refugia	-	-	2	-	TL9331127959
						1		TL9329527970
						3		TL9326727961
						2		TL9322227937
						1		TL9279527445
4	18/04	Visit 1	Refugia	-	-		1	TQ6525995761
						1		TQ6545796126

Site ³	Date (2024)	Visit No.	Incidental or Refugia	Adder	Grass Snake	Common Lizard	Slow-worm	Grid Reference/ Comment
4	25/04	Visit 2	Incidental	-	1	1	-	TQ6542196205 TQ6536195912
4	25/04	Visit 2	Refugia	-	-	1 1	1 1	TQ6523495777 TQ6525995761 TQ6533895833 TQ6532796132
4	30/04	Visit 3	Refugia	-	-	1	1 2	TQ6525295819 TQ6523495777 TQ6545796126
4	09/05	Visit 4	-	-	-	-	-	No reptiles
4	16/05	Visit 5	Refugia	-	1	1 1 1 1	3	TQ6532796132 TQ6527495778 TQ6531695814 TQ6534895855 TQ6545796126 TQ6531395808
4	23/05	Visit 6	Incidental	-	-	1 1	-	TQ6533995853 TQ6533496143
4	23/05	Visit 6	Incidental	-	1	1 1 1 1 1 1 1 1 1	1 1 1 4	TQ6525895859 TQ6525295819 TQ6533696146 TQ6532796132 TQ6527495778 TQ6531395808 TQ6539496135 TQ6535396134 TQ6532796132 TQ6545796126 TQ6534895855
5	18/04	Visit 1	Incidental	2	-	-	-	TQ6715881217
5	26/04	Visit 2	Incidental	1	-	-	-	TQ6715681221
5	26/04	Visit 2	Refugia	1	-	-	-	TQ6722081313
5	01/05	Visit 3	-	-	-	-	-	No reptiles
5	09/05	Visit 4	Incidental	-	-	1	-	TQ6713781101
5	17/05	Visit 5	Incidental	-	-	1 1 1 1	-	TQ6715981215 TQ6713881227 TQ6711881230 TQ6716081211

Site ³	Date (2024)	Visit No.	Incidental or Refugia	Adder	Grass Snake	Common Lizard	Slow- worm	Grid Reference/ Comment
						1		TQ6716081219
5	17/05	Visit 5	Refugia		-	1	1	TQ6717881276
				1				TQ6717881276
				1				TQ6719781351
								TQ6715781226
5	24/05	Visit 6	Incidental	-	-	1	-	TQ6719481344
5	24/05	Visit 6					1	TQ6718381329
							1	TQ6717881276
			Refugia			1		TQ6714681350
					1			TQ6716281329
				1				TQ6715781226
5	29/05	Visit 7	Incidental	-	-	1	-	TQ6713681090
5	29/05	Visit 7	Refugia	1	-	-	-	TQ6720681317
				1				TQ6715781226

Annex H. Reptile Incidental Sightings from Non-Target Surveys

Annex H

Reptile Incidental Sightings from Non-Target Surveys

Table H.1 Reptile incidental sightings from non-target surveys

Incidental record	Date	Description of incidental record	Latitude	Longitude
I1	26/04/2023	Common lizard seen on woodpile	52.05041793	1.07578477
I2	26/04/2023	Adult grass snake	51.92275763	1.00859438
I3	02/05/2023	Adult male slow-worm found under matting	52.01424154	1.03232484
I4	09/08/2023	Adult adder	51.49362243	0.40901305
I5	09/08/2023	Adult adder	51.49433705	0.41062254
I5	18/08/2023	Slow-worm under pieces of corrugated metal	51.48481976	0.39738605
I7	28/07/2023	Small grass snake basking in the sun	51.46963449	0.39672307
I8	26/04/2024	Adult common lizard observed in grassland	52.526707	1.1963965

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