Stonestreet Green Solar

Environmental Statement
Volume 2: Main Text
Chapter 9: Biodiversity

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

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9 Biodiversity

9.1 Introduction

9.1.1 This Chapter was prepared by Lloydbore Ltd and presents an assessment of the likely significant effects on Biodiversity in relation to impacts arising from the construction, operation and decommissioning of the Project. The nature and significance of the likely residual effects are reported.

9.1.2 Detailed descriptions of the Site, the Project and the different phases of development are provided in **ES Volume 2, Chapter 2: Site and Context (Doc Ref. 5.2)** and **Chapter 3: Project Description (Doc Ref. 5.2)**. A glossary of terms and list of abbreviations used in this Chapter is provided in the **Glossary (Doc Ref. 1.6).**

9.1.3 The Chapter is supported by the following figures and appendices:

ES Volume 3 – Figures (Doc Ref. 5.3):

- Figure 9.1: Locations of Statutory Designated Sites;
- Figure 9.2: Locations of Local Wildlife Sites;
- Figure 9.3: Locations of Ancient Woodland Sites;
- Figure 9.4: River Basin Management Plan Waterbodies and Stodmarsh Location and Pathway (2 sheets);
- Figure 9.5: East Stour River Proximity Plans (3 sheets);
- Figure 9.6: Habitat Prior to Development Plans (4 sheets);
- Figure 9.7: Water Body Location Plan;
- Figure 9.8: Locations of Habitats of Principal Importance;
- Figure 9.9: Important Hedgerows;
- Figure 9.10: Habitat Impacts Plan (4 sheets); and
- Figure 9.11: Post-Development Habitat Plan (4 sheets).

ES Volume 4 – Appendices (Doc Ref. 5.4):

- Appendix 9.1: Legislation, Planning Policy and Guidance;
- Appendix 9.2: Scoping Opinion Responses;
- Appendix 9.3: Arboricultural Impact Assessment;
- Appendix 9.4: Preliminary Ecological Appraisal;
- Appendix 9.5: Baseline Survey Reports;
  - 9.5a – Hedgerow Condition and Importance Assessment;
  - 9.5b – Invertebrate Survey Report;
  - 9.5c – Fungi Survey Report;

- 9.5d – Amphibian Survey Report;
- 9.5e – Reptile Survey Report;
- 9.5f – Wintering Bird Survey Report;
- 9.5g – Breeding Bird Survey Report;
- 9.5h – Bat Activity (Transect and Static) Survey Report;
- 9.5i – Hazel Dormouse Survey Report;
- 9.5j – Hedgehog Survey Report;
- 9.5k – Riparian Mammal Survey Report;
- 9.5l – Bat Tree Survey Report;
- 9.5m - Badger Report (CONFIDENTIAL)[i]; and
- 9.5n – Schedule 1 Bird Species Report (CONFIDENTIAL)[ii].

- Appendix 9.6: Biodiversity Air Quality Screening Report;
- Appendix 9.7: Assessment of Effects; and
- Appendix 9.8: Cumulative Assessment.

9.1.4 This assessment has been informed by data from other assessments and documents including:

- ES Volume 2, Chapter 8: Landscape and Views (Doc Ref. 5.2);
- ES Volume 2, Chapter 10: Water Environment (Doc Ref. 5.2);
- ES Volume 2, Chapter 13: Traffic and Access (Doc Ref. 5.2);
- ES Volume 2, Chapter 14: Noise (Doc Ref. 5.2);
- Biodiversity Net Gain ('BNG') Assessment (Doc Ref. 7.1);
- Outline Construction Environmental Management Plan ('CEMP') (Doc Ref. 7.8);
- Outline Operational Management Plan ('OMP') (Doc Ref. 7.11);
- Outline Landscape and Ecological Management Plan ('LEMP') (Doc Ref. 7.10);
- Outline Decommissioning Environmental Management Plan ('DEMP') (Doc Ref. 7.12); and
- Information for Habitats Regulations Assessment ('IHRA') (Doc Ref. 7.19).

[i] Note: Baseline reports for badger are confidential information provided to PINS separately and not published in public domain.
[ii] Note: Schedule 1 bird species are confidential information provided to PINS separately and not published in public domain.

9.2 Legislation, Planning Policy and Guidance

9.2.1 **ES Volume 4, Appendix 9.1: Legislation, Planning Policy and Guidance (Doc Ref. 5.4)** identifies the legislation, policy and guidance of relevance to the assessment of biodiversity effects of the Project.

9.2.2 Compliance with legislation is likely to require obtaining relevant protected species licences prior to the implementation of the Project, which is considered in **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref 5.4)** of this Chapter.

9.3 Stakeholder Engagement

9.3.1 This section of the Chapter summarises key stakeholder engagement undertaken to inform the assessment. It sets out the key matters raised by consultees in relation to the EIA on the topic of Biodiversity. An explanation of how comments are addressed in the ES is also provided.

EIA Scoping

9.3.2 **Table 9.1** provides the Planning Inspectorate's Scoping Opinion responses and responses which explain how they have been addressed in the ES. **ES Volume 4, Appendix 9.2: Scoping Opinion Responses (Doc Ref. 5.4)** provides other responses to the Scoping Opinion and explains how they are addressed in the ES. Note that responses are provided as per the time of the relevant consultation (e.g., scoping) and so in some cases reflect points raised earlier in the iterative Project design process.

Table 9.1: Planning Inspectorate Scoping Opinion Response Summary

Consultee and Comment	Response
Planning Inspectorate (30 May 2022)	
Otterpool Quarry SSSI impacts: Scoping Report paragraph 10.7.1 proposes to scope out impacts to Otterpool Quarry SSSI on the basis that significant effects are not anticipated due to the nature and location of the Proposed Development in relation to the site and the reason for designation. As the site is designated for its geological interest and is located approximately 1.8km north of the site, the Inspectorate is content to scope out impacts on this basis.	No assessment undertaken as agreed to be scoped out.
Wye and Crundale SAC hydrological connectivity:	The Wye and Crundale Downs SAC is located approximately 5.2km north of the Site. Construction traffic would not be

Consultee and Comment	Response
Impacts to Wye and Crundale SAC are proposed to be scoped out of the ES on the basis that construction traffic does not pass near these sites (please see Scoping Report Figures 5 and 6) therefore there is no potential for nutrient deposition from vehicles serving the site during construction, operation or decommissioning. Provided the ES demonstrates that construction traffic routing does not pass within 200m (in line with relevant guidance), the Inspectorate is content to scope out air pollution impacts to these sites. However, evidence has not been provided to demonstrate that these designated sites are not hydrologically connected to the Proposed Development site. Provided the ES demonstrates that the Project will not lead to hydrological changes to these sites, the Inspectorate is content to scope out impacts to these sites.	routed within 200m of this designated site, as secured through the **Outline CTMP (Doc Ref. 7.9)**. There is therefore no pathway for potential nutrient deposition due to construction traffic. Operational traffic will be de minimis and will have no effect. In relation to hydrological connection, **ES Volume 2, Chapter 10: Water Environment, Paragraph 10.5.60 (Doc Ref. 5.2)** confirms *'The SAC is not located in the same surface water or groundwater catchment and it is concluded that there is no hydrological connectivity between the Site and Wye and Crundale SAC. This designated site is therefore scoped out of this assessment.'*
Dungeness Romney Marsh and Rye Bay Ramsar and SPA: Impacts to Dungeness Romney Marsh and Rye Bay Ramsar and SPA are proposed to be scoped out of the ES on the basis that surveys undertaken to date encompassing the 'vast majority' of the Proposed Development site, did not identify any bird features of the SPA. Further surveys will be undertaken to validate this but details are not provided. Impacts from hydrological connection to the site have not been considered. The construction traffic routing does not pass near these sites as presented on Scoping Report Figures 5 and 6. Subject to demonstrating that the Project site is not hydrologically linked to these sites and on the basis that appropriate further surveys validate the land is not functionally linked to these sites are submitted with the ES, the Inspectorate is content to scope out consideration of impacts to these sites. Effort should be	Wintering and breeding bird surveys have been completed at the Site and are provided as **ES Volume 4, Appendix 9.5f: Wintering Bird Survey Report (Doc Ref. 5.4)** and **Appendix 9.5g: Breeding Bird Survey Report (Doc Ref. 5.4)**. These surveys evidence the absence from the Site (as recorded during surveys) of any significant numbers of the qualifying bird species of the Dungeness, Romney Marsh and Rye Bay Special Protection Area ('SPA') and Ramsar. The above surveys were included in the PEIR Addendum which accompanied the 2023 Statutory Consultation. NE in their response to the 2023 Statutory Consultation stated *'We …..can now advise that we are satisfied with both the robustness of the survey work and the conclusion drawn that the Site is not functionally linked to the Dungeness SPA and Ramsar site.'*

Consultee and Comment	Response
made to agree the approach with the relevant consultation bodies.	**ES Volume 2, Chapter 10: Water Environment, Paragraph 10.5.60 (Doc Ref. 5.2)** states *'The majority of the Site is not located in the same surface water catchment as Dungeness and Romney Marsh however runoff from the southern half of Field 8 does drain southwards towards the SPA.'* As such, this designated site is considered in the assessment and in an **Information for Habitats Regulations Assessment ('IHRA') (Doc Ref. 7.19)** which accompanies the DCO Application. A draft version of the IHRA was released to NE for comment prior to submission of the DCO Application.
Folkestone to Etchinghill Escarpment SAC: Scoping Report paragraph 10.7.2 scopes out impacts on Folkestone to Etchinghill Escarpment SAC on the basis that the critical load of nitrogen is currently not met at the part of the site that is within 200m of the construction traffic route. This is not quantified. The ES must demonstrate that the critical loads for the site will not be exceeded assuming a construction traffic worst-case scenario, the Inspectorate is content to scope out impacts to this site. Where potential for impacts remain i.e. should the critical load be exceeded due to the Project either alone or cumulatively with other projects, the ES should assess impacts to the SAC where significant effects are likely to occur.	Construction phase traffic will pass within 200m of the Folkestone to Etchinghill Escarpment SAC when travelling along the A20 / M20 motorway. For potential air quality effects on designated sites, a specialist report has been prepared by Air Quality Consultants Ltd (see **ES Volume 4, Appendix 9.6: Biodiversity Air Quality Screening Report (Doc Ref. 5.4**) that screens out all such effects on European sites from the Project alone or in combination with other plans and projects. Significant air quality effects on European Sites including Folkestone to Etchinghill Escarpment SAC, both from the Project alone and in combination with other plans and projects are considered unlikely. An assessment of the Project on this designated site is provided in **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)** with reference to **ES Volume 4, Appendix 9.6: Biodiversity Air Quality Screening Report (Doc Ref. 5.4)**.
Stodmarsh Sites complex: These sites are proposed to be scoped out on the basis that the nature of the Project will not result in any operational	The Applicant has committed to the off-Site removal of foul water arising from all stages of the Project and disposal outwith the Stour catchment, to avoid

Consultee and Comment	Response
phase outflow of nutrients to the catchment. Additionally, Scoping Report paragraph 10.7.4 states that construction and decommissioning works will not pose an elevated risk of nutrient runoff when compared to the current agricultural activity on the site therefore it will not lead to a net increase in nutrient input to the East Stour River. Standard construction measures and pollution prevention controls are anticipated to mitigate construction impacts to the River Stour. Scoping Report paragraph 11.3.3 states that consultation with South- East Water will be undertaken to determine if connection for mains water and sewerage facilities is feasible therefore, there is potential for additional nutrient input to the River Stour and Stodmarsh European sites catchments through additional sewage treatment. Subject to the ES providing evidence of nutrient neutrality for all phases of the development based on the relevant nutrient calculator tool provided by Natural England, the Inspectorate is content to scope out impacts to the Stodmarsh sites.	any nutrient effects upon the Stodmarsh site complex. This precautionary measure will be secured through the **Outline CEMP (Doc Ref. 7.8), Outline OMP (Doc Ref. 7.11)** and **Outline DEMP (Doc Ref. 7.12).** Section 42 consultation responses from NE (17 August 2023) further specified that specific mitigation for nutrient impacts is not required for the Project ('*Mitigation for nutrient impacts on the Stodmarsh sites is normally only required for development including new, overnight accommodation*'). However, tankering and disposal outside of the Stour catchment eliminates any potential pathways for nutrient impacts upon the Stodmarsh designated sites as a precautionary approach. The potential for likely significant effects on this designated site are considered in **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)** and **Information for Habitats Regulation Assessment (Doc Ref. 7.19)** which accompanies the DCO Application.
East Stour River habitat of Principal Importance: Figure 12 and paragraph 1.4.5 identify that the East Stour River runs directly through the solar array site. Scoping Report paragraph 10.7.9 proposes to scope out impacts to the East Stour River on the basis that standard construction measures secured through the CEMP will afford physical protection and pollution prevention and control; this includes a 10m standoff distance between any built development and watercourses and pollution control measures. Scoping Report paragraphs 11.3.2 and 11.5.2 state that there is potential for watercourse crossings, but these are not described in the project description and it is unclear whether	**ES Volume 4, Appendix 10.5: Schedule of Watercourse Crossings (Doc Ref. 5.4)** provides a description of all proposed watercourse crossings, their location and the nature of their use. An assessment of the associated effects of watercourse crossings on ecology is provided in **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)** which forms an appendix to this Chapter. No significant effects are identified.

Consultee and Comment	Response
potential crossings are for vehicles, cable routing etc. Without details of what crossings are proposed, the Inspectorate cannot agree to scope out consideration of impacts on the East Stour River. The ES should describe and locate all proposed watercourse crossings and assess associated impacts where significant effects are likely to occur.	
Hedgerows and ponds (priority habitats): Impacts to hedgerows and ponds are scoped out on the basis that potential significant effects on these habitats will be mitigated through standard construction measures in the form of physical protection and buffering and pollution prevention and control measures. Ponds are located on Figure 12, however, hedgerows are not located on a Figure. Priority hedgerows and ponds are proposed to be retained in their entirety (Scoping Report paragraph 10.7.8) The ES should clearly identify all priority hedgerows and ponds for retention and ensure that appropriate mitigation measures are set out to avoid likely significant effects during construction, operation and demolition. The Inspectorate is otherwise content to scope out further assessment for these receptors.	An assessment of hedgerows and ponds is provided in **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)**. The locations of hedgerows and ponds are shown in multiple plans, as relevant to the associated species surveys. However the Site wide network of Habitats of Principal Importance ('HPI'), which includes hedgerows and ponds, is shown on **ES Volume 3, Figure 9.8: Locations of Habitats of Principal Importance (Doc Ref. 5.3)**. Some limited removal of hedgerow lengths will be required to facilitate construction of the Project (primarily widening existing access through removals of short lengths of 10m or less) as shown on the **Vegetation Removal Plan (Doc Ref. 2.8)**. The maximum removal of hedgerow is 150m as secured through the **Design Principles (Doc Ref. 7.5).** These removals have been accounted for and shown within **ES Volume 3, Figure 9.10: Habitat Impacts Plan (Doc Ref. 5.3)** and the **Biodiversity Net Gain Assessment (Doc Ref. 7.1)** and have been mitigated through appropriate post construction reinstatement (where feasible) and extensive hedgerow creation as part of the operational Project. All existing ponds within the Site are to be retained with a buffer as secured through the **Design Principles (Doc Ref. 7.5)**, **Outline LEMP (Doc Ref. 7.10)**

Consultee and Comment	Response
	and **Illustrative Landscape Drawings (Doc Ref 2.7)**. This is also shown on **ES Volume 3, Figure 9.10: Habitat Impacts Plan (Doc Ref. 5.3)** and the **Biodiversity Net Gain Assessment (Doc Ref. 7.1)**.
Ancient woodland and Poulton Wood Local Nature Reserve (LNR) (designated as ancient woodland): Scoping Report paragraph 10.7.7 proposes to scope out impacts to ancient woodland including Poulton Wood LNR on the basis that significant effects are not anticipated due to the nature and location of the Project in relation to these sites, and that impacts will be avoided through design layouts and mitigation secured in the CEMP. Impacts from transport of invasive non-native species (INNS), hydrological pollution, and impacts to root protection zones have not been considered. It is noted that whilst a buffer zone is proposed for Backhouse Wood located adjacent to the red line boundary, the extent is not defined, and no buffer zone is proposed for Handen Wood which is also located close to the red line boundary (see Figure 11). Root protection zone buffers have not been defined/identified therefore it is unclear as to whether they have potential to be impacted. Due to the lack of information provided, the Inspectorate does not agree to scope out impacts on ancient woodland. The ES should identify the root protection zones of ancient woodland sites that have potential to be impacted by the Project. The extent of proposed buffer zones should be delineated, and the ES should describe how these have been determined in line with relevant guidance. Effort should be made to agree the approach with relevant consultees. All potential impacts should be considered and assessed	An assessment of Poulton Wood LNR is included within **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)**. **ES Volume 2, ES Chapter 10: Water Environment, Paragraph 10.6.60 (Doc Ref. 5.2)** states '*The areas on the Site within the same surface water catchment do not drain into Poulton Wood and instead drain south towards Handen Wood, downstream of the LNR. There is therefore no hydrological connectivity between the Site and Poulton Wood LNR and this Site is scoped out of this assessment.*' An assessment of Invasive Non-Native Species ('INNS') is included within **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4).** No INNS have been recorded on-Site to date and no significant impacts associated with the Project have been identified. General biosecurity measures are included within the **Outline CEMP (Doc Ref. 7.8)** and **Outline LEMP (Doc Ref. 7.10**), which includes avoidance of the spread of INNS on Site and control measures should this occur. A minimum 15m from the canopy spread for ancient woodland is secured in the **Design Principles (Doc Ref. 7.5)** and construction activities will be designed to avoid root protection areas where possible as detailed in the **Outline CEMP (Doc Ref. 7.8**). PV Arrays are no longer proposed within Fields 26 – 29 (inclusive) as a result of further design and constraint assessment work undertaken since Scoping. The only structure within 200m of the Backhouse Wood ancient woodland comprises

Consultee and Comment	Response
where they have potential to lead to likely significant effects.	wooden deer fencing that will be installed to minimise recreational disturbance of ground-nesting bird compensatory habitat areas. All other Project components within 50m of the ancient woodland will involve habitat creation as shown on the **Illustrative Landscape Drawings (Doc Ref. 2.7)**. Handen Wood ancient woodland is separated from the Site by private residences and Frith Road and the nearest Project infrastructure is located in excess of 50m from its boundary as shown on **ES Volume 3, Figure 9.3: Locations of Ancient Woodland Sites (Doc Ref. 5.2)**. Construction vehicles would not be routed on Frith Road.
Hatch Park SSSI and Gibbin's Brook SSSI Scoping Report paragraphs 10.7.1 and 10.7.7 propose to scope out impacts to Hatch Park SSSI and Gibbin's Brook SSSI on the basis that that significant effects are not anticipated due to the nature and location of the Project in relation to these sites and the reasons for their designations. The Inspectorate agrees that due to the location and nature of these sites, significant effects on these sites are unlikely and they can be scoped out of the ES.	The potential for effects on Gibbin's Brook SSSI and Hatch Park SSSI has been undertaken for completeness. Gibbin's Brook is scoped out within this chapter and Hatch Park is assessed in **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)**. No significant effects are identified.
Local Wildlife Sites (LWS): Table 10.3 proposes to scope out impacts to LWS on the basis that impacts to the nearest LWS (Backhouse Wood) will be mitigated through design and agreed measures secured in the CEMP. Based on the nature and location of these sites in relation to the Project and the measures to be secured in the CEMP, the Inspectorate considers that significant effects are unlikely and is content to scope out impacts to these sites.	An assessment of effects on Backhouse Wood LWS and Aldington Sand Pit LWS has been undertaken and is provided in **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4).** No significant effects are identified. Changes to the Project layout since Scoping has resulted in the removal of PV panels from Fields 26-29 and an extensive landscape buffer is now proposed.

Consultee and Comment	Response
Otter and water vole: Whilst surveys are proposed for otter and water vole, they are not identified in Table 10.5 as being scoped in or out of the ES. For clarity, should surveys identify presence of these species or potential habitat for these species, they should be scoped into the ES assessment.	Surveys at the Site for otter and water vole have been undertaken and are reported in **ES Volume 4, Appendix 9.5k: Riparian Mammals Survey (Doc Ref. 5.4)**. Otter is present and is therefore scoped into the assessment. Water vole and beaver were not recorded and have therefore been scoped out of assessment. However, the potential colonisation of the Site by these species in the future is addressed within the **Outline LEMP (Doc Ref 7.10)** through pre-commencement surveys.
Study area: The study area is defined as 2km from the site boundary for local and nationally important designated sites and 10km for internationally designated sites. A 5km radius has been defined for a bat search radius based on the limited potential for impacts to bats in Kent. The ES should justify that this search area applies to all potentially affected bat species and make effort to agree the study area and approach to assessment with the relevant consultation bodies.	The 5km bat search radius applied for data records is standard in Kent and applies for all regularly occurring UK bat species. No comments were received from KCC Ecological Advice Service in relation to the stated search radius was received as part of consultation responses to the 2022 or 2023 Statutory Consultation.
Invasive Non-Native Species (INNS): Impacts from INNS have not been included in the impacts set out to be assessed in the ES in Scoping Report paragraph 10.7.12. The ES should assess potential impacts from INNS where significant effects are likely to occur. Where mitigation measures are required, the ES should describe these measures and signpost where they are secured through the DCO.	An assessment of INNS is included within **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)** however, no INNS have been recorded on-Site to date and so no significant impacts from INNS have identified. General biosecurity measures are included within the **Outline CEMP (Doc Ref. 7.8)** and **Outline LEMP (Doc Ref 7.10)**, which includes avoidance of the spread of INNS on Site and control measures should this occur.
Veteran trees: Veteran trees are not considered under the headings of 'irreplaceable habitats' and it is unknown as to whether they are located on site. The ES should identify and locate veteran tree receptors within	Several veteran trees are located within the Site and an assessment of the impact of the Project has been undertaken in **ES Volume 4, Appendix 9.3: Arboricultural Impact Assessment (Doc Ref. 5.4)**.

Consultee and Comment	Response
an appropriate study area and assess impacts to veteran trees where significant effects are likely to occur. Where mitigation measures are required, the ES should describe these measures and signpost where they are secured through the DCO.	No veteran trees would be directly affected by the Project and **Design Principles (Doc Ref. 7.5)** secure a minimum buffer of 15 times the stem diameter or 5m beyond the trees crown spreads (whichever is greater) for veteran trees. Within this buffer no infrastructure will be constructed. Areas of existing vegetation to be retained would be protected throughout the proposed construction and planting works in accordance with **ES Volume 4, Appendix 9.3: Arboricultural Impact Assessment (Doc Ref. 5.4)**. This would include protective fencing outside RPAs in accordance with BS5837:2012 where appropriate. An Arboricultural Method Statement will detail the final tree protective measures to be implemented during construction and decommissioning of the Project. The Arboricultural Method Statement is secured via the **Outline CEMP (Doc Ref. 7.8)**.
Land take during operation and decommissioning: Scoping Report paragraph 10.7.12 defines the impact of land take during operation as medium term however, this does not align with the definition of short-medium- and long-term durations in Scoping Report paragraph 5.3.4. The ES should set out an appropriate methodology by which impacts are assessed and where there is deviation from this methodology, sufficient justification should be provided. All impacts must be assessed where they are likely to lead to significant effects.	An assessment of land take and associated habitat changes are included within this Chapter. See **Paragraph 9.4.41** for further details regarding the use of and definition of short- medium- and long-term durations within this Chapter.
Confidential annexes: Public bodies have a responsibility to avoid releasing environmental information that could bring about harm to sensitive or vulnerable ecological features. Specific survey and	All data related to sensitive or vulnerable ecological features (notably badger and Schedule 1 bird species) is provided to PINS and KCC in confidential appendices (**ES Volume 4, Appendix 9.5m: Badger Report (CONFIDENTIAL)**

Consultee and Comment	Response
assessment data relating to the presence and locations of species such as badgers, rare birds and plants that could be subject to disturbance, damage, persecution, or commercial exploitation resulting from publication of the information, should be provided in the ES as a confidential annex. All other assessment information should be included in an ES chapter, as normal, with a placeholder explaining that a confidential annex has been submitted to the Inspectorate and may be made available subject to request.	**(Doc Ref. 5.4)**) and **ES Volume 4, Appendix 9.5n: Schedule 1 Bird Species Report (CONFIDENTIAL) (Doc Ref. 5.4)**). No rare plants have been recorded. The effects on badger and Schedule 1 birds are assessed within **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)**.
Other Consultation Responses	
Other Scoping Opinion Consultation responses, including KCC Highways, KCC Ecological Advice Service and the Environment Agency, are presented in **ES Volume 4, Appendix 9.2: Scoping Opinion Responses (Doc Ref 5.4)**.	

Non-Statutory Consultation

9.3.3 **Table 9.2** of this Chapter provides a summary of non-statutory consultation (i.e., meetings with statutory bodies, stakeholders or ABC officers) that was undertaken of relevance to this assessment and how the assessment has responded to them.

Table 9.2: Non-Statutory Consultation

Consultee and Comment	Response
Natural England ('NE') Pre-Screening Service / Wildlife Licensing Service	
The Applicant and Lloydbore met with NE on 12 October 2023 and 5 April 2024 to discuss the approach to and content of Letters of No Impediment ('LONI's) for future NE protected species mitigation licencing.	The LONI options were discussed based on the level of mitigation detail made available and next steps for submission of draft licence applications and NE review of the supplied information. LONIs for great crested newt and badger were subsequently provided by NE on 15 May 2024. At the time of writing, the dormouse LONI application was well progressed.

Consultee and Comment	Response
Community Feedback	
General concerns were raised over the impact on wildlife and birds.	The potential disturbance to wildlife impacts including birds are assessed in this Chapter.
Details were requested of the biodiversity proposals	This Chapter an assessment of the potential impacts on biodiversity, including beneficial effects. The **Biodiversity Net Gain ('BNG') Assessment (Doc Ref. 7.1)** confirms that BNG of at least 100% (for habitat units) and above 10% for hedgerow and river units is deliverable can be achieved for the Project and is secured via a Requirement within the **Draft Development Consent Order (Doc Ref. 3.1)**.

2022 Statutory Consultation

9.3.4 **Table 9.3** provides a summary of the responses to the PEIR of relevance to this assessment and how the assessment has responded to them.

Table 9.3: 2022 Statutory Consultation Response Summary

Consultee and Comment	Response
Environment Agency	
Any areas where proposed works, (including landscaping and habitat enhancements / creation / management as well as vehicle and plant access during and post construction), will occur within 10m of the top of the bank of the East Stour River will require a River Habitat Condition Assessment as part of the Project's Biodiversity Net Gain ('BNG') calculations.	A River Habitat Condition Assessment was undertaken during summer 2023 and comprised a MoRPh River Survey method and River Type Survey, carried out along any sections of the East Stour River where temporary bridges and HDD is proposed, and a suitable (c.10m) buffer either side of these locations as well as areas of significant habitat intervention. The results inform, and are reported in, the **BNG Assessment (Doc Ref. 7.1)**.
Natural England ('NE')	
The PEIR concludes that the site does not support significant numbers of	Results of the wintering and breeding bird surveys are included in as **ES**

Consultee and Comment	Response
wintering birds associated with the Dungeness, Romney Marsh and Rye Bay SPA and Ramsar Site and is therefore not considered to be functionally linked. The survey information informing this assessment does not appear to have been included within the PEIR or the appendices and as such, Natural England recommends that greater clarity is provided in the Environmental Statement to ensure that impacts to species associated with the designated sites do not result. The PEIR concludes that as the current nitrogen deposition within the Folkestone to Etchinghill Escarpment SSSI and SAC are not currently exceeding the site critical loads, there will be no impact from transport generated air quality during the construction phase…… An increase in transport generated NOx or ammonia has the potential to impact the Conservation Objectives of the site and as such, an assessment of the potential for transport generated air quality impacts, either alone or in-combination with other plans or projects, should be included within the Environmental Statement. Providing there is no hydrological connectivity between the application site and the Gibbin's Brook SSSI, Natural England is satisfied that impacts are unlikely to result. In relation to Hatch Park SSSI ….. we would recommend that further consideration is provided within the Environmental Statement if impacts are likely to result. The PEIR has highlighted that there is the potential for an increase in nutrient discharges to the Stour Catchment and the impacts that this could have for the Stodmarsh SSSI, SAC, SPA and Ramsar site.	**Volume 4, Appendix 9.5f: Wintering Bird Survey Report** and **9.5g: Breeding Bird Survey Report (Doc Ref. 5.4)** to this Chapter. These evidence the absence from the Site (as recorded during surveys) of any significant numbers of the qualifying bird species of the Dungeness, Romney Marsh and Rye Bay SPA and Ramsar. The Site is therefore not considered to be functionally linked to this designated site. The **IHRA (Doc Ref. 7.19)** includes a Stage 1 screening assessment of potential effects, and, in relation to the Stodmarsh SSSI, SAC, SPA and Ramsar site, a Stage 2 Appropriate Assessment of effects. The **IHRA (Doc Ref. 7.19)** screening identifies, in the absence of mitigation, a likely significant effect on the Stodmarsh SAC/SPA/Ramsar site arising from treated foul water discharge upstream during the construction, operation and decommissioning phases of the development. The likely significant effect identified above was therefore taken forward to HRA Stage 2: appropriate assessment, but with appropriate mitigation (disposing of wastewater at treatment works outside the Stodmarsh water catchment area, i.e. the Stour catchment) was found to not have an adverse effect on the integrity of the Stodmarsh SAC/SPA/Ramsar site, alone or in combination with other plans or projects. Gibbin's Brook SSSI is designated for its biological interest of predominantly grassland and wet woodland. Whilst this SSSI clearly has some water dependence (i.e., the wet woodland), the SSSI is upstream of the Site and therefore the Project is unable to impact the SSSI hydrologically. Hatch Park SSSI is considered as a receptor in the assessment reported in

Consultee and Comment	Response
Protected and notable species: As this is a Nationally Significant Infrastructure Project, should impacts to licensable protected species be likely, Natural England would recommend that you seek advice on any required Letters of No Impediment (LONI) through our Discretionary Advice Service.	full in **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)**. As outlined with **ES Volume 2, Chapter 10: Water Environment (Doc Ref. 5.2)**, the Hatch Park SSSI falls within a separate surface water catchment to the Site (Aylesford Stream). The Site is therefore only connected to the regional groundwater system at Hatch Park SSSI and not the artificial pond network. **ES Volume 2, Chapter 10: Water Environment (Doc Ref. 5.2)** concludes no significant effects on this receptor as a result of the Project. Updates to the great crested newt and badger draft licences were agreed and supplied to NE, with LONIs for these two species provided on 15 May 2024. The application for the dormouse LONI is well progressed with NE, with final changes being actioned to secure this final LONI.
Natural England notes that there are areas of ancient woodland in close proximity to the site. You should consider any impacts on ancient woodland and ancient and veteran trees in line with paragraph 180 of the NPPF.	There are no areas of ancient woodland within the Site. The Backhouse Wood LWS ancient woodland is located immediately adjacent to the Site boundary (Northern Area) but is located over 200m from the nearest Project infrastructure with the exception of wooden deer fencing. This distance is well in excess of the minimum 15m within NE and Forestry Commission standing guidance (Forestry Commission & NE (2018)[1] (the 15m minimum distance has been included with **Design Principles (Doc Ref. 7.5)**) and has informed the **ES Volume 4, Appendix 9.3: Arboricultural Impact Assessment (Doc Ref. 5.4)**. An assessment of impacts on ancient woodland and ancient and veteran trees (informed by **ES Volume 4, Appendix 9.3: Arboricultural Impact Assessment (Doc Ref. 5.4)**) has been undertaken and is provided in **ES Volume 4,**

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	Appendix 9.7: Assessment of Effects (Doc Ref. 5.4). Veteran trees are to be retained and protected during construction in line with measures secured by the **Outline CEMP (Doc Ref. 7.8)** and **Design Principles (Doc Ref. 7.5)** (i.e., use of tree protection fencing and a minimum buffer zone of 15 times the stem diameter or 5m beyond the trees' crown spreads, whichever is greater).
Environmental Enhancements: Development should provide net gains for biodiversity in line with the NPPF paragraphs 174(d), 179 and 180. Development also provides opportunities to secure wider environmental gains, as outlined in the NPPF (paragraphs 8, 73, 104, 120,174, 175 and 180). The Environment Act also requires Nationally Significant Infrastructure Projects to deliver biodiversity net gain. We advise you to follow the mitigation hierarchy (avoid, mitigate, compensate) and firstly consider what existing environmental features on and around the site can be retained or enhanced or what new features could be incorporated into the development proposal. Where onsite measures are not possible, you should consider off site measures… Natural England's Biodiversity Metric 3.1 may be used to calculate biodiversity losses and gains for terrestrial and intertidal habitats and can be used to inform any development project… You could also consider how the proposed development can contribute to the wider environment and help implement elements of any Landscape, Green Infrastructure or Biodiversity Strategy in place in your area…'	A BNG assessment of the Project (utilising Defra's 'Statutory Biodiversity Metric' guidance produced by Defra (2023)[2]) has been produced and accompanies the DCO application **(BNG Assessment (Doc Ref. 7.1))**. Preliminary calculations were used to inform the design, taking into account consultee feedback. The mitigation hierarchy has been followed through avoidance and retention of the most ecologically valuable habitats and areas as part of the iterative design process in order to minimise the overall mitigation and compensation required. The majority of the PV Arrays will include creation of extensive grassland and flower rich areas, which will be a significant biodiversity enhancement from the existing arable and pasture land uses. Further details of mitigation and enhancement are provided in the **Outline LEMP (Doc Ref. 7.10)** and a summary is provided in **Section 9.6** 'Embedded Design Mitigation' of this Chapter. The habitat proposals for the Site as set out in the **Outline LEMP (Doc Ref. 7.10)** have been designed to help meet objectives of the Kent Biodiversity Strategy 2020 to 2045 (Kent Nature Partnership, 2020)[51]. The detailed design will embed relevant design principles and

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	components of county and district green infrastructure strategies, where possible.
Forestry Commission	
We welcome the principle of suitable protection zones and habitat creation adjacent to the Backhouse Woods Ancient Woodland and Local Wildlife Site, to avoid impacts during construction and operation on this irreplaceable habitat such as from compaction. We also welcome the broader commitment for extensive habitat creation and enhancement referred to in Chapter 8 of the Preliminary Ecological Information Report. We note that potential veteran and ancient trees within the site will be retained. This should include any veteran or ancient trees within existing hedgerows. We highlight that the Standing Advice regarding buffer zones for veteran and ancient trees should be followed to avoid the loss or deterioration of these highly valuable trees. We note that there is some uncertainty regarding whether current proposals comply with this according to the Arboricultural Assessment (Table 1) which advises *'The layout of the tree protection fencing shown on the Tree Protection Plan will have to be amended to the full buffer zone footprint if the Project layout is amended to exclude the solar PV Arrays from the veteran tree buffer zones'.* Therefore we reiterate that final proposals should follow the Standing Advice. …We recommend that the development takes all opportunities to maximise net gains by further exploring opportunities to integrate habitat creation and connectivity throughout the development that supports and enhances existing ecological networks with a focus on the ancient woodland adjacent to the site	The presence of ancient woodland adjacent to the Site at Backhouse Wood LWS was identified at an early stage and informed the layout of the Project. No loss of ancient woodland or veteran trees will occur as part of the Project. The PEIR referenced a minimum 15m buffer to the Backhouse Wood LWS. This buffer has been increased due to the removal of PV panels from the adjacent fields. Landscape planting as shown on the **Illustrative Landscape Drawings (Doc Ref. 2.7)** has been developed in line with NE and Forestry Commission (2018) guidance[1]. The creation of woodland buffer planting adjacent to the ancient woodland as well as creation of new hedgerow lengths throughout the Site will greatly enhance the local ecological network. Detailed measures to control and mitigate impacts from construction are set out within the **Outline CEMP (Doc Ref. 7.8)** and align with good practice construction measures. An Arboricultural Method Statement will be produced at detailed design stage and adhered to during Site works, as mitigation secured by the **Outline CEMP (Doc Ref. 7.8)** detailed within **ES Volume 4, Appendix 9.3: Arboricultural Impact Assessment (Doc Ref. 5.4)**. No significant numbers of deer have been recorded on Site during other ecological surveys (including bird and bat surveys, which were undertaken at times of day / night when deer are most active in rural landscapes). Given that woodland parcels exist within the local landscape and include successful growth of ground flora and young trees, it is unlikely that extensive deer management

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and woodland, trees and hedgerows in the surrounding area. Deer Management - …the site's surrounding woodlands are likely to be vulnerable to deer migration from the West and are close to a significant Fallow population to the North/North-West of the M20. We advise that precautions should be incorporated into any woodland design and tree planting to ensure that habitat creation is established successfully and that potential impacts from deer are managed on site and in the surrounding area as appropriate. Tree planting - Trees should be healthy and good practice biosecurity should be followed to prevent the risk of spreading pests and disease, in line with Government advice… Created or restored habitat should be managed in perpetuity in line with a robust management plan that follows good practice to ensure assumed benefits of created habitats are delivered in practice (see Standing Advice referred to on page 1). We recommend meeting the UK Forestry Standard to demonstrate this.	(i.e., culling) will be required. Individual tree protection measures such as use of tree shelters and plant guards are likely to be sufficient. This would be kept under review as set out in the **Outline LEMP (Doc Ref. 7.10)** (i.e., maintenance and monitoring of establishing plantings). PV Array grassland areas will be fenced in most instances thus protecting establishing grassland and associated planting. The focus for any deer proofing measures (if required) would therefore be on boundary habitats and woodland planting.
KCC (Biodiversity)	
The County Council recommends that justification is required for the onsite mitigation areas for brown hare, yellowhammer and skylark habitat as the onsite mitigation areas proposed do not provide optimum habitat. KCC recognises the intention to achieve a minimum of a 20% biodiversity net gain and notes that the excel metric must be submitted with the application to ensure it can be fully assessed. A Management Plan must also be submitted with any application to demonstrate that the habitats to be created will be maintained.	On-Site mitigation areas are proposed to be enhanced through a mix of habitats including tussocky and species rich grassland and will include a network of Biodiversity Improvement Areas ('BIA's) distributed throughout the Site. These BIAs will be free of PV panels and while having to fulfil a range of enhancement and mitigation requirements will include extensive areas of diverse open grassland, specifically targeting skylark, yellowhammer and brown hare among other species. The PV Arrays and boundaries are to be enhanced with a suite of suitable mitigation habitats and features including

Consultee and Comment	Response
The submitted Site Plan suggests that the solar farms will be created up to the boundaries of the fields. The applicant must ensure there is sufficient space between the solar panels / fencing and the hedgerows to confirm that they can be enhanced and benefit biodiversity. This will prevent the overshadowing of the solar panels from any increase in the density of the hedgerows. The County Council advises that any information submitted with the development consent order must demonstrate that the development can retain the connectivity of species.	bird crop strips, skylark plots and hedgerow enhancement which are set out in the **Outline LEMP (Doc Ref. 7.10)** which reflects feedback received during the consultation stages. A meeting with KCC EAS was held on 19 April 2023 providing an overview of the Project layout, landscape, ecological surveys conducted and to be carried out, as well as mitigation and enhancement principles. A BNG assessment utilising Defra's Statutory Biodiversity Metric (Defra, 2023[2]) has been prepared and accompanies the Application **(BNG Assessment (Doc Ref. 7.1))**. An **Outline LEMP (Doc Ref. 7.10)** accompanies the DCO Application and includes a commitment to management and maintenance for a minimum of 30 years in line with BNG requirements of the Environment Act 2021. Sufficient spacing between panels and hedgerows outside of the security fence will be retained to prevent significant panel shading on hedgerows; this will be 6.4m minimum for external hedgerows (with a minimum width of 3.2m from the external hedgerow to security fence and a further minimum width of 3.2m from the security fence to the panel arrays) (as secured by the **Design Principles (Doc Ref. 7.5)**). In addition, additional enhancement is proposed for such boundaries through increasing the size of field margins and incorporation of winter bird crop strips. The layout of the proposed habitat network is designed to retain and enhance habitat connectivity for the species confirmed as present within the baseline surveys.
Folkestone & Hythe District Council ('FHDC')	
FHDC welcomes the measures identified so far with regard to ecology/biodiversity. The area identified as option 2 for the grid connection is heavily populated with	The Site no longer encompasses land within the FHDC administrative area. The **Outline LEMP (Doc Ref. 7.10)** provides details of proposed mitigation,

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great crested newt. Whilst the majority of the works within this specific area of the site would be underground, consideration must be given to the impact of these protected specifies during the construction phase and the laying of cables. It is also not clear whether there would be a need for the translocation of species into the FHDC area and where these areas may be.	demonstrating that cross-boundary translocation into FHDC will not be required. **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)** provides an assessment of the expected construction phase impacts on great crested newt ('GCN'). Embedded Mitigation for GCNs is set out in **Section 8** 'Ecology Management Prescriptions' of the **Outline LEMP (Doc Ref. 7.10)**.
Aldington Parish Council	
Protection of existing wildlife in the fields and hedgerows in the proposed site is given only cursory attention. The level of activity during the construction phases of this and other proposals will be detrimental to wildlife. The proposed removal of ancient hedgerow in Goldwell Lane will be detrimental to wildlife and visual amenity.'	**Section 9.7** 'Assessment of Effects' of this Chapter and **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)** provides a comprehensive assessment of the impacts of the Project upon relevant habitats and species. Measures to control and mitigate impacts from construction are provided in the **Outline CEMP (Doc Ref. 7.8)**. Access points along Goldwell Lane have been reviewed and a grassed verge has been included within the Order limits at the entrance to Field 20 from Goldwell Lane, to ensure sufficient space for HGV turning. This change means that a short length of temporary hedgerow removal (8m) is required along Goldwell Lane, which will be reinstated post construction. As secured by the **Design Principles (Doc Ref. 7.5)**, vegetation loss will be restricted to that shown on the **Vegetation Removal Plan (Doc Ref. 2.8)** and no more than 150m of hedgerow is to be removed. The Project will include over 5km of hedgerow creation and enhancement. Where hedgerow removal is unavoidable due to other design constraints these will be more than compensated for by significant replacement and reinforcement (gap infilling) of the local hedgerow network.

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Ashford Borough Council ('ABC')	
The Council fully endorses the s.42 consultation response of the KCC biodiversity officer.	Refer to *KCC (Biodiversity)* response above.
Kent Wildlife Trust ('KWT')	
From previous experience working with partners / developers in this way…there are a number of routes by which the KWT Group could work with your project team. 1. Discussions around monitoring and management of wildlife / BNG enhancements have typically navigated towards the KWT Consultancy Service, who form part of the KWT Group. All arms of the KWT Group are committed to delivering our vision and mission for creating a Wilder Kent, and therefore it would be vital that the KWT Consultancy are fully embedded in the development and assessment of the enhancement/ BNG scheme and the mitigation and monitoring strategy, as opposed to picking up the monitoring/management at a later stage of the process. 2. KWT is also looking at opportunities to work with and/or partner with developers who are looking to take their commitment of supporting natures recovery to the next level…There are likely to be a number of opportunities for Stone Street Solar to support KWT in our strategic aim to create a Wilder Kent.	The Applicant held a meeting with KWT on 30 March 2023 to discuss the proposals and opportunities for early partnership, with a follow up meeting on 2 May 2023. The focus of the meetings was to explore how KWT could potentially contribute habitat creation, enhancement, management and monitoring knowledge and lessons to the ecological proposals that will continue to be developed by the Project team. The Applicant is keen to continue dialogue with KWT in this regard. Ecological mitigation and monitoring proposals are included within the **Outline LEMP (Doc Ref. 7.10)**.

2023 Statutory Consultation

9.3.5 **Table 9.4** provides a summary of the responses to the PEIR Addendum of relevance to this assessment and how the assessment has responded to them.

Table 9.4: 2023 Statutory Consultation Response Summary

Consultee and Comment	Response
KCC Biodiversity	
Provision of full mitigation, enhancement and management detail: Therefore, while the County Council can agree that the measures are likely to benefit the majority of species recorded within the site, until the detailed information is provided, the County Council is unable to provide specific comments at this stage.	Mitigation and enhancement measures for the Project and habitat management prescriptions are included in the **Outline LEMP (Doc Ref. 7.10)**.
Provision of viable skylark plots: The submitted solar layout plans do demonstrate that areas of the solar farm will not include panels and the County Council presumes that it will be these areas that have been identified as skylark plots. However, no information has been provided demonstrating that the skylark plots will be suitable for ground nesting birds to utilise them. The areas may be too small or the tall fences/solar panels may mean that ground nesting birds do not have sufficient visibility to enable ground nesting birds to use them. Ground nesting birds like to be able to see predators and fencing /solar panels are likely to provide perching opportunities. Details are required to demonstrate why the proposed plots will be utilised by ground nesting birds.	The **Outline LEMP (Doc Ref. 7.10)** contains principles of the skylark plots proposed (including an indication of the final size, number and locations), with these shown indicatively on the **Illustrative Landscape Drawings (Doc Ref. 2.7).** The **Outline LEMP (Doc Ref. 7.10)** sets out the management principles for the lifespan of the Project. Skylark plots will be of a sufficient size to support breeding skylark (i.e. a minimum of 4m x 4m, with larger plots also provided). Significant biodiversity improvement areas (BIAs) are also included in the Project, notably across Field 26 and the full extents of Fields 27 - 29, all located adjacent to the East Stour River. The habitats that will be delivered in these fields will also provide extensive nesting opportunities for skylark and other ground nesting birds. While the use of 'skylark plots' specifically for nesting is debated (Morris and Gilroy 2008[3]), studies have identified pesticide application as an issue that can reduce the success of these measures; this will not be applicable to the Project. Skylarks are known to nest within arable field tramlines (Morris and Gilroy, 2008[3]) and barley field plots (Odderskær, 1997[4]), as a habitat context with similar constraints. The application of skylark plots as a mitigation tool in combination

Consultee and Comment	Response
	with the other measures above is therefore justified. Their effectiveness is to be monitored during the operation of the Project as secured through the **Outline LEMP (Doc Ref. 7.10)**.
Provision of bird crop strips: The creation of bird crop strips are likely to be management intensive as they will probably need to be managed every 1-2 years to ensure that they continue to provide foraging opportunities for the birds within the site. There is a need for the Applicant to confirm that they are able to implement the management detailed within the management plan for the lifetime of the development.	Management of the bird crop strips for the lifespan of the Project is secured through the **Outline LEMP** (**Doc Ref. 7.10)**.
Ensuring confidence in BNG predictions: A detailed Biodiversity Net Gain assessment (utilising Natural England's Statutory Biodiversity Metric) will be produced to inform the Environmental Statement based on the final layout of the Proposed Development. The details available as part of this consultation note that it is expected that a Biodiversity Net Gain of over 100% will be delivered. The County Council notes that this seems reasonable but (as detailed above) the information submitted with the Development Consent Order application must demonstrate that the required management will be carried out for the life time of the development to ensure that the development will achieve the Biodiversity Net Gain detailed within the future submission. The County Council advises that detailed landscaping plans will be required to be submitted with any Development Consent Order application to demonstrate that the mitigation detailed within the EMES can be implemented and the conclusions within the	The **Outline LEMP** (**Doc Ref. 7.10)** includes the principles of habitat management that will be implemented for the lifespan of the Project. The management prescriptions have been designed to maximise confidence that the habitat types and conditions predicted in the **BNG Assessment (Doc Ref. 7.1)** are achievable. **Illustrative Landscape Drawings (Doc Ref. 2.7)** and planting specification (**Outline LEMP (Doc Ref. 7.10)**) are submitted with the DCO Application to evidence that the proposed habitat types, as set out in the **BNG Assessment (Doc Ref. 7.1)**, are achievable.

Consultee and Comment	Response
Biodiversity Net Gain Assessment area achievable.	
Designated sites: With regards to impacts on the Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar sites, a shadow Habitat Regulations Assessment must be submitted with the Development Consent Order.	A **Information for Habitats Regulations Assessment (Doc Ref. 7.19)** report is submitted with the DCO Application which provides a shadow Habitats Regulations Assessment.
Natural England (NE)	
Designated sites: Stodmarsh SPA, SAC and Ramsar site Both the original PEIR and the Addendum highlight that there is the potential for the development to result in an increase in nutrient discharges to the Stour Catchment and the impacts that this could have for the Stodmarsh SSSI, SAC, SPA and Ramsar Site. …… Mitigation for nutrient impacts on the Stodmarsh sites is normally only required for development including new, overnight accommodation. Commercial development, not including overnight accommodation, will not normally require a nutrient assessment as set out in Section 4 'Plans and Projects Affected' on page 5 of the covering letter issued by Natural England to all relevant parties when Nutrient Neutrality became a national approach in March 2022: Folkestone to Etchinghill Escarpment SAC: Natural England's only concern would be around air quality impacts from construction / decommissioning traffic. Wye and Crundale Downs SAC: Given the nature of the proposal, the distance involved and the qualifying features of the SAC Natural England's only concern would be around air quality impacts from construction / decommissioning traffic. In our response to the original PEIR we noted the conclusion that the Site does	The Applicant remains committed to tankering of wastewater to a wastewater treatment works that discharges to outside of the Stour catchment. This tankering is secured by the **Outline CEMP (Doc Ref. 7.8)**, **Outline OMP (Doc Ref. 7.11)** and **Outline DEMP (Doc Ref. 7.12)**, This is a precautionary measure to ensure no adverse effects on water quality within the East Stour River and downstream habitats and designated sites including the Stodmarsh site. **Information for Habitats Regulations Assessment (Doc Ref. 7.19)** and **ES Volume 4, Appendix 9.6: Biodiversity Air Quality Screening Report (Doc Ref. 5.4)** assess the potential risk of air quality effects upon Folkestone to Etchinghill Escarpment SAC and Wye and Crundale Downs SAC. The risk of air quality effects upon Hatch Park SSSI is assessed in **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)**, informed by **ES Volume 4, Appendix 9.6: Biodiversity Air Quality Screening Report (Doc Ref. 5.4).** **ES Volume 2, Chapter 10: Water Environment (Doc Ref. 5.2)**, includes an explanation of the absence of any hydrological pollution pathway between the Site and Gibbin's Brook SSSI. However, Gibbin's Brook SSSI is

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not support significant numbers of wintering birds associated with the Dungeness, Romney Marsh and Rye Bay SPA and Ramsar site and is therefore not considered to be functionally linked. We can now advise that we are satisfied with both the robustness of the survey work and the conclusion drawn that the Site is not functionally linked to the Dungeness SPA and Ramsar site. Habitats Regulations Assessment ….we would encourage you to engage with us on your 'Shadow HRA' as early as possible, particular if further works begins to indicate that some effects cannot be screened out. This would provide increased certainty prior to DCO Submission that impacts to Habitats Sites have been assessed appropriately. Nationally designated sites (SSSIs) . ….there apparently is a connection between the water course passing through Gibbin's Brook SSSI and the East Stour River (within the Site) but various factors mean any hydrogeological connection is unlikely to be direct and significant impacts are unlikely to result. It would be helpful if the final ES could provide further clarity on this matter in defining the nature of the connection between the two watercourses and the justification for concluding significant impacts as unlikely. Hatch Park SSSI Our response to the original PEIR flagged that transport generated air quality impacts should be considered in relation to this site. We are pleased to note that this will be considered as part of the completed ES but we do not believe there is any new, relevant information in this PEIR Addendum for us to advise on in relation to this site.	considered (scoped out) in the assessment. A draft **Information for Habitats Regulations Assessment (Doc Ref. 7.19)** was submitted to NE prior to submission of the DCO Application for comment.

Consultee and Comment	Response
Protected and notable species: In our response to the original PEIR we signposted you to our Protected Species Standing Advice and advised that you seek our specific advice on any required Letters of No Impediment (LONIs) where a license is likely to be required post-consent. The provision of LONIs and any additional, related advice is on a cost-recovery basis and must be sought through our Discretionary Advice Service. We note from Table 8.2, Chapter 8, PEIR Addendum that while impacts to protected species are assessed as being limited overall, it is expected that a European Protected Species Mitigation ('EPSM') licence will be required for GCNs and potentially hazel dormouse, and it is possible that protected species mitigation licences may be required in relation to badger and otter.	The Applicant has engaged with NE through submission of draft information on licensable protected species mitigation strategies. Updates to the great crested newt and badger draft licences were agreed and supplied to NE, with LONIs for these two species provided on 15 May 2024. The application for the dormouse LONI is well progressed with NE, with final changes being actioned to secure this final LONI.
Environment Agency	
EA comment (riparian mammals): At present, the nearest known population of beavers (*pers. comm*. 2023) is only c. 7.2km (straight line) from the access gate to the Sellindge Converter Station entrance. This is within one night's travel for beavers. While it is acknowledged that the route of the East Stour and connections to the current population make the actual distance much longer, this is still an accessible site for them. Beavers are fully protected by the Habitats Regulations and parts of the Wildlife and Countryside Act. Accordingly, if they are found in the area of the Project, the applicant may also require a licence to manage beavers or manipulate parts of their habitat. Surveys for beavers must be conducted by appropriately qualified and experienced ecologists. Recommendations from	The riparian mammal survey work undertaken to inform the PEIR and that subsequently undertaken to inform the ES (**ES Volume 4, Appendix 9.5k: Riparian Mammal Survey Report (Doc Ref. 5.4)**) included searches for beaver field signs. This survey work confirms that no beaver field signs were recorded. All records of protected and priority species presence recorded during the baseline surveys for this Project will be shared with Kent and Medway Biological Records Centre ('KMBRC') as part of annual biological records submission.

Consultee and Comment	Response
surveys including, where necessary, mitigation should be delivered. All survey data for all species should be shared with the Kent & Medway Biological Records Centre in a format acceptable to them KMBRC Submit Your Records.	
Aldington and Bonnington Parish Council (Aldington PC)	
7. Nature conservation: a. Protection of existing wildlife in the fields and hedgerows in the proposed site is given only cursory attention with the assumption that, if disturbed, wildlife will return, so all is well. b. The proposed removal of ancient hedgerow in Goldwell Lane will be detrimental to wildlife and visual amenity. The Biodiversity Net Gain from proposed planting of new hedgerow should be evaluated against that already there and the community will pay attention to the detailed BNG assessment that is forthcoming.	Further assessment and design work has since been undertaken since the PEIR Addendum. Measures to protect existing wildlife are summarised in **Section 9.6** 'Embedded Design Mitigation' and are secured in the **Outline LEMP (Doc Ref 7.10)**. **Appendix 9.7** 'Assessment of Effects' provides a detailed assessment of the expected impacts and effects upon and mitigation measures for existing wildlife within the Site Access points along Goldwell Lane have been reviewed. A grassed verge has been included within the Order limits at the entrance to Field 20 from Goldwell Lane to ensure sufficient space for HGVs turning. This change means that a short length of hedgerow (approximately 8m) is required along Goldwell Lane, which will be reinstated post construction. Overall, the Project will result in a significant net increase in the total length and quality of hedgerows present on Site, with significant lengths of new hedgerow planted. The **BNG Assessment (Doc Ref. 7.1)** provides a quantitative assessment of all hedgerow losses and gains.
KWT	
KWT comment (re. level of mitigation detail available for consultation at PEIR stage) Our main concern is the lack of sufficient information within the PEIR regarding mitigation, biodiversity net gain and management post construction to make	The level of mitigation detail provided in the PEIR was considered proportionate and appropriate for the PEIR consultation. Further detailed design and spatial planning work has now been completed and the key principles relating to ecological mitigation, enhancement,

Consultee and Comment	Response
an informed decision on the impacts the proposed development will have on protected species, habitats, and designated wildlife areas. Government advice on Preliminary Environmental Information for pre-application consultation states that *"applicants are advised to include sufficient preliminary environmental information to enable consultees to develop an informed view of the Project […] the key issue is that the information presented must provide clarity to all consultees."* We note that mitigation relating to protected species and habitats will be provided within an Ecological Mitigation and Enhancement Strategy (EMES) which will be devised after the feedback from the consultation process. However, currently KWT are unable to provide an informed consultation response due to not being able to review in detail the proposed mitigation measures and post-development management plan. We strongly urge that the EMES, impact risk assessments, Landscape Ecological Management Plan (LEMP) and any post-development management plans are submitted for consultation prior to the DCO submission, so consultees have the opportunity to review and advise on the suitability of the proposed mitigation and management of the Site.	management and monitoring proposals are submitted with the DCO Application, via the **Outline CEMP** (**Doc Ref. 7.8)** and **Outline LEMP (Doc Ref. 7.10)**. This approach to information submission is a normal, proportionate and ensures that consultees are not provided with premature mitigation details that are likely to vary by the point of ES submission due to the normal process of development of the detailed Project design. In relation to predicted impacts and associated ecological effects the level of information provided at PEIR stage is assessed as appropriate to understand the likely significant effects of the Project. As the Project has progressed, it has been possible to provide a final assessment of predicted impacts and associated ecological effects, which are summarised within **Section 9.7** 'Assessment of Effects' of this Chapter and **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)**. An assessment of cumulative effects is provided in **ES Volume 4, Appendix 9.8: Cumulative Assessment (Doc Ref. 5.4).**
KWT comment (re. Backhouse Wood ancient woodland buffer zone). There are discrepancies within the PEIR and the Draw Masterplan regarding the size of the buffer between Backhouse Wood LWS and the works area. Table 8.2 within Chapter 8 – Biodiversity states a 15m buffer with additional planting will be created, whilst the Illustrative Landscape Masterplan shows a minimum of a 25m buffer will be provided between the development. KWT supports guidance set out by The	Since the PEIR and PEIR Addendum, PV panels have been removed from Fields 26 to 29, inclusive. Woodland buffer planting is now proposed along the edge of Backhouse Wood LWS, to include an appropriate native tree and scrub mix, as specified within the **Outline LEMP (Doc Ref. 7.10)**. The only structure that is proposed in proximity to the LWS is wooden deer fencing, which will be installed to minimise the risk of recreational

Consultee and Comment	Response
Woodland Trust, which states "As a precautionary principle, a minimum 50 metre buffer should be maintained between a development and the ancient woodland, including through the construction phase, unless the applicant can demonstrate very clearly how a smaller buffer would suffice. We strongly urge that a buffer greater than 15m is required to prevent damage to Backhouse Wood LWS and ancient woodland. Due to the proposals for the site, if the applicant can demonstrate clearly why a 50m buffer is not required, we might be able to support the minimum of a 25m buffer, depending on its composition. More information is required regarding the potential impacts to all four LWS. It should be assessed whether impacts will arise from associated transport infrastructure, air quality impacts, increases in dust, noise and artificial lighting and impacts to species which rely on the LWS.	disturbance of some ground-nesting bird compensatory habitat areas.
KWT comment (re. hedgerow losses, gains and buffers): We urge a clear plan is provided highlighting all hedgerows that may be lost to the proposals and their current condition. This plan should include hedgerows that will be reduced in width as well as length, as reducing the width of a hedgerow will likely have impacts to birds, particularly yellowhammer. We strongly urge that all hedgerows are retained and enhanced where necessary. It is noted within the PEIR that hedgerows will have a minimum 4.2m buffer from the solar panel areas, however it is unknown whether work during the construction phase will encroach into these buffers, or whether these 4.2m buffers will be enhanced with additional planting/natural regeneration or be serving as access tracks for machinery during the operational phase.	The **Vegetation Removal Plan (Doc Ref. 2.8)** shows the maximum extent of hedgerow losses. Hedgerows have been almost wholly retained and no more than 150m of hedgerow it to be removed as secured by the **Design Principles (Doc Ref. 7.5**). It is noted that a significant net gain in hedgerow lengths is proposed. The **BNG Assessment (Doc Ref. 7.1)** references existing hedgerow locations against their existing condition assessment scores. The **Design Principles (Doc Ref. 7.5**) require a distance of at least 3.2m to be provided between the edge of PV panels and the security fencing to allow for maintenance, and the distance between security fencing and hedgerows outside of the security fence to be at least 3.2m. As such, the minimum distance between the PV panels and hedgerows that are located outside of the security fence

Consultee and Comment	Response
If these buffers are to be used for machinery or vehicles during either the construction or operational phase, then we consider 4.2m is too small of a buffer. We recommend that protection zones are provided for hedgerows to prevent the accidental encroachment and damage by heavy machinery.	would be 6.4m. The **Outline CEMP** (**Doc Ref. 7.8)** will include details of hedgerow and boundary habitat protection measures to be employed during construction. During the operational phase, these areas will be subject to additional planting but will included designated access tracks in a limited number of locations, located beyond the RPAs of hedgerows, as shown within **Works Plans (Doc Ref. 2.3)**. Furthermore, the **Outline LEMP (Doc Ref. 7.10)** includes hedgerow protection measures for all stages of the Project.
KWT comment (re. BNG predictions): We wish to highlight to the applicant that mitigation areas for protected species cannot provide net gain within the BNG metric, as they can only be considered as providing no net loss. Overall, in order to assist consultees in understanding the likely impacts, the following should be provided before the DCO submission.	Areas required to deliver compensatory habitat for European Protected Species ('EPS') can be used to count towards no net loss of biodiversity units but not towards a net gain in biodiversity units. However, the current working understanding within the ecology sector is that this does not apply to non-EPS species due to the absence of legal duties to maintain the Favourable Conservation Status ('FCS') of non-EPS species. Full detail of calculations are provided in the **BNG Assessment (Doc Ref. 7.1)**.
KWT comment (re. assessment of noise on birds): Overall, in order to assist consultees in understanding the likely impacts, the following should be provided before the DCO submission: An assessment of noise on birds (within the site, adjacent to the site and within statutory and non-statutory designated sites) should be undertaken to assess the likely impacts of both construction and operational phases of the scheme. There is a body of evidence available for assessing impacts of noise on birds.	**Section 9.7** 'Assessment of Effects' and **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)** provides a full and detailed assessment of all potential significant adverse effects upon birds, including noise disturbance.

Consultee and Comment	Response
KWT (re. integration of experimental approach to monitoring and management): Overall, in order to assist consultees in understanding the likely impacts, the following should be provided before the DCO submission: ▪ Commitment and plan for monitoring of priority species and focal habitats (hedgerows, field margins) post-construction in order to evaluate ecological effects. Integration of experimental evaluation of management approaches would be encouraged in order to facilitate collaborative research.	The **Outline LEMP (Doc Ref. 7.10)** includes the principles of the monitoring programme for priority species and habitats.

2023 Targeted Statutory Consultation

9.3.6 No specific comments were received in relation to ecology.

2024 Targeted Statutory Consultation

9.3.7 No specific comments were received in relation to ecology.

9.4 Assessment Methodology

Approach Scope

9.4.1 The generic EIA methodology is detailed in **ES Volume 2, Chapter 6: EIA Methodology (Doc Ref. 5.2)**.

9.4.2 The assessment methodology for this Chapter is based on the Ecological Impact Assessment ('EcIA') guidance issued by the Chartered Institute of Ecology and Environmental Management (CIEEM) in 2018[5] (subsequently referred to as 'CIEEM EcIA Guidance'). An overview of the CIEEM EcIA Guidance methodology is provided below.

9.4.3 In accordance with these guidelines, the potential effects of climate change upon existing and proposed habitats and the ecologically important flora and fauna dependent on these habitats have been considered and climate change resilience has been factored into the ecological mitigation measures set out in **Section 9.6** 'Embedded Design Mitigation' section of this Chapter.

9.4.4 Matters were scoped in or out of the assessment based upon a review of the Project components and proposed layout, as well as construction, operation and maintenance and decommissioning activities and expected impact upon biodiversity as a result.

Matters scoped in

9.4.5 The assessment provided in this Chapter considers the following:

- Construction noise and vibration disturbance through vegetation and ground clearance as well as construction of Project infrastructure;
- Construction traffic noise disturbance and potential for species road traffic mortalities;
- Construction air quality impacts through traffic and construction pollution and dust deposition;
- Construction nutrient, air quality or hydrological impacts at distance due to connectivity to designated sites;
- Construction, risk of species disturbance or mortalities through vegetation or ground clearance;
- Construction habitat loss, degradation and fragmentation;
- Construction lighting disturbance on nocturnal wildlife;
- Construction risk of pollution incidents contaminating groundwater, surface water, soil or air;
- Operational phase noise and vibration through maintenance activities and operation of infrastructure;
- Construction nutrient, air quality or hydrological impacts at distance due to connectivity to designated sites;
- Operational habitat management or infrastructure maintenance activities resulting in loss or degradation of habitats of species disturbance or mortalities;
- Operational phase lighting disturbance upon nocturnal wildlife,
- Operational risk of pollution incidents contaminating groundwater, surface water, soil or air; and
- Decommissioning impacts comparable to those provided above for construction.

Matters scoped out

9.4.6 The biodiversity assessment provided in this Chapter scopes out the following matters:

- Operational phase road traffic noise and vibration disturbance based upon PINS Scoping Opinion comments and assessment within **ES Volume 2, Chapter 14: Noise (Doc Ref. 5.2)**.
- Operational phase traffic air quality, dust deposition, and potential for

species road traffic mortalities on Site due to negligible traffic flows.

Study Area

9.4.7 CIEEM EcIA Guidance[5] does not provide a specific search radius from a site to be used as a study area. Justification of the study area in terms of important ecological features and the relevant Zone of Influence ('ZoI') is provided below.

9.4.8 The potential impacts of a development are not always limited to the boundaries of the site concerned. The area over which a development may impact ecologically important features is known as the ZoI.

9.4.9 The ZoI is determined by the source / type of impact, the presence of any potential pathways for that impact and the location and sensitivity of any ecologically important off-Site features.

9.4.10 The ZoI was used to inform the study area using a combination of professional judgement and CIEEM EcIA Guidance[5] which define the zone of influence as: *"…the area over which biodiversity features may be affected by biophysical changes as a result of the proposed project and associated activities".*

9.4.11 Therefore, based on professional judgement, a 2km search radius from the Site boundary has been utilised for statutory designated sites of local and national importance (refer to blue dotted line on **ES Volume 3, Figure 9.1: Locations of Statutory Designated Sites (Doc Ref. 5.3)**). The desk study area has been extended to 10km from the Site boundary for internationally designated ('European') sites to take account of potential distant indirect effects (refer to the green dashed line on **ES Volume 3, Figure 9.1: Locations of Statutory Designated Sites (Doc Ref. 5.3)**).

9.4.12 The 10km search radius for statutory designated sites of international importance is based on the 15km search radius used in the Habitats Regulations Assessment ('HRA') of the Ashford Local Plan[6] (which primarily focuses on residential and commercial development types at a Plan level), rationalised down to 10km for the Project level, based on the lower risk development type (solar) that is being considered and on professional judgement.

9.4.13 10km is typically the maximum ZoI search radius for any individual project in relation to any international sites, so is considered to be a conservative and appropriate radius, given the low-risk project type. The Project type is considered low risk because it is not identified by NE's SSSI Impact Risk Zone tool[7] (which also considers risks to international sites) as a development type requiring further assessment.

9.4.14 The study area for protected, priority and notable species and habitats comprises the Site and a 1km radius (refer to the blue dashed line on **ES Volume 3, Figure 9.3: Locations of Ancient Woodland Sites (Doc Ref. 5.3)** for visual representation of this 1km radius) around the Site for most important ecological features ('receptors').

9.4.15 Field surveys undertaken to inform the baseline are limited to land within the Site boundary, but the wider desk study area for these features extends to 1km from the Site boundary for most features, and 5km for bats, otter (*Lutra lutra*) and beaver (*Castor fiber*). 5km is a standard bat search radius for a site in Kent, unless there is exceptional potential for significant impacts upon wider bat populations arising from a project. This standard search radius is based on typical estimated Core Sustenance Zones ('CSZs') for regularly occurring UK bat species. 15 of the 16 bat species regularly recorded in the UK have estimated CSZs of less than 5km (1-4km). The only species with a greater estimated CSZ is barbastelle (*Barbastella barbastellus*), which has an estimated CSZ of 6km (Bat Conservation Trust ('BCT'), 2016[8]) but which is only infrequently recorded in the county. A 5km search radius is therefore considered appropriate for the assessment.

9.4.16 A greater search radius (e.g., up to 20km) from a site for bats is only relevant where there are SAC designated for populations of lesser horseshoe bats (*Rhinolophus hipposideros*) and/or greater horseshoe bats *(R. ferrumequinum*) in particular (related to the protection of habitat corridors as land that is 'functionally linked' to the SAC) or other significant local bat designations that require an extended search radius and consideration of a wider Zone of Influence. However, these bat species are currently very rarely recorded in Kent and there are no SACs designated for them within the county. In addition, the nature of the Project and the predominant baseline habitat currently present within the Site (dominated by arable cropland) means that significant adverse impacts upon bats at the Site level are unlikely and therefore a greater (e.g., 20km) search radius for bats is not considered to be appropriate.

9.4.17 The search radius for granted EPS mitigation licences was 5km for bats, hazel dormouse (*Muscardinus avellanarius*) and otter and 1km for GCN.

9.4.18 The temporal scope used in this assessment is based upon the Project programme and lifecycle outlined in **ES Volume 2, Chapter 3: Project Description (Doc Ref. 5.2)**. In summary, the effects of the Project are assessed in three phases:

- Construction Phase: Construction works are expected to commence in 2026 and be fully complete in 2027, with construction activities likely to take place continuously over a 12-month period, albeit at different levels of intensity across the Site. Any ecological enabling works required in advance (e.g., landscape preparation or protected species mitigation) of the main construction programme are included within this phase and highlighted where relevant to the assessment.
- Operational Phase: The Project would be in place and operational over a 40-year lifetime. This is subsequently referred to as 'Operational Phase'.
- Decommissioning Phase: Decommissioning of the Project is expected to be undertaken over 12 months, and for the purposes of the assessment is expected to occur after 40 years of operation of the Project.

Establishing Baseline Conditions

9.4.19 Establishing the baseline conditions at the Site and the ZoI involved a desk-based study of existing data sources, consultation with statutory and non-statutory bodies and field surveys.

Desk Study and Preliminary Ecological Appraisal

9.4.20 An initial Preliminary Ecological Appraisal ('PEA') of the Site was undertaken in April 2020. The appraisal was informed by a site visit and a biological records search. Further walkover surveys were undertaken in February and March 2022 and July and August 2023, to provide baseline habitat data and updates to the PEA with an updated biological records search undertaken in August 2023. A survey of the Sellindge Substation area was carried out in January 2024 following confirmation in late 2023 from UK Power Networks that the Project would connect at this location as opposed to the previous proposed connection to an existing tower south of HS1.

9.4.21 The PEA was additionally informed by multiple site visits, and review of additional biological information such as MAGIC.gov.uk. An evaluation of recent and historic aerial images and OS maps, and available information regarding designated sites, was also undertaken.

9.4.22 A PEA report was produced **(ES Volume 4, Appendix 9.4: Preliminary Ecological Appraisal (Doc Ref. 5.4))** to assess potential ecological constraints, considerations and opportunities and the potential need for additional ecological survey work.

9.4.23 The PEA provides an assessment of the likelihood of presence of relevant legally protected species and Species of Principal Importance ('SPI's) on the Site. This was based on an assessment of the suitability of the on-Site habitats for these species (based on the findings of the PEA walkover survey) and consideration of other relevant factors, such as connectivity to wider off-Site habitat networks and the results of the biological record search.

9.4.24 Where the PEA indicated that the Project may result in impacts upon ecologically important features (important species, habitats and/or designated sites), a brief outline of the requirement for further survey, assessment and/or impact avoidance measures was provided within the PEA.

Field Surveys

9.4.25 **Table 9.5** of this Chapter presents a summary of the coverage, method and date of field surveys undertaken to date within the Site and appropriate survey areas. To avoid duplication, detailed methodologies in relation to specific flora and fauna surveys are not included within this ES Chapter. Instead, survey methodologies are briefly summarised in **Table 9.5**, and detailed methodologies are included within each of the specific species reports within **ES Volume 4, Appendix 9.5: Baseline Survey Reports (Doc Ref. 5.4)**.

9.4.26 Ecological survey work commenced and was undertaken across most of the Site in 2020 with further survey work completed in 2022 and 2023. Survey work in 2022

and 2023 included areas of the Site that were not previously surveyed and for those species and species groups where update survey work was considered necessary to complete a robust ecological baseline dataset for the Site. The year/s within which survey works were completed are stated in each sub-section below.

9.4.27 Ecological survey work undertaken in 2022 incorporated an area to the east of the Sellindge Substation, as this area was included within the preferred Order limits to facilitate delivery of the Alternative Cable Route (See **Section 5.13** of **ES Volume 2**, **Chapter 5: Alternatives and Design Evolution (Doc Ref. 5.2)**) for further details. The Alternative Cable Route is no longer required and does not form part of the Order limits. The baseline description for surveys conducted during 2022, previous PEIR documents and the accompanying species reports include results for this area. However, impacts associated with the 'Alternative Cable Route' area that is no longer within the Order limits have been removed from assessment within this Chapter.

9.4.28 The Sellindge Substation has been incorporated into the Site, noting this is primarily included for limited extension works required at Sellindge Substation to allow the Project to connect. UKPN will be responsible for these works and an area of no more than 0.05ha has been identified to accommodate the necessary works, with habitat impacts being small-scale and restricted to electrical infrastructure within the eastern part of the Sellindge Substation. The extension will require some earthworks and will tie into the existing Sellindge Substation development platform. The existing Sellindge Substation perimeter security fence is expected to be extended to include the necessary electrical infrastructure.

9.4.29 An ecological walkover survey of the Sellindge Substation was undertaken on 10 January 2024, and the findings of this survey are reported within **Section 9.5** of this Chapter, **ES Volume 4, Appendix 9.4: Preliminary Ecological Appraisal (Doc Ref. 5.4)** and the **Biodiversity Net Gain Assessment (Doc Ref. 7.1)**. Based on the findings of this walkover and a review of the proposals for this area, no further ecological survey work is required for the Sellindge Substation area of the Site.

Table 9.5: Summary of Ecological Surveys Completed and other Data Sources

Survey (Habitat / Species)	Survey Dates / Period	Survey Scope	Survey Method	Report Reference
Preliminary Habitat and Species Assessment	Various updates from April 2020 – January 2024	Desk study including biological records search, recording habitats present and extent and scoping for protected species. Determination of scope of further habitat and species surveys. The survey area comprised the Site and 30m beyond where accessible or viewable with desk study from 1km to 10km dependent on habitat and species and ZoI.	Preliminary Ecological Appraisal (CIEEM, 2017[9]) CIEEM Report Writing Guidance	**ES Volume 4, Appendix 9.4: Preliminary Ecological Appraisal (Doc Ref. 5.4)**
Habitat Baseline	Various updates from April 2020 – August 2023	Habitats present on the Site have been classified and mapped using the UK Habitat Classification ('UK Hab') system, following standard UK Hab habitat descriptions (UK HCWG, 2020). Habitat survey work was undertaken in spring 2020, in spring and summer 2022 and again in summer 2023. Habitat condition assessment surveys were also conducted in June to August 2022 and June to July 2023. The survey area comprised the Site, based upon habitats to be impacted being contained within. Habitat Prior to Development Plans (i.e., baseline habitat plans) have been produced using the UK Hab mapping method, to show the locations, extents and areas of the habitat types present on the Site. These plans and habitat area measurements, along with the associated habitat condition assessment results, provide a quantitative basis for the calculation of the number of 'biodiversity units' present on the Site prior to development. This information was used to inform the change in biodiversity	The UK Habitat Classification Working Group, 2020[10] Preliminary Ecological Appraisal (CIEEM, 2017[9]) Joint Nature Conservation Committee (JNCC, 2016)[11] Statutory Biodiversity Metric: Auditing and accounting for biodiversity – User Guide. Technical Supplement Panks et al (2023[12])	**BNG Assessment (Doc Ref. 7.1)** **ES Volume 4, Appendix 9.5a: Hedgerow Condition and Importance Assessment (Doc Ref. 5.4)** **ES Volume 4, Appendix 9.3: Arboricultural Impact Assessment (Doc Ref. 5.4)** **ES Volume 3, Figure 9.6: Habitat Prior to**

Survey (Habitat / Species)	Survey Dates / Period	Survey Scope	Survey Method	Report Reference
		at the site level as a consequence of the Project and inform the **BNG Assessment (Doc Ref. 7.1).**		**Development Plans (Doc Ref. 5.3)**
River Habitat Baseline	June 2023	River Condition Assessment includes two components: (1) MoRPh field survey and (2) River Type desk study. These are used to assess overall river condition to feed into BNG calculations. The survey area comprised the East Stour River, on-Site watercourses and habitats within 10m of the bank crest.	Modular River Survey (2022) The MoRPh Survey[13]	**BNG Assessment (Doc Ref. 7.1)**
Invasive species	Various between April 2020 and August 2023 (in tandem with other surveys)	Identification of invasive fauna and flora as part of 'UK Hab' surveys and habitat condition surveys and incidentally through other species surveys. The survey area comprised the Order limits, based upon habitats to be impacted being contained within the Site.	Joint Nature Conservation Committee (JNCC, 2016)[11] The UK Habitat Classification Working Group, 2020[14]	**Paragraph 9.5.143** of **Section 9.5** 'Baseline Conditions'
Invertebrates	May to September 2022 May to September 2020	A terrestrial invertebrate survey of the majority of the Site was undertaken in summer 2020. An invertebrate survey of the areas of land added into the Site boundary since 2020 was undertaken in summer 2022. An invertebrate survey of the Grid Connection Route area was completed in September 2022. The survey area comprised the Site, based upon habitats to be impacted being contained within.	British Invertebrates: Guidelines for Invertebrate Survey (Brooks, S.J. 1993[16]), JNCC Surveying terrestrial and freshwater invertebrates for conservation	**ES Volume 4, Appendix 9.5b: Invertebrate Survey Report (Doc Ref. 5.4)**

Survey (Habitat / Species)	Survey Dates / Period	Survey Scope	Survey Method	Report Reference
		The invertebrate surveys undertaken on the Site have been completed in accordance with best practice guidelines (Webb et al., 2018[15], Brooks, 1993 and Drake et al.,1997).	evaluation (Drake, et al 2007[17])	
Fungi	August to November 2022	Assemblage survey targeting habitats assessed as potentially suitable for notable and important fungus species, focussing on grassland species. The survey area comprised the Site, based upon habitats to be impacted being contained within.	English Nature (2004[18]). Waxcap grasslands – an assessment of English Sites and associated guidelines	**ES Volume 4, Appendix 9.5c: Fungi Survey Report (Doc Ref. 5.4)**
Great Crested Newt ('GCN') and toad	May to July 2023 May to June 2022 April to June 2020	An assessment of the suitability of waterbodies located on the Site and within 250m of the Site boundary for GCN was undertaken in spring 2020 with update assessments undertaken in spring 2022 and spring 2023. A 250m search radius was applied because, although the Site is large, due to the retention of all or most existing boundary habitats (which are suitable for GCN) and the concentration of development within arable fields (which are of negligible suitability for GCN), the Project does not pose any significant habitat fragmentation or barrier risks for this species. Therefore, a larger 500m search radius from the Site boundary was not considered necessary. The method for the Habitat Suitability Index ('HSI') assessments of waterbodies to assess their suitability for GCN, was based on guidance within Oldham et al. (2000) and ARG UK Advice Note 5 (ARG UK, 2010). A GCN presence / likely absence survey of suitable waterbodies within the 250m survey radius was undertaken in	Habitat Suitability Index (Oldham et al, 2000[19]) Presence / likely absence; English Nature (2001[20]) eDNA (Biggs et al. (2014[21]) ARG UK Advice Note 5 (ARG UK, 2010[22]).	**ES Volume 4, Appendix 9.5d: Amphibian Survey Report (Doc Ref. 5.4)**

Survey (Habitat / Species)	Survey Dates / Period	Survey Scope	Survey Method	Report Reference
		spring and early summer 2020. Waterbodies that were assessed as being of 'poor' suitability were not subject to further GCN survey work. Only waterbodies of 'below average' or greater suitability were surveyed. In addition, any waterbodies that had dried out following the HSI assessment and prior to the further survey were not subject to further survey work. The further survey included diurnal and nocturnal pond search methods and environmental DNA ('eDNA') sampling. An update presence / likely absence and population survey was undertaken in spring 2022 using diurnal and nocturnal pond search methods. The 2023 update survey was comprised of an HSI assessment and eDNA sampling. Nocturnal torch searches of suitable waterbodies (as identified by the HSI assessment) were undertaken for common toad in spring 2022, paired with the GCN survey visits. Six survey visits were undertaken.		
Reptile	May to October 2022 July to October 2020	A reptile population survey was undertaken in summer 2020 with an additional reptile population survey of areas of land added into the Site boundary since 2020 completed in 2022. The reptile surveys comprised the use of Artificial Cover Objects ('ACOs') to attract reptiles. ACOs and natural reptile basking spots are then searched 15 times under suitable weather conditions. The total number and density of ACOs used during the reptile survey combine recommendations from Froglife's Advice Sheet 10[24] (5-10 ACOs per hectare) and research which suggests	Reptile surveys in accordance with Froglife (1999[24]) and Gent T and Gibson S (2003[25])	**ES Volume 4, Appendix 9.5e: Reptile Survey Report (Doc Ref. 5.4)**

Survey (Habitat / Species)	Survey Dates / Period	Survey Scope	Survey Method	Report Reference
		that the most effective spacing is approximately 28m between ACOs (Froglife, 1999; Schmidt et al. 2017[23]). The survey methodology was based on good practice recommendations for reptile presence / likely absence and population surveys (Froglife, 1999) and has been informed by more recent research (Schmidt et al., 2017) and guidance (Gent and Gibson, 2003). The survey area comprised the Site, based upon habitats to be impacted being contained within.		
Birds (Winter)	Nov 2021 to March 2022 Nov 2020 to Feb 2021	A winter bird survey of on-Site habitats was undertaken in winter 2020-2021. An additional survey, of areas not covered in 2020-2021, was undertaken in winter 2021-2022. The survey methodology used was broadly based on the survey methodologies detailed in Gilbert et al., (1998). As per the breeding bird survey, all bird species seen during the survey were recorded. However, most survey effort was focussed on declining farmland species that are listed as SPIs, red and amber status species (Stanbury et al., 2021[26]) and/or are listed in Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) ('WCA'). The Site was surveyed on foot so that the surveyor passed within 50m of most points within the Site. During the survey all species either seen or heard were recorded and any signs of winter foraging and roosting were noted. Birds were recorded using the standardised BTO two-letter species codes (Bibby et al., 2000).	Gilbert et al., (1998[27]). Bird Monitoring Methods: A Manual of Techniques for Key UK Species Bibby et al., (2000). Bird Census Techniques	**ES Volume 4, Appendix 9.5f: Wintering Bird Survey Report (Doc Ref. 5.4)**

Survey (Habitat / Species)	Survey Dates / Period	Survey Scope	Survey Method	Report Reference
		The survey area comprised the Site and to a maximum of 50m beyond, with key observations recorded up to 250m (i.e., major aggregations of wintering birds) where visibility permitted.		
Birds (Breeding)	April to June 2023 April to June 2022 May to June 2020	A breeding bird survey of on-Site habitats was undertaken in spring and early summer 2020. A further survey of the areas of the Site added to the Order limits since 2020 was undertaken in spring and early summer 2022. All bird species seen during the survey were recorded. However, most survey effort was focussed on declining farmland species that are listed as SPIs, red and amber status species (Stanbury, 2021) and/or are listed in Schedule 1 of the WCA. The Site was surveyed on foot so that the surveyor passed within 50m of most points within the Site. During the survey, all species either seen or heard were recorded and any signs of breeding activity were noted. Birds were recorded using the standardised British Trust for Ornithology ('BTO') two-letter species codes and standardised behaviour codes (Bibby et al., 2000). The potential presence of breeding bird species listed on Schedule 1 of the WCA was reviewed as part of the breeding bird surveys, to determine whether any species-specific surveys were required (e.g. presence of Schedule 1 raptors indicating territory). The survey area comprised the Site and to a maximum of 50m beyond, with key observations recorded up to 250m (i.e.,	Gilbert et al., (1998). Bird Monitoring Methods: A Manual of Techniques for Key UK Specie Bibby et al., (2000). Bird Census Techniques	**ES Volume 4, Appendix 9.5g: Breeding Bird Survey Report (Doc Ref. 5.4)**

Survey (Habitat / Species)	Survey Dates / Period	Survey Scope	Survey Method	Report Reference
		records of species listed on Schedule 1 of the WCA) where visibility permitted.		
Barn owl	May to September 2023	Barn owl survey effort has been focussed upon any trees or nesting boxes that are in proximity to future construction works. There are no buildings present on the Site suitable for barn owl nesting and the Project is offset from adjacent off-Site buildings (thereby minimising the risk of disturbance of any barn owls nesting off-Site buildings). Assessment of the site suitability for nesting barn owl was carried out in 2023, through a combination of desk and field survey. The method to assess the status of barn owl roost and nest sites was adapted from guidance provided in The Barn Owl Conservation Handbook (Barn Owl Trust, 201229) and from Barn Owl Survey Methodologies and Techniques (Shawyer, 2011). The survey area comprised the Site (based upon assessed habitat impacts) and to a maximum of 50m beyond with desk study extending to 1km.	Shawyer, C. (2011). Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment[28] The Barn Owl Conservation Handbook (Barn Owl Trust, 2012)[29]	**ES Volume 4, Appendix 9.5n: Schedule 1 Bird Species Report (CONFIDENTIAL) (Doc Ref. 5.4)** Confidential information, provided to the Planning Inspectorate separately and not published in public domain.
Bats (Roosting)	June to August 2023	There are no buildings present on the Site and the Project is offset from adjacent off-Site buildings. The proposed access route at Bank Farm is subject to existing heavy good vehicle movements. This minimises the risk of disturbance of any bats roosting in off-Site buildings. In addition, the bat activity survey work undertaken on the Site provides sufficient survey data to allow effects upon bats to be confidently assessed and predicted. Therefore, no inspection of buildings to determine their suitability for roosting bats, and no other surveys of	Bat Conservation Trust (2016) Bat Survey Guidelines 3rd Edition[30]	**ES Volume 4, Appendix 9.5l: Bat Tree Survey Report (Doc Ref. 5.4)**

Survey (Habitat / Species)	Survey Dates / Period	Survey Scope	Survey Method	Report Reference
		buildings (such as emergence / re-entry survey work) was required to is required to inform this assessment. The Project does not require the removal, illumination or otherwise disturbance or damage to trees on the Site boundary. The exception is a small number of trees that will either require removal to facilitate the Project or have been identified as potentially requiring remedial works as identified on the **Vegetation Removal Plan (Doc Ref 2.8)** and **ES Volume 4, Appendix 9.3: Arboricultural Impact Assessment (Doc Ref. 5.4)**. Therefore, detailed inspection to assess the suitability of trees for roosting bats has been undertaken for the limited number of trees that will be affected by works, with the requirement for emergence / re-entry surveys being further limited to a minimal number of trees based on the results of the detailed inspection and a review of the nature of potential impacts for each tree. Tree assessment and emergence re-entry surveys were conducted during June to August 2023. Surveys were carried out to confirm the requirement for any additional mitigation (i.e., tree removals under an ecological supervised precautionary method of working) or the presence of likely / absence in trees subject to emergence / re-entry survey. The survey area comprised trees to be potentially impacted within the Site.		
Bats (Foraging and Commuting)	June to Oct 2023	Activity surveys inclusive of walked transects and deployment of remote detectors.	Bat Conservation Trust (2016) Bat Survey Guidelines 3rd Edition[30]	**ES Volume 4, Appendix 9.5h: Bat Activity**

Survey (Habitat / Species)	Survey Dates / Period	Survey Scope	Survey Method	Report Reference
	May to Oct 2022 May to Oct 2020	A bat activity survey of the Site was undertaken across the period May to October 2020, May to Oct 2022 and June to Oct 2023 (inclusive). The surveys comprise walked transects along pre-determined routes, recording bat calls and noting bat behaviour and direction of flight where possible, in accordance with current good practice guidance (BCT, 2016). The walked transects have been augmented by a static bat detector survey across the 2020 survey period and across the 2022/2023 survey period. The static detector involves the deployment of passive acoustic recording devices at pre-determined locations on the Site to gather additional data on the bat species present, across multi-night recording periods. The static detector survey approach has been informed by current good practice guidance (BCT, 2016). The survey area comprised the Site (including previous extent iterations) and to a maximum of 50m beyond.		**(Transect and Static) Survey Report (Doc Ref. 5.4)**
Dormouse	June to November 2022 July to November 2020 October to November 2021	A hazel dormouse presence / likely absence survey was undertaken in summer and autumn 2020 in accordance with Bright et al., (2006). Update hazel dormouse survey work was conducted during 2022 across areas where no presence of hazel dormouse, and where insufficient survey points to conclude likely absence of this species, was recorded in 2020. Nest tubes were affixed to horizontal or near-horizontal branches of woody vegetation and scrub within all areas of suitable habitat.	The Dormouse Conservation Handbook Bright, Morris, & Mitchell-Jones, 2006[31] and associated guidelines	**ES Volume 4, Appendix 9.5i: Hazel Dormouse Survey Report (Doc Ref. 5.4)**

Survey (Habitat / Species)	Survey Dates / Period	Survey Scope	Survey Method	Report Reference
		Bright et al., (2006) and associated guidelines were used to assess the suitability of on-Site and adjacent habitats for hazel dormouse and inform the scope for subsequent surveys. The survey area comprised suitable habitats for hazel dormouse within the Site.		
Hedgehog	October 2022	A search for signs of hedgehog (*Erinaceus europaeus*), primarily nests, was undertaken in late summer / autumn 2020 and was updated in late summer / autumn 2022. Nocturnal torch searches were also undertaken in 2020 and were repeated in 2022. The survey method has been informed by guidance published by the People's Trust for Endangered Species (2018). The survey area comprised suitable habitats for hedgehog within the Site.	Dean M, Pacheco M, Trewhella W.J, Wells D and Wray S (2012). UK BAP Mammals: Interim Guidelines for Survey Methodologies, Impact Assessment and Mitigation[32] People's Trust for Endangered Species (2018). Guidance for Surveying Hedgehogs[33]	**ES Volume 4, Appendix 9.5j: Hedgehog Survey Report (Doc Ref. 5.4)**
Harvest Mouse	July to September 2020	A search of suitable on-Site habitats for harvest mouse (*Micromys minutus*) nests was undertaken in summer 2020. The survey approach was informed by guidance provided in Cresswell et al., (2012). The survey area comprised suitable habitats for harvest mouse within the Site.	Dean M, Pacheco M, Trewhella W.J, Wells D and Wray S (2012). UK BAP Mammals: Interim Guidelines for Survey Methodologies, Impact Assessment and Mitigation	**Paragraph 9.5.110** of this ES Chapter

Survey (Habitat / Species)	Survey Dates / Period	Survey Scope	Survey Method	Report Reference
Brown hare	April to June 2023 October to January 2023	No specific survey work was undertaken for brown hare (*Lepus europaeus*), however incidental recording of this species has been carried out during other species surveys. A transect survey based on the methods outlined in Cresswell et al., (2012) was completed for winter 2023 to inform future management and monitoring of the operational project of this species. The other species survey work undertaken on the Site, particularly the breeding and winter bird surveys, allowed comprehensive coverage of the Site (passing with 50m of the majority of the Site) and observations of brown hare were recorded during those surveys. The existing baseline is therefore extensive and robust to inform this assessment due to the significant survey effort across the Site and across multiple years. The survey area comprised the Site and to a maximum of 50m beyond, concurrent with wintering and breeding bird surveys.	Dean M, Pacheco M, Trewhella W.J, Wells D and Wray S (2012). UK BAP Mammals: Interim Guidelines for Survey Methodologies, Impact Assessment and Mitigation.	**Paragraph 9.5.124** of this ES Chapter
Badger Survey	June 2020 April to June 2023 May to November 2022	A search for badger setts and other badger field signs was undertaken across the Site and all accessible off-Site areas located within 30m of the Site boundary in early summer 2020, spring 2022 and spring / summer 2023. Periodic update surveys (latest during April to June 2023 to record breeding status) were carried out to inform detailed design, as the location and status of badger setts can change within a short time period.	Harris S., Cresswell P. and Jefferies D. (1989)[35] Scottish Badgers (2018). Surveying for Badgers Good Practice Guidelines[36] Andrews (2013)[37]. The classification of badger	**ES Volume 4, Appendix 9.5m: Badger Report (CONFIDENTIAL) (Doc Ref. 5.4)** Confidential information provided to the

Survey (Habitat / Species)	Survey Dates / Period	Survey Scope	Survey Method	Report Reference
		Setts have been classified according to their type and current activity status. Harris et al., (1989), Andrews (2013) and NE (2006) have been used to inform the survey work required, assess the likely importance of on-Site habitats for badgers and classify badger setts. NE guidance (2009a[34]) has been used as a guide in the interpretation of what 'current use' constitutes.	(*Meles meles*) setts in the UK: NE (2006[38]) Badgers and development NE (2009a[39]) Guidance on 'Current Use' in the definition of a badger sett	Planning Inspectorate separately and not published in public domain.
Otter, beaver and water vole	June 2022 and October 2020	A search of all on-Site and adjacent accessible watercourses and ditches, for signs of otter, water vole and beaver presence, was completed, in tandem via a combined riparian mammal survey. A water vole presence / likely absence survey, comprising a search of suitable habitats for diagnostic water vole field signs, was undertaken in summer 2020 based on guidance provided in Strachan et al., (2011) and Dean et al., (2016). An update survey, using the same survey method, was completed across the period June to August 2022. The survey method for beaver was based on the survey approach in Campbell-Palmer et al., (2020). A search of all suitable on-Site and adjacent habitats for diagnostic otter field signs was undertaken in summer 2020 as part of the combined riparian mammal survey, and update otter survey work was completed across the period June to August 2022. The otter survey method was based on the survey and monitoring guidance detailed within Chanin (2003).	The Water Vole Mitigation Handbook (Dean, et al 2016)[40] Ecology of the European Otter (Chanin P, 2003)[41] NatureScot (undated). Standing Advice for Planning Consultations – Beavers[42]	**ES Volume 4, Appendix 9.5k: Riparian Mammal Survey Report (Doc Ref. 5.4)**

Survey (Habitat / Species)	Survey Dates / Period	Survey Scope	Survey Method	Report Reference
		The survey area comprised riparian habitats within the Site and to a maximum of 50m beyond where accessible but including the lake associated with the Aldington FSA ('Aldington Lake').		

Evaluation of Ecological Features

9.4.30 CIEEM EcIA Guidelines[5] advocate an approach to the valuation of ecological features using a geographical framework, where the importance of an ecological resource or feature should be determined within a defined geographical context. The guidelines suggest a range of geographical parameters and those used in this assessment are shown in **Table 9.6**.

Table 9.6: Evaluation Categories (CIEEM, 2018[5]) and Example Criteria

Geographic Importance	Example Criteria
International	Internationally significant populations of European Protected Species (Annexe IV), Annexe II species, or species otherwise formally deemed to be rare and threatened in Europe or globally (e.g. International Union for the Conservation of Nature ('IUCN') 'red-listed'), the loss of which would significantly change the species' overall conservation status (i.e. range, abundance, population trend) at the European scale.
National	Nationally significant populations of species identified in the Natural Environment and Rural Communities ('NERC') Act 2006, Section 41 as being of principal importance for the conservation of biodiversity in England, or otherwise formally deemed to be nationally rare and threatened (e.g. 'red-listed'), the loss of which would significantly change the species' overall conservation status (i.e. range, abundance, population trend) at the national scale.
Regional	Regionally significant populations of species identified in the NERC Act 2006, Section 41 as being of principal importance for the conservation of biodiversity in England, or otherwise formally deemed to be nationally rare and threatened (e.g. 'red-listed'), the loss of which would significantly change the species' overall conservation status (i.e. range, abundance, population trend) at the regional scale.
County	Significant populations of species identified in the NERC Act 2006, Section 41 as being of principal importance for the conservation of biodiversity in England, or otherwise formally deemed to be nationally rare and threatened (e.g. 'red-listed'), or priority species in the applicable County Biodiversity Action Plan ('BAP') the loss of which would significantly change the species' overall conservation status (i.e. range, abundance, population trend) at the County scale.
Local	Significant populations of species identified in the NERC Act 2006, Section 41 as being of principal importance for the conservation of biodiversity in England, or otherwise formally deemed to be nationally rare and threatened (e.g. 'red-listed'), or priority species in the County BAP the loss of which would significantly change the

Geographic Importance	Example Criteria
	species' overall conservation status (i.e. range, abundance, population trend) at the district scale. Sites formally recognised by local authorities, e.g. Sites of Borough Importance for Nature Conservation ('SINC') (Borough / Local SINC), LNRs, or considered to meet published ecological selection criteria for such designation. A significant area of a non-designated habitat type identified in the NERC Act 2006, Section 41 as being of principal importance for the conservation of biodiversity in England, the loss of which would significantly change the overall range and area of that habitat at the district scale in the long-term. A significant and viable area of habitat identified in the District BAP.
Negligible	Species populations of limited ecological importance due to their size, composition or lack of threat / rarity. The loss of such features would have no discernible impact on the species' / habitat's overall range and conservation status at any formal administrative scale in the long-term.

9.4.31 Where presence of an important species is recorded on the Site, for most species, the recorded population is attributed a level of geographic importance. However, for less sedentary, more mobile species and species groups (e.g. otter, brown hare and birds) – where individuals may use a given area much more dynamically across and between years as part of a wider regular habitat resource, territory or home range, the Site itself is attributed a level of geographic importance for that species/ species group.

9.4.32 Only habitats and species considered to be of at least local (district) importance have been assessed within this Chapter. Features of negligible importance are scoped out of the assessment (e.g. the majority of habitats on the Site, as outlined below). The only exception to this is where a habitat or species has been afforded a level of legal protection that requires it to be considered more fully, irrespective of that feature's assumed ecological importance (e.g. badger).

9.4.33 Habitat criteria listed in best practice guidelines for individual species or species groups have been used to assess the suitability of habitats for protected and / or priority species.

9.4.34 These methodologies are briefly summarised within this ES Chapter and are detailed in full within the appended ecological survey reports **(ES Volume 4, Appendix 9.5: Baseline Survey Reports (Doc Ref. 5.4))**.

9.4.35 Where best practice guidelines are unavailable or unclear, professional judgement has been applied to assess and categorise the suitability of habitats for protected and / or priority species.

9.4.36 Section 41 of the NERC Act 2006 has been used to identify habitats and species considered to be a conservation priority. These are also referred to as HPI and SPI. The importance of these habitats and species is recognised in the National Planning Policy Framework ('NPPF')[43].

9.4.37 Although it does not offer any legal protection, The Birds of Conservation Concern 5 ('BoCC'), (Stanbury et al., 2021[26]) provides guidance on the conservation status of UK bird species. Thus, it can be used to inform judgements on the ecological importance of bird populations and the habitats that they rely on, particularly at a local level. Red status species are those species of highest conservation concern and green status species are those of low or no conservation concern. Amber status species are those species of some conservation concern.

Identifying Likely Significant Effects

9.4.38 Once a feature has been assigned a geographic level of importance, the next stage is to assess the significance of impact to that important ecological feature. CIEEM EcIA Guidance[5] advise that the determination should be whether a given impact will be ecologically significant or not at the geographic level of importance assigned to that feature. This means that the level of significance cannot be higher than the feature's geographic importance.

9.4.39 However, it is sometimes possible that an impact may not be significant at the feature's given level of importance due to its low magnitude, duration, etc., but may be significant at a lower geographic scale. For example, the effects of an impact on a species of county importance may not be discernible or significant at the county scale but may be felt at the local scale. Where this is the case, it is stated in the assessment.

9.4.40 As part of the evaluation of an effect, the following parameters are used:

- Type of impact / effect – direct or indirect, beneficial or adverse;
- Magnitude of impact / effect – the 'amount' or intensity of an impact. This may sometimes be synonymous with 'extent' (see below) for certain features, such as habitats loss. For mortality, it may be the number of individuals killed;
- Geographic extent of impact / effect – the area over which the impact will be felt;
- Duration of impact / effect – how long it will occur. The CIEEM EcIA Guidance suggest that ecological impact durations should be described in terms of ecological characteristics (e.g. species lifecycles / longevity) rather than human timeframes (refer guidance provided within Paragraph 9.4.41 below);
- Timing of impact / effect – when it will occur, taking particular note of seasonality;
- Frequency of impact / effect – how often it will occur; and

- Reversibility of impact / effect. A reversible impact is one from which spontaneous / natural recovery is possible or for which effective mitigation is both possible and an enforceable commitment to this can, in theory, be made.

9.4.41 As a proportional approach within this assessment where duration is stated for an effect, consideration is given to the lifecycle and timeframe for a species/habitat generation. In the case of invertebrates for example, several generations could occur within a single year, while for ancient woodland and veteran trees an individual or habitats may persist for hundreds of years. As a result, the following broad criteria have been used with respect for duration.

- The construction and decommissioning phases broadly have an expected duration of one year and have been assessed as 'short-term' for the majority of effects upon ecological features. Exceptions to this occur where effects upon a population or habitat (i.e. mortalities) would take multiple generations to recover back to baseline, or the longevity of a habitat or individual means that the result of an effect will persist for longer than the duration of the effect itself and would be assessed as 'medium term';
- The operational phase has an expected duration of 40 years. For the majority of ecological features this is assessed as medium term as it may encompass several or more generations or species lifecycles for the key fauna (amphibians, reptiles, birds and mammals), growth of a generation or two of trees and hedgerows to maturity, longevity of habitats or establishment of a habitat to a stated BNG condition. Exceptions are made for a few select ecological features such as ancient woodlands as stated above which are classed as long term or permanent in respect of lifecycles and longevity.

9.4.42 Within this Chapter, effects that are considered to be of local significance and above are considered to be significant. Effects of lower than local significance (i.e. negligible significance) are considered to be not significant.

9.4.43 Note that the identification of likely effects and parameters used in evaluation follow the same process for the construction, operation and decommissioning phases of the Project. However, an explanation of the basis of the assessments of each phase of the Project is provided below.

9.4.44 The identification of potential significant ecological effects is informed by prediction of effects (as a result of the Project) which could result in an impact upon ecological features, based upon a reasonable worst case. Effects and effect parameters have been identified through review of relevant Project documentation in combination with professional judgement, and assessment of the relevant ecological features for each of the Project phases in accordance with CIEEM EcIA guidance[5].

Construction Phase

9.4.45 The potential effects of construction upon designated sites, habitats (removal, degradation, fragmentation and pollution) and species (habitat effects, disturbance and risk of mortalities) have been identified from review of the following:

- **Works Plans (Doc Ref. 2.3)**;
- **Illustrative Project Drawings (Doc Ref. 2.6)**;
- **Design Principles (Doc Ref. 7.5)**;
- **Vegetation Removal Plan (Doc Ref. 2.8)**;
- Construction activity description and programme **(ES Volume 2, Chapter 3: Project Description (Doc Ref. 5.2)**;
- **Outline CEMP (Doc Ref. 7.8)**; and
- **Outline LEMP (Doc Ref. 7.10)**.

Operational Phase

9.4.46 The potential effects of operation upon designated sites, habitats and species (potential effect of management and maintenance operations) have been identified from review of the above together with:

- **Illustrative Landscape Drawings (Doc Ref. 2.7)**;
- **Design Principles (Doc Ref. 7.5)**;
- **Outline LEMP (Doc Ref. 7.10)**; and
- **Outline OMP (Doc Ref. 7.11)**.

Decommissioning Phase

9.4.47 The potential effects of construction upon designated sites, habitats (removal, degradation, fragmentation and pollution) and species (habitat effects, disturbance and risk of mortalities) have been identified from review of the following:

- Works Plans (Doc Ref. 2.3);
- Illustrative Project Drawings (Doc Ref. 2.6);
- Design Principles (Doc Ref. 7.5);
- ES Volume 2, Chapter 3: Project Description (Doc Ref. 5.2);
- Outline DEMP (Doc Ref. 7.12); and
- Outline LEMP (Doc Ref. 7.10).

Cumulative Effects

9.4.48 The cumulative effect assessment identifies ecological features where the predicted effects of the Project could interact with effects arising from other projects based on a spatial and/or temporal basis.

9.4.49 The long list of cumulative schemes identified in **ES Volume 4, Appendix 6.1: List of Cumulative Schemes (Doc Ref. 5.4)** have been screened for spatial and temporal overlaps with the Project. Where it was assessed that there is potential

spatial and/or temporal overlap of effects upon ecological features, the specific ecological features that fall within any area of overlap were identified.

9.4.50 If the ecological features identified were considered to be sensitive, the overlapping development was taken forward for cumulative assessment. There is no potential for cumulative effects where the Project has a negligible effect, so this assessment has only considered those significant effects reported in **Section 9.9** 'Residual Effects' of this Chapter. These were then assessed with the cumulative projects where the ZoIs overlapped.

9.4.51 The cumulative schemes below were reviewed in the ecological context of the Project. Ecological context included their proximity to the Project, application status and potential for cumulative effects, due to potentially similar impacts (changes to extensive areas of agricultural landscape or habitats within the ZoI of important ecological features with expected residual effects).

9.4.52 The ecological short list of cumulative schemes primarily considered (with reference to **ES Volume 4, Appendix 6.1: List of Cumulative Schemes (Doc Ref. 5.4)**) within this Chapter is as follows:

- ID No. 3: Pivot Power Battery Storage (Ref: PA/2022/2544);
- ID No. 9: East Stour Solar Farm (Ref: 2200668AS); and
- ID No. 10: Otterpool Park Development (Ref: Y19/0257/FH).

9.4.53 These schemes have been focussed upon as a result of review of a wider list of cumulative schemes from **ES Volume 4, Appendix 6.1: List of Cumulative Schemes (Doc Ref. 5.4)** assessed in further detail in **ES Volume 4, Appendix 9.8: Cumulative Assessment (Doc Ref. 5.4)**.

9.4.54 The shortlisted cumulative schemes (and wider cumulative list) have been assessed against the construction and operation phases of the Project, but most projects do not include sufficient information to allow a full assessment against the decommissioning phase. Decommissioning has been assessed on a case-by-case basis, based upon the expected stage of each cumulative scheme.

Determining Effect Significance

9.4.55 CIEEM EcIA Guidance[5] states that: *"For the purposes of EcIA a 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general…"*

9.4.56 Within this Chapter (and with reference to the levels of geographical importance provided in **Paragraph 9.4.41** and **Table 9.6**, effects that are considered to be of local significance and above are considered to be significant. Effects of lower than local significance (i.e., negligible significance) are considered to be not significant.

Mitigation and Compensation

9.4.57 Mitigation is based on a 'hierarchy' of mitigation options starting with the most desirable approach:

- Avoid negative effects where possible;
- Minimise (or reduce) what cannot be avoided;
- Remedy (or restore) what cannot be reduced; and
- Compensate for what cannot be restored.

9.4.58 Embedded Mitigation has been incorporated into the Project as a result of the iterative design process and has been included within the assessment of effects. Embedded Mitigation is described within **Section 9.6** and includes relevant **Design Principles (Doc Ref. 7.5)** described in **Table 9.11**. The landscape and ecology mitigation included within the **Outline CEMP (Doc Ref. 7.8), Outline DEMP (Doc Ref. 7.12)** and **Outline LEMP (Doc Ref. 7.10)** are integral components of the Project (being incorporated as part of the iterative design to address consultee comments and significant effects identified during PEIR stage), and as such are included as Embedded Mitigation.

9.4.59 Additional mitigation is described within **Section 9.8** of this Chapter and comprises secondary mitigation to address residual significant effects which cannot be mitigated (or compensated) through the Embedded Mitigation.

9.4.60 NPS EN-1[44] (paragraph 5.4.21) and the NPPF[45] (Paragraph 185b) advise that development should seek to go beyond mitigation and compensation by enhancing habitats to achieve a net gain for biodiversity. The Environment Act 2021[46] introduces a requirement for NSIP projects submitted after to November 2025 to deliver a 10% measurable gain. Whilst this Project is being promoted before that date, regard has been had to this legislation.

9.4.61 Where this can be achieved through a development project, this may result in a significant residual effect that is beneficial rather than adverse.

Information for Habitats Regulations Assessment

9.4.62 The scope of the **IHRA (Doc Ref. 7.19)** includes:

- Stage 1: a screening assessment to identify any 'likely significant effects' on internationally designated sites that might arise as a result of the Project in the absence of mitigation; and
- Stage 2: an Appropriate Assessment of any likely significant effects (after mitigation) to determine if the risk of adverse effects on the integrity of relevant designated sites can be eliminated beyond reasonable scientific doubt.

9.4.63 Stage 1 of the IHRA screens out several potential effects on the basis of distance to international designated sites and reviews potential impact pathways in respect of the following sites:

- Wye and Crundale Downs SAC (and underpinning SSSI and NNR);
- Dungeness, Romney Marsh and Rye Bay SPA and Ramsar (and underpinning SSSI);

- Folkestone to Etchinghill Escarpment SAC; and
- Stodmarsh SPA, SAC and Ramsar.

9.4.64 **ES Volume 4, Appendix 9.6: Biodiversity Air Quality Screening Report (Doc Ref. 5.4)** has been prepared to inform the **IHRA (Doc Ref. 7.19)**.

Biodiversity Net Gain Assessment

9.4.65 BNG is a process that works in line with local and district biodiversity strategies and priorities to ensure that developments provide an overall enhancement in biodiversity; firstly, through employing the ecological mitigation hierarchy during project design to avoid and minimise biodiversity loss in the first instance, and where habitat loss is unavoidable, ensuring that a measurable BNG is delivered through a suitable on and/or off-Site habitat scheme.

9.4.66 BNG uses set parameters (habitat size, condition, distinctiveness, and strategic significance) to assess the level of habitat loss, creation and enhancement within a development site. These parameters are used to quantify habitat loss or gain into biodiversity units using Defra's Statutory Biodiversity Metric[2] calculation tool. To achieve biodiversity net gain, the biodiversity unit score must have a post-development score higher than the baseline score, noting habitat, hedgerow and river units are calculated separately.

9.4.67 Using the results of the habitat surveys (including the River Condition Assessment), **ES Volume 3, Figure 9.6: Habitat Prior to Development Plan (Doc Ref. 5.3)** (i.e., baseline habitat plans), **ES Volume 4, Appendix 9.4: Preliminary Ecological Appraisal (Doc Ref. 5.4)** and the **BNG Assessment (Doc Ref. 7.1)** have been produced, to show the locations, extents and areas of the habitat types present on Site.

9.4.68 The proposed post-development habitats were assessed through review of the post-development layout, **Vegetation Removal Plan (Doc Ref. 2.8), Illustrative Landscape Drawings (Doc Ref. 2.7)** and **Outline LEMP (Doc Ref. 7.10)** to review the types, extents, areas and expected condition of the habitats to be retained, enhanced or created. This assessment was used to create **ES Volume 3, Figure 9.11: Post-Development Habitat Plan (Doc Ref. 5.3),** informed by **ES Volume 3, Figure 9.10: Habitat Impacts Plan (Doc Ref. 5.3)**, the latter showing the distinction between habitats being retained, enhanced or created.

9.4.69 The **BNG Assessment (Doc Ref. 7.1)** details the results of Defra's Statutory Biodiversity Metric calculation tool from assessment of the above plans showing the final BNG result in habitat units and any corresponding recommendations.

Limitations and Assumptions

9.4.70 Limited baseline habitat information is available for ancient woodland sites and LWSs within the study area. The assessment of the importance of these important ecological features has therefore been based on a review of aerial imagery and publicly available habitat mapping and a precautionary approach to attributing importance. This remains a minor limitation to this assessment, is not considered to

affect its robustness given that a precautionary approach has been taken and that the LWSs concerned are outside the Order limits and no impacts have been identified.

9.4.71 Baseline surveys have been undertaken during a number of years (2020 – 2023) with further surveys due to be undertaken to maintain an 'up to date' ecological baseline during the DCO examination period. While the dates of the most recent surveys for each ecological feature vary by year, this is due to review of likely impacts based upon the iterative design process and the potential for either the baseline to vary between years (either due to annual fluctuations, species mobility or changes in habitat). Given that habitats (and the corresponding suitability of the Site for habitats and species) have remained unaltered during the course of the surveys, baseline reports using survey data from 2020-2023 are assessed as remaining valid, while surveys across a number of years provide a baseline for annually variable or mobile species (e.g. birds, bats and badgers) accounting for any change between years.

9.4.72 The Sellindge Substation site was subject to a baseline habitat survey in January 2024. References to survey of the 'Site' during 2020 to 2023 therefore exclude the Sellindge Substation site area.

9.4.73 Limitations associated with individual surveys undertaken are detailed within the relevant ecological survey reports within **ES Volume 4, Appendix 9.5: Baseline Survey Reports (Doc Ref. 5.4)**.

9.4.74 In summary, whilst there are minor (non-material) limitations associated with individual surveys, there are no ecologically significant limitations to the survey work undertaken. Therefore, the baseline data set gathered to date is considered suitable and sufficient to allow a robust impact assessment to be undertaken and to form the basis of the mitigation and habitat enhancement proposals for the Project.

9.4.75 There are no known ecologically significant limitations to the baseline data collation or assessment of likely significant effects detailed in this Chapter. Minor access and survey coverage limitations, such as those experienced during the 2020 otter and water vole (*Arvicola amphibius*) survey work due to the presence of dense vegetation are significantly outweighed by the fact that the vast majority of the survey area has been accessed and surveyed. Therefore, minor limitations to the survey area, as detailed in this Chapter, are not ecologically significant and do not materially affect the conclusions of this assessment.

9.4.76 There is an acknowledged uncertainty in the decommissioning assessment as the ecological baseline is likely to significantly alter from current baseline conditions across the operational (40 year) lifespan of the Project.

9.4.77 Decommissioning is assessed on the legislation and standard industry practices available at the time of writing (i.e. March 2024) and cannot account for changes to such legislation and practices that may occur within the lifespan of the operational development (expected as c. 40 years). Additionally, changes to the ecological baseline of the operational Project are not only dependent upon on-Site habitats but

also influences from the wider landscape. Changes to the conservation status of habitats and species at a local, regional and national habitat due to factors beyond the Project also cannot be accounted for.

9.5 Baseline Conditions

9.5.1 The following sections detail the baseline conditions for all important ecological features considered in this assessment.

9.5.2 For the purposes of this assessment, the baseline year is taken as 2023, which is when updated survey work, and an updated assessment of habitat suitability for relevant species and species groups, was undertaken.

9.5.3 Extensive surveys were completed on the Site during the period 2020-2023. An updated Site walkover and habitat mapping exercise was undertaken in 2023 that confirmed that Site conditions had not materially changed since the 2020-2022 surveys were completed. It is considered appropriate and proportionate to take the baseline year for all important ecological features considered in this assessment as 2023.

Statutory Designated Sites

9.5.4 A 2km search radius from the Site boundary has been determined for statutory designated sites of local and national importance. The desk study area has been extended to 10km from the Site boundary for internationally designated ('European') sites to take account of potential distant indirect effects. Locations in relation to the Site are shown in **ES Volume 3, Figure 9.1: Locations of Statutory Designated Sites (Doc Ref. 5.3)**.

Statutory designated sites of local importance

9.5.5 One statutory designated site of local importance, Poulton Wood LNR, is located within 2km of the Site boundary, approximately 470m to the south-east of the Site at its closest point Information regarding the features for which this LNR was designated is not publicly available. However, based on information available through the MAGIC and Kent Landscape Information System ('KLIS')[47] online mapping tools, the LNR is known to support ancient and semi-natural woodland, which is characterised as a coppiced woodland with oak (*Quercus* sp.), hornbeam (*Carpinus betulus*) and ash (*Fraxinus excelsior*) that provides habitats for a diverse mix of flora and fauna, and ponds are present within the LNR. There is therefore no hydrological connectivity between the Site and Poulton Wood LNR as confirmed by **Paragraph 10.6.60** of **ES Volume 2, Chapter 10: Water Environment (Doc Ref. 5.2).**

Statutory designated sites of national importance

9.5.6 One statutory designated site of national importance, Hatch Park SSSI, designated for its ecological interest, is located within 2km of the Site, approximately 1.8km to the north of the Site, at its closest point. Hatch Park SSSI is of special interest for its unimproved acidic grassland, a scarce habitat in Kent, and its ancient pollard

woodlands, the latter supporting the richest epiphytic lichen community in the county. This SSSI is currently assessed by NE as being in 'unfavourable – recovering' condition. The operations likely to damage the special interest of this SSSI relate almost entirely to management within the SSSI, use and other actions, and do not relate to any potential external sources of impact. The only potential damaging operation type listed for this SSSI that could be driven by off-Site sources of impact is the changing of water levels and water tables.

9.5.7 The Gibbin's Brook SSSI is approximately 2.8km to the north-east of the Site boundary and therefore is outside the 2km zone of influence area. Gibbin's Brook is designated for its biological interest of predominantly grassland and wet woodland. Whilst the SSSI has some water dependence (i.e., the wet woodland), the SSSI is upstream of the Site and therefore unable to impact the SSSI hydrologically. This site is confirmed by **Paragraph 10.6.60** of **ES Volume 2, Chapter 10: Water Environment (Doc Ref. 5.2)**. As such, Gibbin's Brook is scoped out of further assessment.

9.5.8 Otterpool Quarry SSSI, designated for its geological interest is located 1.85km to the south-east of the Site boundary. However, as it is designated for its geological interest only, it is scoped out of further consideration within this assessment. For completeness, Otterpool Quarry SSSI is shown on **ES Volume 3, Figure 9.1: Locations of Statutory Designated Sites (Doc Ref. 5.3)**.

Statutory designated sites of international importance

9.5.9 Three statutory designated sites of international importance, consisting of Wye and Crundale Downs SAC, Dungeness Romney Marsh and Rye Bay Ramsar and Special Protection Area ('SPA' (incorporating Dungeness SAC) and Folkestone to Etchinghill Escarpment SAC, are present within 10km of the Site:

- Wye and Crundale Downs SAC - approximately 5.2km to the north of the Site, at its closest point;
- Dungeness Romney Marsh and Rye Bay SPA and Ramsar. Dungeness Romney Marsh and Rye Bay Ramsar is approximately 6.2km to the south-west of the Site at its closest point. The Dungeness SAC is located approximately 11.3km south of the Site, at its closest point. Although it is located beyond the desk study area (10km from the Site boundary) and is not relevant to the IHRA, this SAC is briefly considered within this Chapter as it forms part of a designated site complex that extends to within 10km of the Site; and
- Folkestone to Etchinghill Escarpment SAC is located approximately 8.7km east of the Site, at its closest point.

9.5.10 Wye and Crundale Downs SAC is designated for the following qualifying features:

- Semi-natural dry grassland and scrubland facies on calcareous substrate; and
- Important orchid site.

9.5.11 The potential threats listed for the Wye and Crundale Downs SAC include air pollution and airborne pollutants, grazing and biocenotic evolution and succession[iii].

9.5.12 Dungeness Romney Marsh and Rye Bay SPA and Ramsar is designated for the following qualifying features:

- Supports breeding and wintering birds including birds of prey, passage warbler and breeding sea birds; and
- Supports a network of wetland types and habitats that support vulnerable, endangered and critically endangered wetland species.

9.5.13 The potential threats, pressures, activities, factors that may adversely affect the Dungeness Romney Marsh and Rye Bay SPA and Ramsar include human disturbance, changes in biotic conditions[iv] and invasive non-native species.

9.5.14 Dungeness SAC is designated for the following qualifying features:

- Perennial vegetation of stony banks; Coastal shingle vegetation outside the reach of waves; and
- GCN.

9.5.15 Potential threats, pressures, activities, and factors that may adversely affect the site are changes in biotic conditions, interspecific faunal relations[48], invasive non-native species, military use and civil unrest and other human intrusions and disturbances.

9.5.16 Folkestone to Etchinghill Escarpment SAC is designated for the following qualifying features:

- Semi-natural dry grassland and scrubland facies on calcareous substrate; and
- an important orchid site.

9.5.17 The potential threats listed for the Folkestone to Etchinghill Escarpment SAC include air pollution and airborne pollutants, grazing and biocenotic evolution and succession.

9.5.18 **ES Volume 3, Figure 9.1: Locations of Statutory Designated Sites (Doc Ref. 5.3)** shows the locations of the statutory designated sites listed above, in relation to the Site boundary.

9.5.19 Whilst the Stodmarsh SPA, SAC, Ramsar and SSSI complex (the 'Stodmarsh' site complex, shown on **ES Volume 3, Figure 9.4: River Basin Management Plan Waterbodies and Stodmarsh Location and Pathway (Doc Ref. 5.3)** is located beyond the 10km search radius from the Site, being located c.23.5km distant, it is sensitive to nutrient driven ecological effects arising from new development and is

[iii] Biocentric evolution is defined as the evolution of a biological community from one state to another. Succession (i.e., ecological succession) is defined as the process of change in the species structure of an ecological community over time.

[iv] Biotic conditions are defined as the conditions under which organisms interact with each other and their environment, influencing the distribution of organisms within an ecosystem

connected to the Site via the Stour catchment (which includes the East Stour River catchment).

9.5.20 The Stodmarsh site complex is of international importance and is designated for the following qualifying features and Ramsar criteria:

- Desmoulin's whorl snail (*Vertigo moulinsiana*);
- Bittern (*Botaurus stellaris*) (Non-breeding);
- Gadwall (*Anas strepera*) (Breeding);
- Gadwall (*Anas strepera*) (Non-breeding);
- Northern shoveler (*Anas clypeata*) (Non-breeding);
- Hen harrier (*Circus cyaneus*) (Non-breeding);
- Waterbird assemblage;
- Breeding bird assemblage; and
- Qualification under Ramsar criteria: Criterion 2 – supports six British Red Data Book wetland invertebrates, two nationally rare plants, five nationally scarce species and a diverse assemblage of rare wetland.

9.5.21 Threats, pressures, activities, and factors that may adversely affect the Site are:

- Air pollution, air-borne pollutants;
- Biocenotic evolution, succession;
- Pollution to groundwater (point sources and diffuse sources);
- Invasive Non-native Species ('INNS'); and
- Any discharge of water or liquid waste of more than 20m³/day to ground (i.e. to seep away) or to surface water, such as a beck or stream. This is the official description of potential nutrient related waterborne effects upon Stodmarsh Site complex that is linked to the Natura 2000 Standard Data Form[49] for this designated site.

9.5.22 Section 42 consultation responses from NE (dated 17 August 2023) states that specific mitigation for nutrient impacts is not required for the Project ('*Mitigation for nutrient impacts on the Stodmarsh sites is normally only required for development including new, overnight accommodation. Commercial development, not including Page 3 of 5 overnight accommodation, will not normally require a nutrient assessment as set out in Section 4 'Plans and Projects Affected*[50]*)*'.

Non-Statutory Designated Sites

9.5.23 A 1km search radius from the Site was used for non-statutory designated sites (refer to **ES Volume 3**, **Figure 9.2: Locations of Local Wildlife Sites (Doc Ref. 5.3)** shown by the blue dashed line). There are four non-statutory designated sites located within 1km of the Site. The closest is Backhouse Wood LWS, which is located adjacent to the Northern Area (Fields 28 and 29).

9.5.24 LWSs are the Kent equivalent of county wildlife sites and are all therefore of county importance for nature conservation.

9.5.25 The LWSs located within 1km of the Site which are therefore considered within this assessment, comprise:

- Backhouse Wood LWS – adjacent to the Northern Area (Fields 28 and 29);
- Aldington Sand Pit LWS – approximately 55m to the south-east of the Central Area at its closest point;
- Aldington Woods LWS – approximately 370m south of the Site at its closest point; and
- Bilsington Woods and Pasture LWS – approximately 720m south-west of the South Western Area at its closest point.

9.5.26 No detail of the reasons for designation of these LWSs was provided through the KMBRC data search. However, based on a review of aerial imagery and MAGIC and KLIS online mapping, the following broad habitat types are present within these LWS:

- Backhouse Wood LWS – supports ancient replanted woodland, comprising lowland mixed deciduous woodland, with some areas of mixed woodland with mainly conifers;
- Aldington Sand Pit LWS – supports lowland mixed deciduous woodland, with some areas of neutral grassland;
- Aldington Woods LWS – supports ancient and semi-natural woodland, comprising lowland mixed deciduous woodland; and
- Bilsington Woods and Pasture LWS – supports ancient and semi-natural woodland, with some areas of ancient replanted woodland, both comprising lowland mixed deciduous woodland.

Habitats

9.5.27 The majority of the Site comprises agricultural fields delineated by hedgerows and tree belts, as shown in **ES Volume 3, Figure 9.6: Habitat Prior to Development Plans (Doc Ref. 5.3)**. The Site extends to approximately 192 hectares and is currently predominantly used for arable cropping with approximately 10% managed as grazing pasture. The Site also supports hedgerow, parcels of woodland, drainage ditches, ponds and arable field margins. The East Stour River flows in an east to west direction within, and adjacent to, the Northern Area and Cable Route Corridor.

9.5.28 The surrounding agricultural landscape supports broad land uses and habitat types similar to those present on Site but also includes Backhouse Wood LWS adjacent to the Northern Area (Fields 28 and 29), HS1 / Network Rail railway and the M20 to the north, the village of Aldington to the south and intersecting roads within and beyond the Site.

9.5.29 The habitats present within the Site are summarised in **Table 9.7**, with an approximate area or length and summary description.

Table 9.7: Habitats Present within the Site

Habitat	Approx. area (ha) / length (m)	Summary
c1 – Arable and horticulture	29.230 ha	Majority of Site encompassing over 160 hectares of arable and agricultural land. Crop planting varies between years with cereal crops such as wheat being most dominant.
C1b – Temporary grass and clover ley	28.025 ha	
c1c – Cereal crop	73.021 ha	
c1d – Non-cereal crop	34.657 ha	
g3 – Neutral grassland	4.844 ha	Comprises the varying grass sward margins present in the South Western Area (Fields 1 to 9) and the South Eastern Area (Fields 20 to 22). In places subject to soil damage from tracked machinery and encroachment by crop. Reasonably diverse grass sward in places but limited diversity of herbaceous species, potentially due to nutrient enrichment.
G3c – Other neutral grassland	13.330 ha	Includes Field 8 managed as cattle grazed pasture, a paddock field between Fields 10 and 12 and the majority of field margins where grass sward is present. Includes reasonably diverse grass sward in places but generally lacking rare or scare arable flora.
W1d- Wet woodland	0.790 ha	Alder (*Alnus glutinosa*), oak (*Quercus robur*) and elder (*Sambucus nigra*) situated at base of railway embankment along Cable Route Corridor and extends to border watercourses adjacent to the Sellindge Substation. Another block is situated along the River Stour in Field 27 with common alder, goat willow (*Salix caprea*), hazel (*Corylus avellana*) and field maple (*Acer campestre*).
W1f – Lowland mixed	1.230 ha	A block of Lowland mixed deciduous woodland comprised of mature oak and ash (*Fraxinus*

Habitat	Approx. area (ha) / length (m)	Summary
deciduous woodland		*excelsior*) canopy is situated in between Fields 4, 5 and 7. Another block is situated along the East Stour River in Field 27 with common alder, goat willow (*Salix caprea*), hazel (*Corylus avellana*) and field maple (*Acer campestre*)
w1g6 – Line of trees	449.2 m.	Includes the tree lined southern boundary of Field 17 and sections of the northern boundary of Field 19 where formal hedgerow is not present.
H2 - Hedgerow	11301.1 m	Native hedgerows are present along the majority of roadside and field boundaries which are primarily comprised of hawthorn (*Crataegus monogyna*) with the remainder of hedgerows comprised of greater diversity including blackthorn (*Prunus spinosa*), hazel and field maple.
H3h – Mixed scrub:	1.1761 ha	Present along northern edge of Field 27, along railway embankment and extending into Sellindge. Comprises a mix of bramble and hawthorn interspersed with individual or groups of trees including alder, willows, ash and oak.
U1b – Developed land. Sealed surface	2.247 ha	Comprises areas of road access, parking and farm storage areas present throughout the Site.
U1b6 – Other developed land	1.818 ha	Primarily comprises the Sellindge Substation area.
U1e – Built linear feature	104.4 m	Embankment around the western boundary of Field 26.
U1f – Sparsely vegetated land	0.092 ha	Ruderal and ephemeral vegetation bordering parts of the Sellindge Substation.
R1a- Eutrophic	0.083 ha	Comprises the ponds and standing waterbodies distributed across the Site.

Habitat	Approx. area (ha) / length (m)	Summary
standing water		
R2 – River and stream	3207.8 m	Primarily comprised of the East Stour River within the northern part of the Site (including connecting watercourse adjacent to Sellindge Substation) but also includes drainage ditches in the centre of the Site and a small stream in the southeastern field between Fields 20 and 22.

Irreplaceable Habitats

9.5.30 A search radius of 1km from the Site was used for irreplaceable habitats (defined in the NPPF including ancient woodland, ancient and veteran trees), (refer to **ES Volume 3, Figure 9.3: Locations of Ancient Woodland Sites (Doc Ref. 5.3)** shown by the blue dashed line).

9.5.31 In addition to Backhouse Wood LWS, a further 10 ancient woodlands sites are located within 1km of the Site, as shown on **ES Volume 3, Figure 9.3: Locations of Ancient Woodland Sites (Doc Ref. 5.3).**

9.5.32 No ancient woodland is identified within the Site. Identified ancient woodlands include two ancient replanted woodland[v] sites (Backhouse Wood, which is also a LWS (see above) and Handen Wood), and nine ancient and semi-natural woodland sites.

9.5.33 Whilst ancient woodland is an irreplaceable habitat type, the ancient woodland types identified within 1km of the Site are relatively common at a district and county level and are therefore not considered to be of national importance. However, insufficient accessible habitat data exists to determine whether the importance of these ancient woodlands is as low as local (district) level. Therefore, these ancient woodland areas have been attributed county importance in this assessment.

9.5.34 The **ES Volume 4, Appendix 9.3: Arboricultural Impact Assessment (Doc Ref. 5.4)** confirms that several veteran trees are located within or bordering the Site (Within the Site: T96, T186, G64, G70. Bordering the Site: T57, T58, T59, T60, T62, T63, T91, G64). The locations of veteran trees are shown on the **Vegetation Removal Plan (Doc Ref. 2.8)**. These veteran/ancient trees are concentrated mainly in two areas of the Site.

9.5.35 As stated in section 5 of **ES Volume 4, Appendix 9.3: Arboricultural Impact Assessment (Doc Ref. 5.4)**, veteran trees are concentrated mainly in two areas of the Site. A number of historic willow (*Salix* sp.) pollards are present at the northern and north-eastern boundaries of Field 16; and several ancient field maples (*Acer*

[v] Ancient Replanted Woodland is also known as Plantation on Ancient Woodland Site. This category of ancient woodland comprises ancient woodland sites that have been at least partially functionally replaced by plantation woodland (often conifers), but which have the potential to be restored to more ecologically important and functional ancient woodlands.

campestre) and further historic willow pollards to the southwest of Field 22 and east of Field 20 in the southeast of the Site. There is one exception to this, an ancient field maple (T186) to the southeast of Field 29, adjacent to Backhouse Wood LWS.

9.5.36 Given the irreplaceable nature of veteran trees in ecological terms, and their priority within national nature conservation policy but considering their relative prevalence in the wider county and region, the on-Site veteran tree assemblage is assessed as being of county importance.

Other Notable Habitats

9.5.37 The Site supports hedgerows, arable margins, woodland and ponds that qualify as HPIs (i.e., 'priority habitats' under the NERC Act 2006) and Kent Biodiversity Strategy Priority Habitats[51]. In total, the Site supports c.11.30km of native hedgerow and *c.* 2.25 ha of lowland mixed deciduous woodland. The locations of HPI (priority) hedgerows, woodland and ponds are shown on the Habitat Prior to Development Plans that are provided in **ES Volume 4, Appendix 9.3: Arboricultural Impact Assessment (Doc Ref. 5.4)**. The locations of HPI habitats are shown on the Habitats of Principal Importance Plan provided in **ES Volume 3, Figure 9.8: Locations of Habitats of Principal Importance (Doc Ref. 5.3)**.

9.5.38 The hedgerow network is extensive throughout the Site, comprised primarily of hawthorn as the dominant species as described in **Table 9.7** and in further detail within **ES Volume 4, Appendix 9.5a: Hedgerow Condition and Importance Assessment (Doc Ref. 5.4).** Being comprised of more than 80% native woody species over their lengths qualifies them as HPI. **ES Volume 4, Appendix 9.5a: Hedgerow Condition and Importance Assessment (Doc Ref. 5.4)** provides an assessment of the condition habitat condition assessment and an assessment of hedgerow 'importance' under the Hedgerow Regulations 1997. The locations of hedgerows that qualify as 'important' under the Hedgerow Regulations are shown on **ES Volume 3, Figure 9.9: Important Hedgerows (Doc Ref. 5.3)**.

9.5.39 The woodlands present on Site do not appear as HPI on the Priority Habitat Inventory – Deciduous Woodland[52] but appear to qualify based upon the woodlands being comprised of native species aligning to the relevant HPI woodland types (Lowland Mixed Deciduous Woodland and Wet Woodland).

9.5.40 Arable field margins are generally limited in extent and width throughout the Site and generally do not qualify under HPI criteria (JNCC, 2008[53]) for low input margins, bird seed or wildflower or legumes. The grassland margins would qualify as HPI grass strips with mixtures of tussocky or fine leaved grassland but lack associated scarce or rare arable flora. The extent of such grassland varies across years with the extent of ploughing, with margins in South Western Area and Northern Area being the best examples, but rarely exceeding 2m in width and generally much less.

9.5.41 The East Stour River, which qualifies as an HPI, is located within, and adjacent to, the Site. The location of the river is shown in relation to the Site on **ES Volume 3, Figure 9.6: Habitat Prior to Development Plan (Doc Ref. 5.3)** and on **ES Volume 3, Figure 9.5: East Stour River - Proximity Plans (Doc Ref. 5.3)**. The riparian corridor associated with the East Stour River is narrow in most places, with the edge

of the arable field being present within less than a few metres along most of its length within the Site. Within Field 27, adjacent woodland is present within a small oxbow lake island and along the northern boundary of Field 19 a fringe of trees and occasional scrub is present, but again arable field is present in close proximity to the bank. Shallow earth banks and deep water are present within the channel with frequent submerged vegetation and patches of reedbed. Tall herb, grass and reeds occur on the embankments.

9.5.42 The remaining watercourses functioning as drainage ditches are subject to flowing water when full but appear not to meet the HPI criteria for rivers which excludes ditches (which many of the watercourse's function as).

9.5.43 Ponds on-Site vary in quality. WB1 supports common toad (*Bufo bufo*), a SPI, and therefore WB1 qualifies as a HPI pond. Ponds WB2 and WB3 are woodland ponds in close proximity and connectivity to WB1 and are likely to support similar species. WB9 is effectively connected to the East Stour River and is also likely to qualify as a HPI as a functional part of the river habitat. The off-Site ponds have not been subject to detailed habitat assessment but are treated as HPI quality as part of a precautionary assessment.

9.5.44 The hedgerow, woodland, field margin and pond types present on the Site are relatively common and widespread across the district and much of the county and are therefore attributed local (district) importance. The East Stour River forms a part of a regionally important aquatic and wetland habitat network and is therefore attributed regional importance.

9.5.45 The remainder of the Site supports common and widespread habitat types that are not considered to be important ecological features (i.e., supports habitats that do not qualify as HPIs).

Notable Plants

9.5.46 The KMBRC data search records from 2023 returned no records of notable plants listed as SPI.

9.5.47 47 records of other notable (appearing with Kent or national red data book lists[54]) plant species were returned from 1km of the Site including royal fern (Osmunda regalis), marsh pennywort (*Hydrocotyle vulgaris*), common cudweed (*Filago vulgaris*), goldenrod (*Solidago virgaurea*), four-leaved allseed (*Polycarpon tetraphyllum*), ragged-robin (*Silene flos-cuculi*), field scabious (*Nautia arvensis*), western gorse (*Ulex gallii*), wall bedstraw (*Galium parisiense*), meadow clary (*Salvia pratensis*), wild clary (*Salvia verbenaca*), heath speedwell (Veronica officinalis), star sedge (*Sarex echinate*), quaking-grass (*Briza media*), rye brome (Bromus secalinus), mat-grass (*Nardus stricta*), lesser spearwort (*Ranunculus flammula*), wild strawberry (*Fragaria vesca*), henbane (*Hyoscyamus niger*) and hound's-tongue (*Cynoglossum officinale*).

9.5.48 No plants listed as SPI have been recorded on the Site during the habitat survey work undertaken during 2020 to 2023. This is primarily attributed to land use within the Site being of primarily agricultural use, with a relatively species poor field

boundary and hedgerow network. This excludes the presence of veteran trees and the adjacent Backhouse Wood LWS ancient woodland.

9.5.49 It is possible that some of the nationally widespread notable species occur within the Site within suitable habitats (lesser spearwort in watercourses, royal fern in woodland, field scabious and quaking grass in more diverse grassland margins, etc). However, the distribution of such habitats is limited and these species, if present, are likely to occur in abundances and densities similar to the surrounding landscape.

9.5.50 Overall, given the lack of SPI or a significant species assemblage when assessed against other assessment criteria (Kent LWS designation or Red Data Book criteria[54]), the Site has been assessed overall as being of 'local' (District) importance for its botanical assemblage.

Notable Fungi

9.5.51 A fungi survey was undertaken in autumn 2022, with full report provided within **ES Volume 4, Appendix 9.5c: Fungi Survey Report (Doc Ref. 5.4)**.

9.5.52 One species, *Butyriboletus fechtneri* (previously *Boletus fechtneri*) found during the survey visits in the north east margin of Field 4 is listed on the 'Red Data List of Threatened British Fungi' (Evans, *et al*. 2006[55]). This publication is a preliminary assessment of the conservation status of British fungi species.

9.5.53 Overall, given the habitats present (generally intensive arable or pasture) and lack of SPI or a significant species assemblage when assessed against other assessment criteria (Kent LWS designation or Red Data Book criteria[54]), the Site has been assessed overall as being of 'local' (District) importance for its fungi assemblage.

Invertebrates

9.5.54 The KMBRC data search undertaken in 2023 returned records of 52 invertebrate species with conservation designations located within 1km of the Site (Red Data Book ('RDB') 1, RDB2, RDB3, RDBK, NS – Nationally Scarce, Notable – A and Notable – B). A single record of white-clawed crayfish (2017) was returned, located c.1km south-east of the Site at its closest point.

9.5.55 A total of 836 invertebrate taxa were identified during the 2020 invertebrate survey, **(ES Volume 4, Appendix 9.5b: Invertebrate Survey Report (Doc Ref. 5.4))** yielding 2,325 compartment specific records. Of these records, 39 species were 'notable'. Most invertebrate interest was recorded in field boundary habitats, with the most invertebrate species rich habitats being those located along the East Stour River riparian corridor.

9.5.56 A further invertebrate habitat assessment and species sampling survey of the expanded Site was undertaken during 2022, **(ES Volume 4, Appendix 9.5b: Invertebrate Survey Report (Doc Ref. 5.4)).** 477 invertebrate species, yielding 926 compartment specific records were recorded during this survey and four of these

species were 'notable' (and previously recorded during 2020). As in 2020, most invertebrate interest was recorded in field boundary habitats and along the East Stour River riparian corridor.

9.5.57 Assessment of site importance for invertebrates indicates that the on-Site invertebrate assemblage is likely to be of up to local (district) importance based up the limited number of recorded 'notable' species despite the size of the Site and associated range of habitats.

GCN

9.5.58 The KMBRC data search records from 2023 returned 15 records of GCN from within 1km of the Site (excluding records from surveys within the Site from previous years), recorded between 2008 and 2019. The closest record from 2019 evidenced the presence of GCNs c.61m east of the Site.

9.5.59 A search of NE's MAGIC website returned three records of granted GCN EPS mitigation licences located within 1km of the Site. The closest granted GCN EPS mitigation licence is located c.16m east of the Site boundary at its closest point and evidenced the damage of a resting place between 2018 and 2019.

Aquatic Habitat

9.5.60 There are five ponds and two ditches (excluding the East Stour River) on Site and 21 waterbodies are located off-Site within a 250m radius of the Site. 17 waterbodies were accessible for survey. The locations of these waterbodies are shown in **ES Volume 3, Figure 9.7: Water Body Location Plan (Doc Ref. 5.3)**.

9.5.61 The suitability for GCNs of the 17 accessible waterbodies (from the most recently available survey data for that individual pond), based on the HSI criteria cited in the methodology section above, is provided on the GCN survey plan provided with that survey report **(ES Volume 4, Appendix 9.5d: Amphibian Survey Report (Doc Ref. 5.4))**.

9.1.5.61 In summary, 13 waterbodies were assessed as 'average' or above suitability and subject to further survey for GCN (and common toad); WB1, WB2, WB3, WB6, WB7, WB9, WB13, WB14, WB15, WB18, WB21, WB26 and WB28. Of these waterbodies WB1, WB2, WB3, WB9 and WB25 are located within the Site. Note the other surveyed waterbodies were assessed as below average or poor and scoped out of further assessment in accordance with survey guidance (English Nature, 2001[20]).

Terrestrial Habitat

9.5.62 The majority of the on-Site habitats comprise intensive arable cropland with negligible refuge potential for GCNs at ground level or within the topsoil layers. The network of field boundary habitats (grassland, ruderal vegetation, scrub, hedgerow and woodland copse) provides suitable terrestrial habitat for GCN, with these habitats ranging between low and good quality for this species.

Population

9.5.63 During the 2020 survey work, GCN presence was confirmed within WB21 via eDNA presence. A likely absence of GCNs was recorded within waterbodies WB1, WB2, WB3, WB11, WB14 and WB15 during the 2020 survey work.

9.5.64 During the 2022 survey work, GCN presence was confirmed within waterbodies WB14 (peak count of 5 adults), WB15 (egg) and WB21 (peak count of 3 adults). A likely absence of GCNs was confirmed within waterbodies WB1, WB2, WB3 and, WB9.

9.5.65 During the 2023 update survey work, accessible waterbodies were subject to update eDNA surveys. GCN presence was confirmed within WB14, WB15, WB18, WB21 and WB24. A likely absence of GCNs was confirmed within waterbodies WB1-WB3, WB11-13, WB23 and WB26. The remainder could not be accessed.

9.5.66 With the combined survey results GCNs are confirmed present in WB14, WB15, WB18, WB21 and WB25 and assessed as likely present within WB24.

9.5.67 Based on population size class criteria set out in applicable guidance produced by English Nature (2001)[56] the recorded GCN population is classed as 'small.' Based on the low numbers of GCNs recorded, the limited suitability of many of the surveyed waterbodies but with the presence of multiple records of this species across the wider local area, which indicate the presence of a more extensive wider population, and a precautionary approach to some ponds inaccessible for survey, the small population recorded within the survey area is considered to be of local (district) importance.

Common Toad

9.5.68 The 2023 KMBRC data search returned recent and historic records of common toad (*Bufo bufo*) located within 1km of the Site. The most recent common toad record is a 2020 record located *c.*880m east from Site.

9.5.69 The Site supports suitable habitat for common toad including hedgerow, arable field margins and woodland.

9.5.70 Lakes adjacent to the northern part of the Site boundary provide suitable breeding sites. The locations of these lakes (waterbodies WB4, WB5, WB7, WB8, WB10, and WB22) are waterbodies shown on **ES Volume 3, Figure 9.7: Water Body Location Plan (Doc Ref. 5.3)**.

9.5.71 During the reptile and GCN work undertaken during 2020, evidence of common toad presence was recorded. A maximum of two non-adult common toads were recorded within the Site during the reptile survey work and common toad tadpoles were recorded within water body WB15 during the GCN survey work.

9.5.72 All on-Site ponds scoped into the GCN survey were subject to nocturnal torch searches for common toads, on six occasions, across spring 2022. During the 2022 amphibian survey work of these waterbodies, a peak count of three common toads was recorded, within WB15.

9.5.73 Based on applicable guidance produced by Amphibian and Reptile Conservation Trust[57] (2011), this constitutes a 'low' population of common toad. However, because it was not possible to survey all waterbodies for common toad due to access and health and safety constraints, on a precautionary basis, it is assumed that a 'good' population of this species could be present within the survey area. Based on the fact that numerous potentially suitable waterbodies are present within the surrounding local landscape, which are likely to support a larger wider local Metapopulation, but that the true size of the population within the survey area is not fully understood, the assumed 'good' population within the survey area is assessed as being of local (district) importance.

Reptiles

9.5.74 The 2022 KMBRC data search returned recent and historic records of slow worm (*Anguis fragilis*), grass snake (*Natrix helvetica*) and common lizard (*Zootoca vivipara*) and historic records of adder (*Vipera berus*) located within 1km of the Site.

9.5.75 The arable field margins present within the Site provide opportunities for foraging, shelter and protection and are therefore considered to be of medium quality for reptiles.

9.5.76 Three reptile species (common lizard, slow worm and grass snake) were recorded within the Site during both years, 2020 and 2022 as detailed in **ES Volume 4**, **Appendix 9.5e: Reptile Survey Report (Doc Ref. 5.4)** and shown in **Table 9.8**.

Table 9.8: Peak count of adult reptiles recorded during 2022 and 2020 surveys

Species	Recorded Peak 2022	Recorded Peak 2020
Common lizard	13	7
Slow worm	19	28
Grass snake	3	5

9.5.77 Distribution across the Site was generally restricted to the field margins and boundaries, with reptiles being widely but 'thinly' distributed. Additionally, the presence of non-adult animals of all the three species confirms breeding on Site and/or within the surrounding off-Site habitats.

9.5.78 The populations of the recorded reptile species within the Site have been assessed from peak counts with reference to appropriate guidance (HGBI, 1998[58]), as follows:

- A 'low' population of common lizard is present on Site and/or within the surrounding off-Site habitats.
- A 'low' population of slow worm is present.
- A 'low' population of grass snake is present on the Site.

9.5.79 Note that application of population class assessment guidance within Froglife, 1999[24], the Site would support a 'low' population of common lizard, an 'exceptional'

population of slow worm and 'good' population of grass snake. Application of such population criteria have however been assessed as not appropriate for the large size of the Site, as this guidance does not account for site size, disproportionality assessing peak counts of large sites. The referenced HGBI guidance is therefore considered more appropriate and has been applied in this Chapter.

9.5.80 Given the presence of three reptile species within the Site, the Site potentially meets one criteria for county importance for reptiles (KWT, 2022). However, because the on-Site habitat types are relatively common and widespread throughout the local area and wider district, and these wider habitat networks are likely to support extensive wider reptile populations, the on-Site population is assessed as being of local (district) importance.

Wintering Birds

9.5.81 A total of 62 bird species were recorded across the Site during the survey visits completed in 2020, 2021 and 2022, with 61 directly using the Site, as detailed in **ES Volume 4, Appendix 9.5f: Wintering Bird Survey Report (Doc Ref. 5.4).** Of these 61 species, 37 are notable species, as follows:

- 12 are listed as a SPI: lapwing (*Vanellus vanellus*), herring gull (*Larus argentatus*), skylark (*Alauda arvensis*), starling (*Sturnus vulgaris*), song thrush (*Turdus philomelos*), house sparrow (*Passer domesticus*), dunnock (*Prunella modularis*), bullfinch (*Pyrrhula pyrrhula*), linnet (*Linaria cannabina*), lesser redpoll (*Acanthis cabaret*), yellowhammer (*Emberiza citronella*) and reed bunting (*Emberiza schoeniclus*).
- 14, are Red status species: lapwing, snipe (*Gallinago gallinago*), woodcock (*Scolopax rusticola*), herring gull, skylark, starling, fieldfare (*Turdus pilaris*), redwing (*Turdus iliacus*), mistle thrush (*Turdus viscivorus*), house sparrow, linnet, lesser redpoll, greenfinch and yellowhammer.
- 19 are Amber status species: greylag goose (*Anser anser*), mallard (Anas platyrhynchos), stock dove (*Columba oenas*), woodpigeon (*Columba palumbus*), sparrowhawk (*Accipiter nisus*), kestrel (*Falco tinnunculus*), green sandpiper (*Tringa ochropus*), sparrowhawk (*Accipiter nisus*), rook (*Corvus frugilegus*), black-headed gull (*Chroicocephalus ridibundus*), Mediterranean gull (*Larus melanocephalus*), common gull (*Larus canus*), lesser black-backed gull (*Larus fuscus*), wren (*Troglodytes troglodytes*), song thrush, dunnock, grey wagtail (*Motacilla cinerea*), meadow pipit (*Anthus pratensis*), bullfinch and reed bunting.

9.5.82 Some individual red and amber listed species are also SPI, as reflected in the above list.

9.5.83 No species listed as breeding or migratory season qualifying features of designated sites (Ramsar and SPA) within the zone of influence were recorded during the surveys.

9.5.84 Given the peak counts of yellowhammer, skylark and meadow pipit recorded during the survey visits, the Site is assessed as being of county importance for wintering

yellowhammer and of local (district) importance for wintering skylark. Arable cropland with hedgerows, boundary scrub, some weedy arable and grassland margins and spilt cereal grains available in winter between cropping cycles are habitats present on the Site which provide good quality habitat for yellowhammer in particular.

9.5.85 Given the total number of remaining bird species that were recorded and their peak counts, the Site is assessed to be of local (district) importance for its wintering bird assemblage.

Breeding Birds

9.5.86 A total of 55 bird species were recorded across the Site during the survey visits completed in 2020 and 2022, with 51 directly using the Site, as detailed in **ES Volume 4, Appendix 9.5g: Breeding Bird Survey Report (Doc Ref. 5.4)**. Of the 51 species, 29 are notable species as follows:

- Two species using the Site: kingfisher (*Alcedo atthis*) and Cetti's warbler are listed under Schedule 1 of the WCA.
- 11 are listed as a SPI: cuckoo (*Cuculus canorus*), skylark, starling, song thrush, house sparrow, dunnock, yellow wagtail (*Motacilla flava*), bullfinch, linnet, yellowhammer and reed bunting.
- 11 are Red status species: cuckoo, skylark, house martin (*Delichon urbicum*), starling, mistle thrush nightingale (*Luscinia 9-76nclusio*), house sparrow, yellow wagtail, linnet, greenfinch and yellowhammer.
- 13 are Amber status species: greylag goose, mallard, stock dove, woodpigeon, sparrowhawk, kestrel, rook, whitethroat (*Curraca communis*), wren, song thrush, dunnock, bullfinch and reed bunting.

9.5.87 Some individual red and amber listed species are also SPI, as reflected in the above list.

9.5.88 No species listed as breeding or migratory season qualifying features of designated sites (Ramsar and SPA) within the ZoI were recorded during the surveys.

9.5.89 Given the number of breeding territories of yellowhammer and skylark (estimates of the number of territories across the Site across years between 33 to 42 for yellowhammer 39 to 46 for skylark) recorded during the survey visits, and observed recent national declines in yellowhammer populations, the Site is likely to be of county importance for breeding yellowhammer and local (district) importance for breeding skylark.

9.5.90 The KMBRC data search returned recent and historic records of Schedule 1 of the WCA bird species. The species included in the data search results that are most likely to use the Site, and which have records dated from within the last ten years, include red kite (*Milvus milvus*), hobby (*Falco subbuteo*) and kingfisher. Recent and historic records of barn owl were returned, though the most recent breeding season record was dated from 2014. Given the sensitivity of Schedule 1 bird records, the precise grid reference was not provided.

9.5.91 Of the two Schedule 1 bird species recorded using the Site during the breeding season (kingfisher and Cetti's warbler), the numbers and distribution recorded are as expected for the habitats present within the Site, i.e., kingfisher in association with the East Stour River and Cetti's warbler associated with scrub adjacent to waterbodies.

9.5.92 The Site is also suitable for other Schedule 1 species that could establish a territory and nest in subsequent years, in particular a number of raptors potentially present in the wider landscape such as red kite, hobby and honey buzzard (*Pernis apivorus*) which can utilise mature trees and scrub in an agricultural landscape. No evidence has been recorded of such species presence on-Site to date.

9.5.93 The detailed results of barn owl assessment and other Schedule 1 bird information (provided within **ES Volume 4, Appendix 9.5n: Schedule 1 Bird Species Report (Doc Ref. 5.4)**) is confidential and provided to PINS separately (i.e. not published in the public domain).

9.5.94 Barn owl was not recorded during the bat surveys conducted during 2020 to 2023, which were undertaken during optimal barn owl foraging periods, but the species is known anecdotally to use the Site.

9.5.95 The Site generally provides very limited suitable foraging habitat for barn owl, a species generally requiring grassland with 'thatch understorey' to support the small mammal prey required by this species. Grassland margins across the Site are generally restricted in distribution and extent, with generally limited thatch understorey. Barn owl can disperse and forage across the Site but the availability of foraging habitat is restricted even within the most suitable locations across Site which include the East Stour River and a small existing paddock of variable sward, neutral grassland located adjacent to Field 12.

9.5.96 Nesting opportunities within and adjacent to the Site are also limited, as no suitable farm buildings are present and there is a general lack of over-mature trees with large suitable cavities required for this species. The farm buildings in the surrounding landscape provide a network of likely suitable nesting habitat for this species.

9.5.97 In relation to the overall breeding bird assemblage recorded, given the total of breeding species recorded and habitat suitability, the Site is likely to be of local (district) importance for its breeding bird assemblage inclusive of Schedule 1 species.

Bats

9.5.98 The KMBRC data search returned recent and historic records of whiskered bat (*Myotis mystacinus*), Daubenton's bat (*M. daubentonii*), Natterer's bat (*M. nattereri*), noctule (*Nyctalus noctula*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*P. pygmaeus*), serotine (*Eptesicus serotinus*) and brown long-eared bat (*Plecotus auritus*) located within 5km of the Site. The closest recorded maternity roost was a brown long-eared maternity roost of an unknown number of bats in 2008, located *c.*1.8km south-east from the Site. The closest hibernation record was

a hibernating serotine bat in 1992, located *c*.5.4km north-west of the Site at the closest point.

9.5.99 A search of NE's MAGIC website returned eight records of granted bat EPS mitigation licences located within 5km of the Site. The closest granted bat EPS mitigation licence is located *c*.380m south of Site, and evidenced the presence (and destruction under licence) of a resting place of common pipistrelle bats between 2013 and 2014.

9.5.100 The 2020 bat activity survey confirmed that common pipistrelle and soprano pipistrelle regularly use the Site for foraging and commuting. The surveys confirmed that noctule, serotine, *Myotis* sp., and brown long-eared bats occasionally pass across the Site.

9.5.101 The 2022 bat survey recorded a similar assemblage of bat species. The majority of activity was attributable to common pipistrelle and soprano pipistrelle with the remaining assemblage comprised of noctule, serotine, *Myotis* sp., and brown long-eared bats and additionally a small number of recorded passes of Leisler's bat (*Nyctalus leisleri*) and Nathusius's pipistrelle (*Pipistrellus nathusii*).

9.5.102 As stated within **Table 9.5: Summary of Ecological Surveys Completed and other Data Sources** survey work for roosting bats has been this limited to a number of trees that may be affected by works, with the requirement for emergence survey limited to three trees. No roosting bats were recorded as part of these emergence surveys in 2023. See **ES Volume 4: Appendix 9.5l: Bat Tree Survey Report (Doc Ref. 5.4)** for further details.

9.5.103 The biological records, assessment of habitats present in combination with activity survey results gives an indication of the bat species likely to roost within and in proximity to the Site (i.e., within the Core Sustenance Zone[59] of nearby roosts). This assemblage is assessed to be similar to the assemblage of the regularly recorded species during the activity surveys.

9.5.104 The relative ecology and biodiversity value of any bat populations associated with the Site has been determined taking into account the principles described in the UK Bat Mitigation Guidelines (Reason and Wray, 2023)[60]). Particular consideration has been given to their distribution and rarity at different geographical levels, value of roosts, commuting and foraging areas. For this evaluation, reference has also been made to:

- UK Mammals: Species Status and Population Trends (Matthews et al, 2018)[61];
- Mammals of the British Isles Handbook (Harris et al, 2008)[62]; and
- The State of the UK's Bats: National Bat Monitoring Programme Populations Trends 2017 (Bat Conservation Trust, 2017)[63].

9.5.105 Only two species comprise the majority of foraging bats on the Site (approximately 95% of all static detector data comprised of common and soprano pipistrelle passes and both species were the predominantly recorded species during transects).

Therefore, the Site does not meet criteria for county importance for foraging bats (four species regularly foraging or feeding) (KWT, 2021). This assessment is based upon review and abundance of bat species present throughout Kent (Young, *et al* 2017[64]) and with reference to the UK Bat Mitigation Guidelines[60]. The levels of bat commuting activity and the species recorded commuting recorded on-Site are comparable to the levels / species recorded for foraging activity. **ES Volume 4: Appendix 9.5h: Bat Activity (Transect and Static) Survey Report (Doc Ref. 5.4)** provides further details of bat activity surveys.

9.5.106 Based on the range of bat species recorded at the Site and known to occur within the wider local area, the Site is assessed as being of local (district) importance for roosting, forging and commuting bats.

Hedgehog

9.5.107 The KMBRC data search returned recent and historic records of hedgehog located within 1km of the Site. The most recent record was from 2012 and evidenced presence of hedgehog *c*.725m north of the Site.

9.5.108 No evidence of hedgehog presence on the Site was recorded during the 2020 survey work. An update hedgehog survey was undertaken during autumn 2022 (**ES Volume 4, Appendix 9.5j: Hedgehog Survey Report (Doc Ref. 5.4)**), with no hedgehogs recorded.

9.5.109 Given the presence of suitable habitat on the Site and nearby recent records of species presence however, presence of hedgehog on the Site has been assumed (though likely at very low density), and the assumed hedgehog population is likely to be of at most local (district) importance.

Harvest Mouse

9.5.110 The 2023 KMBRC data search returned two records of harvest mouse located within 1km of the Site – one historic (2000) and one recent (2020). The recent record was located within the Site.

9.5.111 Many of the arable field margins, where they support tall grass and ruderal vegetation, particularly when adjacent to hedgerows, are suitable for harvest mouse.

9.5.112 Presence of harvest mouse was confirmed on the Site in 2020, through the recorded presence of a confirmed nest within an arable field margin. Presence of this species within all suitable field margins is therefore assumed.

9.5.113 Based on the prevalence of similar habitat types within the wider local area and district and the potential presence of the species across the Site, the on-Site population of harvest mouse is assessed as being of local (district) importance.

Hazel Dormouse

9.5.114 The KMBRC data search returned seven historic records of hazel dormouse located within 1km of the Site. The most recent record (2001) was located *c*.170m east of the Site at the closest point.

9.5.115 A search of NE's MAGIC website returned six records of granted hazel dormouse EPS mitigation licences located within 5km of the Site. The closest granted hazel dormouse EPS mitigation licence is located *c*.3.1km north-west of the Site and permits the damage and destruction of resting places and breeding sites of hazel dormice within the period 2020 to 2025.

9.5.116 During the 2020 / 2021 hazel dormouse survey, four unoccupied possible starter hazel dormouse nests and four unoccupied 'typical' hazel dormouse nests were recorded on the Site.

9.5.117 During the 2022 survey, a confirmed hazel dormouse nest and three possible hazel dormouse nests (unoccupied) were recorded on the Site.

9.5.118 Presence of the species has been confirmed during the 2020 / 2021 and 2022 survey work with presence broadly distributed throughout the Site 2022 as reported in **ES Volume 4, Appendix 9.5i: Hazel Dormouse Survey Report (Doc Ref. 5.4)**.

9.5.119 Nationally, hazel dormice are in steep decline, the population has fallen by a half (51%), decreasing on average by 3.8% per year (Wembridge et al, 2019)[65] but described as occurring 'frequently' within Kent (Peoples Trust for Endangered Species, 2016)[66].

9.5.120 The suitable habitats within the Site are not considered to be of 'county' or 'regional' importance for dormice because they do not meet the criteria set out in Local Wildlife Sites in Kent: Criteria for Selection and Delineation (KWT Trust, 2015)[67] for hazel dormice as detailed below:

"Any deciduous or mixed woodland over 20 ha known to support dormice, any other suitable habitat within 250m and the connections in between. The site boundary will be drawn around all such suitable areas within the set distance. Justification – these areas are core habitats in the county and provide local source populations."

9.5.121 LWSs in Kent are widely accepted as being of 'county' level importance for nature conservation. If a site meets relevant Kent LWS selection criteria, it is considered to be of county importance for the relevant species / habitats / ecological features. If a site does not meet these criteria, it is typically assessed as being of less than 'county' level importance for the relevant species / habitats / ecological features. Note that Backhouse Wood LWS is above 20 ha in size (already having LWS designation). The on-Site habitat for hazel dormouse is generally located beyond 250m of this woodland, aside from an area to the north which consists of a very small proportion of the Site as whole.

9.5.122 The on-Site hedgerow habitats that support hazel dormouse are relatively common and widespread in the wider local area and district and relatively low numbers of nests have been recorded given the extent of habitat surveyed.

9.5.123 Based on these factors, the hazel dormouse population utilising the Site is assessed to be of local (district) importance.

Brown Hare

9.5.124 The KMBRC data search returned eight recent and historic records of brown hare located within 1km of the Site.

9.5.125 Brown hare was recorded on the Site during surveys for other species, with the breeding and wintering bird surveys being the primary source of hare records. A maximum count of nine brown hares was recorded on Site during a single visit, in winter 2021-22. Limited brown hare records were returned from the 2023 breeding bird surveys, with a peak count of two from initial 2023 breeding bird analysis and could be attributable to reduced set aside margins from previous years.

9.5.126 Based on the prevalence of comparable suitable habitats within the wider local area, the Site is assessed as being of local (district) importance for brown hare.

Water Vole

9.5.127 The 2023 KMBRC data search returned four historic records of water vole located within 1km of the Site. The closest record was a 1998 record of water vole located *c.*100m north of the Site at the closest point.

9.5.128 No evidence of water vole presence was recorded during the 2020 survey or the 2022 survey. The watercourse adjacent to the Sellindge Substation (Horton Priory Dike which is an Internal Drainage Board ('IDB') managed watercourse) was assessed outside the water vole survey season (January 2024) but as no works are proposed to the watercourse this is not considered a limitation for the assessment. **ES Volume 4, Appendix 9.5k: Riparian Mammal Survey Report (Doc Ref. 5.4)** provides further details.

9.5.129 Based on the likely absence of water vole recorded in 2020 and 2022, this species is scoped out of further assessment within this ES Chapter.

Beaver

9.5.130 The KMBRC data search did not return any records of Eurasian beaver located within 1km of the Site.

9.5.131 No evidence of beaver presence was recorded during the 2020 survey or the 2022 survey. **ES Volume 4, Appendix 9.5k: Riparian Mammal Survey Report (Doc Ref. 5.4)** provides further details.

9.5.132 Based on the likely absence of beaver recorded in 2020 and 2022, this species is scoped out of further assessment within this ES Chapter.

Otter

9.5.133 The 2023 KMBRC data search returned four historic records (1972-1976) of otter within 1km of the Site. Given the sensitivity of otter records, the precise grid reference has not been provided as part of the KMBRC data search.

9.5.134 The section of the East Stour River that passes through the Site provides some suitable otter holting (denning) and some resting opportunities within wooded riverbanks and scrub blocks, but most of the watercourse length adjacent to the Site does not provide any such opportunities. In addition, the Horton Priory Dike watercourse adjacent to Sellindge Substation is also suitable for otter.

9.5.135 No evidence of otter presence was recorded during the 2020 survey. However, the dense vegetation across channel sections represented a limitation to the survey conducted in 2020. Presence of otter was recorded during the 2022 survey, on the East Stour River. The locations where otter field signs, comprising paw prints and spraint (faeces), are provided in **ES Volume 4, Appendix 9.5k: Riparian Mammal Survey Report (Doc Ref. 5.4)**. No otter holts (dens) were recorded during the 2020 or 2022 surveys.

9.5.136 During a 2022 survey of other (off-Site) sections of the East Stour River that are located within 2km of the Site, presence of otter has also been recorded.

9.5.137 Based on the survey findings for the Site and nearby sections of the East Stour River, otter are likely to utilise the on-Site and adjacent river and watercourse sections for foraging, commuting and/or dispersal and may rest within bankside vegetation, but no evidence or indicators of holt presence was found. As evidence of holting can be scarce, a precautionary assumption has been made that otters may utilise bankside habitats for holting and this has been factored in to this assessment.

9.5.138 The on-Site habitats (river channel and, to a lesser extent, ditches) are likely to be at least occasionally utilised by otter and are assumed to be of local (district) importance for this species.

Badger

9.5.139 The 2022 KMBRC data search returned 23 recent and historic records of badger located within 1km of the Site, with the most recent record of badger comprising a 2021 record.

9.5.140 Badger setts were identified in boundary habitats during the 2023 badger field sign survey.

9.5.141 A number of badger setts have been recorded across the Site (and within 30m of the Site) during the badger surveys, comprising a number of main breeding badger setts and numerous less significant setts (mostly outlier setts, with some subsidiary setts likely to be present). Badgers are not a biodiversity priority, and their populations in the UK are not declining or threatened. The badger population using the Site is therefore considered to be of negligible importance for biodiversity.

Nevertheless, their presence on the Site is still significant due to the legal protection afforded to badgers and their setts, largely for welfare reasons. Therefore, this species is considered further within this assessment.

9.5.142 The detailed results of badger surveys (provided at **ES Volume 4, Appendix 9.5m: Badger Report (Doc. Ref 5.4)**) is confidential information, to be provided to PINS separately and not published in public domain.

Invasive Species

9.5.143 The KMBRC data search returned 24 recent records of 11 invasive species located within 1km of the Site. A summary of the recent invasive species records located within 1km of the Site is provided within **Table 9.9**.

Table 9.9: Summary of Recent Invasive Species Records

Common Name	Scientific Name	Number of Records within 1km of Site	Date of Most Recent Record	Location of Most Recent Record from the Site
American mink	*Neovison vison*	2	2020	c.368m north-west
American skunk cabbage	*Lysichiton americanus*	1	2014	c.875m north
Three-cornered garlic	*Allium triquetrum*	1	2022	c.340m south-east
Non-native bluebell	*Hyacinthoides non-scripta x hispanica = H. X massartiana*	3	2019	c.1km north
Himalayan cotoneaster	*Cotoneaster simonsii*	1	2012	c.39m south
Japanese knotweed	*Reynoutria japonica*	1	2012	c.1km south-west
Variegated yellow archangel	*Lamiastrum galeobdolon subsp. Argentatum*	3	2022	c.340m south-east
New Zealand pygmyweed	*Crassula helmsii*	2	2016	c.760m north

Common Name	Scientific Name	Number of Records within 1km of Site	Date of Most Recent Record	Location of Most Recent Record from the Site
Common rhododendron	*Rhododendron ponticum*	4	2019	c.1km south-west
Western conifer seed bug	*Leptoglossus occidentalis*	1	2022	c.900m south
Winter heliotrope	*Petasites fragrans*	5	2019	c.615m south-east

9.5.144 Habitat and botanical surveys carried out have not identified any legally controlled invasive flora within the Site, potentially due to the general lack of suitable transmission routes for invasives to colonise the Site (mostly restricted to potential spread through arable or commercial vehicle movements). The East Stour River is not noted to have been colonised by Himalayan balsam or other species typically spread by watercourse pathways and ponds are generally undisturbed from regular human activity. Lack of ornamental plant beds or disturbance by earthworks limit opportunities for Japanese knotweed or garden escapee species to become established within the Site.

9.5.145 No presence of western conifer seed bug has been recorded during the invertebrate survey work conducted on the Site. This species predominantly uses pine (Pinus) species as host plants. As no notable areas of pine are present on the Site, this species is unlikely to be present on the Site.

9.5.146 Riparian mammal survey work undertaken for another site located within 1km of the Site, in 2022, confirmed presence of American mink. During the riparian mammal survey visits undertaken in 2022 to date, potential mink footprints were recorded within river edge substrate within the survey area. The Site and surrounding areas therefore support a population of American mink.

Future Baseline

9.5.147 The on-Site baseline is likely to remain unchanged for the foreseeable future in the absence of development (construction on the Project is forecast to start in 2026), as the current agricultural practices which arrest habitat succession and maintain the current baseline would most likely continue under such a future scenario.

9.5.148 The Site would continue to provide foraging and commuting opportunities for bats; suitable sett-building and foraging habitat for badger; breeding and foraging habitats for over-wintering and breeding birds; foraging, sheltering and hibernation habitat for reptiles, GCN, hazel dormouse, harvest mouse and hedgehog; and foraging and sheltering habitat for brown hare.

Summary of Receptors and Sensitivity

9.5.149 Based on the above baseline studies, the following important ecological features (sensitive receptors) have been identified and are assessed further within this ES Chapter, as set out in **Table 9.10**.

Table 9.10: Summary of Sensitive Receptors Present Within Zone of Influence

Receptor / Important Ecological Feature	Level of Geographic Importance
Existing	
Wye and Crundale Downs SAC and Folkestone to Etchinghill Escarpment SAC and SSSI	International
Dungeness SAC	International
Dungeness Romney Marsh and Rye Bay Ramsar and SPA	International
Stodmarsh Site (SPA, SAC, Ramsar and SSSI) complex	International
Hatch Park SSSI	National
Poulton Wood LNR	Local (District)
Backhouse Wood LWS	County
Aldington Sand Pit LWS	County
Aldington Woods LWS	County
Bilsington Woods and Pasture LWS	County
Ancient woodland	County
Veteran trees	County
Habitat of Principal Importance: River (East Stour River)	Regional
Other Habitats of Principal Importance (pond, hedgerow, woodland, arable field margins)	Local (District)
Notable plant species	Local (District)
Notable fungi species	Local (District)

Receptor / Important Ecological Feature	Level of Geographic Importance
Notable invertebrate assemblage	Local (District)
GCN population	Local (District)
Common toad population	Local (District)
Reptile assemblage	Local (District)
Yellowhammer (wintering and breeding)	County
Skylark (wintering and breeding)	Local (District)
Breeding bird assemblage	Local (District)
Wintering bird assemblage	Local (District)
Bat assemblage (foraging and commuting)	Local (District)
Assumed hedgehog population	Local (District)
Harvest mouse population	Local (District)
Hazel dormouse population	Local (District)
Brown hare	Local (District)
Badger	Negligible
Otter	Local (District)
Invasive non-native species	Negligible
Future	
All receptors above	Level of geographic importance to remain the same, based on continuation of existing agricultural land management.

9.5.150 Whilst they do not constitute sensitive receptors, invasive species, have the potential to result in adverse ecological effects upon important ecological features, such as habitats and species. The potential for the Project to contribute to adverse effects upon important ecological features, through spread of invasive species, is therefore considered further in this assessment.

9.6 Embedded Design Mitigation

9.6.1 Primary mitigation measures relating to avoidance/loss of habitats and species is secured through the **Vegetation Removal Plan (Doc Ref. 2.8), Works Plans (Doc**

Ref. 2.3) and **Design Principles (Doc Ref. 7.5).** Other mitigation measures are defined within the **Outline CEMP (Doc Ref. 7.8), Outline LEMP (Doc Ref. 7.10)** and **Outline DEMP (Doc Ref. 7.12)**. A summary of the embedded mitigation measures is provided below.

Habitat avoidance, retention and creation

9.6.2 The majority of the Site supports arable cropland of limited ecological importance. Most ecological interest, with the exception of the breeding and wintering farmland bird assemblages, breeding and wintering skylark, yellowhammer populations and brown hare population, is limited to the field margin boundaries. Impacts on boundary habitats (hedgerows, grassland and scrub margins, woodland edge, ponds and riparian habitats) have been minimised by mitigation incorporated into the design of the Project.

9.6.3 The key Design Principles relevant to habitat avoidance and retention are summarised below in **Table 9.11**.

Table 9.11: Key Design Principles Relevant to Habitat Avoidance and Retention

Relevant Project Component / Ecological Feature	Design Principle	Biodiversity Context
Offsets from East Stour River, riparian drains and IDB-managed Ordinary Watercourses	A minimum 10m buffer (as measured from the top of the bank or channel edge under normal flows) will be provided from the East Stour River and IDB-managed Ordinary Watercourses. A minimum 3.2m buffer will be provided from all drains and channels. No new physical infrastructure other than essential works (such as cable crossings, watercourse crossings, drainage, and Public Rights of Way ('PRoW') footbridges) will be developed within this buffer.	Commitment to buffer zones specified for watercourses, in particular the East Stour River HPI.
Solar PV modules and mounting structures	A distance of at least 3.2m will be provided between the edge of PV panels and security fencing to allow for maintenance.	Distance maintains hedgerow buffers and boundary habitat network throughout the Site.

Relevant Project Component / Ecological Feature	Design Principle	Biodiversity Context
Security Fencing / Boundary Treatments	A distance of at least 3.2m will be provided between the edge of PV panels and the security fencing. between the security fencing and hedgerows outside of the security fence would be at least 3.2m. The distance between the security fencing and hedgerows outside of the security fence would be at least 3.2m. Security fence gates will be provided for maintenance, habitat management, passage of mammals, security purposes and fire response access. Security fencing within Fields 19, 23 and 24 will have a minimum clearance space of 0.2m between the bottom of the security fence and the ground, and with minimum mesh spacing of 0.1m.	Distance maintains hedgerow buffers and boundary habitat network throughout the Site. Maintains permeability for small animals, including brown hare and badger, to the PV Arrays.
Protection of ancient woodland and veteran trees	A minimum buffer of 15 times the stem diameter or 5m beyond the trees crown spreads (whichever is greater) for veteran trees and of 15m from the canopy spread for ancient woodland will be maintained. Within this buffer no infrastructure will be constructed.	Commitment to buffer zones for veteran trees and ancient woodland (noting no development proposed in proximity to Backhouse Wood LWS).
Protection of existing ponds	All existing ponds within the Order limits are to be retained with a minimum set back of 3.2m. Within this buffer no infrastructure will be constructed.	Commitment to retention of existing ponds.
Protection of badger setts	A buffer zone of 30m is to be provided from the badger setts identified in **ES Volume 4, Appendix 9.5m: Badger Survey Report (Doc Ref. 5.4)**. Within this	Commitment to protection of main badger setts.

Relevant Project Component / Ecological Feature	Design Principle	Biodiversity Context
	buffer no infrastructure will be constructed.	
Vegetation loss	Unless otherwise agreed with the local planning authority, vegetation loss will be restricted to the maximum extents shown on the **Vegetation Removal Plan (Doc Ref. 2.8)**. No more than 150m of hedgerow is to be removed.	Commitment to minimal removals of habitat and trees. Note that additional trees have been included in assessments for roosting bats on the precautionary basis that some arboricultural works could be required for reasons of health and safety (e.g. limb removals or crown reductions).

9.6.4 Implementation of the Project in accordance with the **Design Principles (Doc Ref. 7.5), Outline CEMP (Doc Ref. 7.8), Outline LEMP (Doc Ref. 7.10)**, the **Vegetation Removal Plan (Doc Ref. 2.8)** and **Works Plans (Doc Ref. 2.3)** will ensure the retention of the most ecologically important habitats, appropriate exclusions zones for habitats and species including hedgerows, retention and enhancement of boundary habitats.

9.6.5 Ancient woodland, veteran trees, woodland, hedgerows, ponds, arable margins, the East Stour River and existing important (main) badger setts are all incorporated into the Project layout and landscape design with appropriate exclusion zones. All hedgerows have a minimum 3.2m buffer (generally much larger) from the PV Array security fence. As a general principle, development is limited to within the security fences throughout the Site.

9.6.6 As shown on the **Vegetation Removal Plan (Doc Ref. 2.8)** and described in ES **Volume 4, Appendix 9.3: Arboricultural Impact Assessment (Doc Ref. 5.4)**, construction of the Project would necessitate the removal of two individual trees, six tree groups in full and the partial removal of trees from two groups. Twelve individual trees and four tree groups are proposed for removal for safety and risk management reasons within the Site. The tree removals are primarily lower quality category 'C' trees, apart from one 'B' quality tree, a small category 'B' group and minor part-removals of trees from two category 'B' quality groups. No veteran trees would be lost.

9.6.7 Up to 150m of hedgerow would be removed to facilitate construction, typically in lengths less than 10m. This represents approximately 1.3% of the 11.30km of hedgerow present on-Site.

9.6.8 The landscape design retains existing arable margins. An area of scrub approximately 245m² would also need to be removed for the formation of the platform and access track at Sellindge Substation.

9.6.9 The **Outline CEMP (Doc Ref. 7.8)** includes measures in relation to:

- Protection of existing vegetation - including tree protective fencing, buffer zones for veteran trees and ancient woodland and protection zones for established hedgerows to prevent damage and encroachment and damage. Detailed measures to protect existing vegetation be included within an Arboricultural Method Statement within the detailed CEMP(s) which will detail the protective measures.
- Protection of existing ecological features and habitats - including Biodiversity Protection Zones ('BPZs') which will be created and maintained by the erection of exclusion fencing and debris netting (if needed to protect retained habitats (including watercourses), and newly created habitats from the incursion of vehicles and machinery. Signage will also be erected to identify these areas. Any works within BPZs would be approved by and supervised by an Ecological Clerk of Works.
- Emergency Preparedness Plan – this will include measures to control pollution and protect any aquatic environments.
- Lighting - All temporary external lighting will be designed to minimise the risk of light spill outside the area it is desired to illuminate; and particular care will be taken to minimise light spill on hedgerows or other linear features that can be used by nocturnal wildlife including bats.

Habitat Creation and Biodiversity Improvement Areas

9.6.10 The **Outline LEMP (Doc Ref. 7.10)** sets out the principles of the proposed habitats within the Site and management prescriptions. As secured via a Requirement of the **Draft Development Consent Order (Doc Ref 3.1)**, no phase of the Authorised Development may commence until a detailed LEMP covering that phase has been submitted to and approved by local planning authority. The detailed LEMP(s) would be in accordance with the **Outline LEMP (Doc Ref. 7.10)** and would include details of the proposed hard and soft landscape and biodiversity enhancement works and implementation timetables.

9.6.11 The **Illustrative Landscape Drawings (Doc Ref. 2.7), Outline LEMP (Doc Ref. 7.10)** and **Table 9.12** set out the principles for the habitat creation and enhancement that are expected to be delivered as part of the Project. Where a Project component is included as specific mitigation for a habitat or species, this is described when discussing the relevant Project component below.

Table 9.12: Schedule of Illustrative Habitat Creation and Enhancement Components

Project Component	Illustrative Scheme Area / Length / No.	Biodiversity Context
Proposed native woodland planting	2.89 ha	Reinforcement of existing woodlands and boundaries.
Proposed carr woodland planting	0.3 ha	Reinforcement of existing East Stour River trees.
Proposed Woodland Edge / Scrub Mix	0.77 ha	Buffer planting of Backhouse Wood LWS and creation of grassland and scrub mosaic habitats.
Proposed orchard planting	0.65 ha	Creation of orchard with diverse grassland.
Proposed grazing pasture within fence seeded (BS MeadowMax)	100.89 ha	Creation of diverse pasture sward compatible with conservation density sheep grazing.
Existing grassland within fence retained	3.67 ha	Retention of existing pasture and arable field margin HPIs and to preserve existing seedbank.
Proposed tussocky grassland field margins (EM10)	11.62 ha	As boundary and hedgerow margin enhancement throughout Site.
Proposed wet meadow grassland (EM8)	10.1 ha	Creation of extensive flood plain meadow within Field 26-29 BIA.
Proposed winter bird crop strips	2.81 ha	Throughout Site field boundaries to provide foraging resource for farmland birds.
Proposed meadow grassland (EM1)	34.28 ha	Within PV Arrays and across BIAs to provide diverse grassland.
Proposed habitat pond	0.17 ha	Across BIAs throughout Site.
Proposed habitat scrapes	0.25 ha	Within Field 26-29 BIA as part of East Stour River floodplain enhancement.
Proposed wetland trees (East Stour River)	374 no.	Enhancement of East Stour River floodplain.

Project Component	Illustrative Scheme Area / Length / No.	Biodiversity Context
Proposed hedgerow trees	128 no.	Enhancement of new and existing hedgerows in select locations.
Existing hedgerows reinforced	11.25 km	Enhancement of existing hedgerows across Site.
Proposed hedgerow planting	5.48 km	Creation and restoration of hedgerow network (including historic hedgerows).
Proposed skylark plots	0.06 ha	Creation of skylark nesting opportunities (plots (managed plots generally 4-16m^2) within PV Arrays across Site.
Proposed hydroseeded retaining wall	0.03 ha	Included for consistency (assumed no biodiversity value).
Proposed grass paving – seeded	9.74 ha	Included for consistency (assumed no biodiversity value).

9.6.12 While the majority of the Project will comprise of and deliver habitat enhancements, there are number of key ecological enhancement areas / BIAs outside of the PV panel areas, forming part of Works No. 8 in Schedule 1 of the **Draft Development Consent Order (Doc Ref. 3.1)**. These areas will be free of PV panels, as secured and shown on the **Works Plans (Doc Ref. 2.3)** and provide targeted mitigation and enhancement for the habitats and species subject to the strategies in this report.

- Fields 26 – 29 – In the 2022 Consultation Scheme and 2023 Consultation Scheme, PV panels were proposed in Fields 26 to 29 adjacent to Backhouse Wood LWS and the East Stour River. This is now the most extensive BIA within the Project, and comprises the East Stour River at its centre with areas of wet meadow, habitat ponds and scrapes proposed for the existing flood zone and dry meadow beyond. Buffer woodland planting is proposed to reinforce the edge of the existing Backhouse Wood LWS / ancient woodland area along the southern boundary of Fields 28 and 29, while a fringe of woodland planting will be present along the northern boundary of Fields 26 and 27. The wet and dry meadow areas will provide extensive suitable habitat for ground nesting birds such as skylark. A fenced area of meadow would be provided within the south east to exclude this area from potential public disturbance from the opening of permissive public access in this area.
- Fields 21 – 22 – The second largest BIA, comprising a large extent of traditional orchard and meadow to the east of Field 20 which is further bordered by woodland boundary planting and a habitat pond to the north.

The existing tree belts are to be provided with a buffer of tussocky grassland with a larger block of extensive grassland in the west.

- Field 3, north – An area of tussocky grassland provides an expanded boundary habitat for reptiles, birds and brown hare connected to the tussocky grassland northern fringes of Fields 5 and 6 and is in proximity to winter bird crop strips to the south.
- Field 6, north – A large area in the north of Field 6 is expected to provide the most extensive area of winter bird crop provision within the Site, which is also accompanied by additional roadside tree planting, a new hedgerow and an area of tussocky grassland along the east of Field 6.
- Field 8, south east corner – A mix of scrub, tussocky grassland and woodland reinforcement in its south east corner. This BIA would provide a localised area of suitable habitat for ground nesting birds.
- Field 10, south west corner – An area of open tussocky grassland to primarily benefit ground nesting birds and reptiles.
- Area west of Field 12 – An area to be primarily maintained as open grassland to benefit ground nesting birds, though limited provision of other enhancements (i.e. reptile hibernacula).
- Area east of Field 13 / surrounding Handen Farm – Proposed woodland screening belts within this BIA will link to the existing nearby woodland and reinforce connectivity of the local hedgerow and woodland. Extents of tussocky and meadow grassland are also proposed bordered by treeline planting.
- Field 23 and 24 boundaries – Woodland carr planting is proposed along the northern edge of Field 23 to reinforce existing planting along the East Stour River. A retained and widened width of grassland is proposed between Fields 23 and 24. These habitats provide an area of tussocky grassland for reptiles and ground nesting birds along the south of Field 23. A habitat pond and additional tree planting is proposed for the northwest corner of Field 23.

9.6.13 The **Outline LEMP (Doc Ref. 7.10)** includes other ecological enhancement features and habitats required as mitigation for specific species impacts. This includes the provision of winter bird crop strips, skylark plots, variation in hedgerow management, mammal access gates and incorporation of bat boxes, bird boxes, hibernacula and log piles.

9.6.14 Habitat creation, planting and management proposals included within the **Outline LEMP (Doc Ref. 7.10)** have been designed to benefit HPIs and SPIs. Areas free of PV panels will be managed for habitats and species providing a network of open space habitats across the Site, connected by the retained and enhanced boundary habitat network.

Watercourse Crossings

9.6.15 Where cables cross the East Stour River and IDB managed watercourses, HDD methods will be used to install cables. Where the HDD is beneath the East Stour

River, a minimum depth of 2m from the bed of the East Stour River will be maintained as secured in the **Design Principles (Doc Ref. 7.5)**. Temporary vehicle bank to bank crossing points are also proposed mainly during the construction and decommissioning phases, but also for limited periods during the operational phase. The locations of HDD and temporary bridges are shown in **ES Volume 4, Appendix 10.5: Schedule of Watercourse Crossings (Doc Ref. 5.4)**.

9.6.16 The temporary bridges will be installed to avoid impact to the channel and minimise on-Site engineering with appropriate setbacks secured through the **Design Principles (Doc Ref. 7.5).**

9.6.17 Whilst HDD or temporary crossings could result in minor loss of adjacent riparian habitat the design of the temporary crossings will not alter the riverbanks or the hydromorphology of the River). Watercourse crossing locations will be subject to pre-commencement ecological surveys as described within the **Outline LEMP (Doc Ref. 7.10)** and watercourse pollution control measures as described within the **Outline CEMP (Doc Ref. 7.8).** The majority of the riparian habitats will therefore not be impacted by the Project.

Wastewater

9.6.18 As a precautionary approach, foul water arising from all stages of the Project will be removed off-Site and disposed of outwith the Stour catchment, to avoid any nutrient effects upon the Stodmarsh site complex. This is secured by the **Outline CEMP (Doc Ref. 7.8)**, **Outline OMP (Doc Ref. 7.11)** and **Outline DEMP (Doc Ref. 7.12).**

Construction Phase General Measures

9.6.19 The **Outline CEMP (Doc Ref. 7.8)** sets out the measures that will be implemented during construction of the Project to mitigate construction-related effects on biodiversity associated with dust deposition, air pollution, pollution incidents, water quality, light, noise and vibration.

9.6.20 The following general measures will be implemented:

- Pollution prevention measures;
- Retention and protection of ecological features and habitats, including vegetation;
- Avoidance of retained woodland areas and root protection areas (‘RPAs’) where possible;
- Pre-construction surveys, to validate and update baseline findings, as secured in the Outline LEMP (Doc Ref. 7.10);
- Adjusting the phasing of works to avoid significant adverse effects on protected species;
- Implementation of precautionary ecological watching briefs when clearing vegetation or piles of debris;
- Watercourse pollution prevention measures;

- No trenches or pits to be left open overnight unless fitted with a means of escape for mammals;
- Measures to prevent and control the spread of invasive non-native species;
- Staff to receive toolbox talks on ecological risks present, legal requirements and working arrangements necessary to comply with legislation, with talks repeated as necessary over the duration of the relevant works; and
- Following good practice guidelines.
- Any relevant Natural England mitigation licences required will be adhered to.

9.6.21 As set out above, pre-construction surveys would be undertaken to validate and, where necessary, update the baseline survey findings, as secured by the **Outline LEMP (Doc Ref. 7.10)**. The purpose of these pre-construction surveys is to ensure mitigation during the construction phase is based on the latest protected species information. These include, but are not limited, to Schedule 1 nesting birds, badger, otter and non-native invasive species.

9.6.22 Where pre-commencement surveys determine that a NE mitigation licence or species mitigation strategy is required, this will be reviewed with the undertaker and Principal Contractor. Mitigation strategies if required will be submitted and reviewed by the relevant statutory body (e.g. Natural England as appropriate). For example badger, otter, hazel dormouse or GCN or other protected species. Such works will be conducted under a mitigation licence from NE, in accordance with the licensed mitigation measures. These measures are set out in the **Outline LEMP (Doc Ref. 7.10)**.

9.6.23 Temporary surface water drainage will be installed during the construction phase to mitigate flood risk and sediment loading and, where possible will align with the permanent drainage solution (as set out within the **Outline CEMP (Doc Ref 7.8)**.

9.6.24 The **Outline CEMP (Doc Ref. 7.8)** secures measures to prevent and control the spread of invasive species during works during the construction phase.

9.6.25 Construction traffic would not be routed within 200m of the Wye and Crundale Downs SAC, as secured through the **Outline CTMP (Doc Ref. 7.9)**.

Operational Phase Measures

9.6.26 Operational lighting will be limited for emergency and overnight maintenance purposes only at Inverter Stations, Intermediate Substations and the Project Substation and will be directed within the Order limits as secured by the **Design Principles (Doc Ref. 7.5).** In the event lighting is required it will be directed within the Site limits away from sensitive receptors and will include features to reduce light spill beyond the areas required to be lit as secured by the **Outline OMP (Doc Ref. 7.11)**.

9.6.27 To minimise potential impacts as a result of operation (including habitat management and maintenance), outline management prescriptions (establishment, maintenance, timings and remedial measures) have been ecological reviewed and incorporated into the **Outline LEMP (Doc Ref. 7.10)**.

9.6.28 The **Outline LEMP (Doc Ref. 7.10)** contains the following habitat and species mitigation principles and deliver substantial new areas of habitat for a broad range of the important species and species groups:

- Site maintenance and management operations will include seasonal timing constraints to minimise the likelihood of adverse effects upon important species. These activities will be informed by a series of ecological constraints and management plan drawings that will be updated following periodic monitoring and advice from a suitably experienced ecologist;
- Winter bird crop strips will be planted and maintained on the boundaries of PV Arrays to provide food sources for farmland birds. Skylark plots will be incorporated within PV Arrays, to provide open areas for skylarks to nest and forage. Both features are part of a wider combined suite of further mitigation measures for wintering and breeding birds (particularly skylark and yellowhammer) and brown hare;
- Boundary fences will contain mammal gates to allow free movement of species, such as brown hare and badger;
- The current hedgerow management regime will be relaxed and adjusted to benefit a broad range of important species recorded on the Site, as well as biodiversity in general. The new and existing hedgerows will be allowed to establish to dimensions that will ensure that they are robust habitat features and will be managed to benefit wildlife;
- Extensive native grassland will be managed (via a mix of rotational cutting, low density conservation grazing with sheep or via a regime of ecologically sensitive mechanical mowing and topping) to benefit biodiversity;
- Where infrastructure or habitat management is to occur outside the scope of the Outline LEMP (Doc Ref. 7.10) or Outline OMP (Doc Ref. 7.11), this is to be reviewed by an ecologist who will determine the requirement for a pre-commencement survey or ecological watching brief as required;
- In order to assess the effectiveness of habitat creation, establishment and any remedial actions needed for habitats or ecological features post-development, ecological monitoring surveys are proposed at a frequency to be reviewed with stakeholders as part of the detailed LEMP(s). The monitoring programme, its objectives and remedial actions will be developed with stakeholders and set out in the detailed LEMP(s); and
- Habitat condition assessment surveys are to be carried out to record habitat types, establishment and condition against the requirements of the BNG Assessment (Doc Ref. 7.1). An ecologist will also undertake a periodic suite of detailed habitat and species surveys to review the progression of habitat creation and enhancement measures and any

effects of the presence of solar photovoltaic modules on important species and species groups.

Decommissioning Phase

9.6.29 The **Outline DEMP (Doc Ref. 7.12)** requires that principles of good practice measures are followed to mitigate and manage decommissioning related effects on biodiversity, such as those associated with dust deposition, water pollution, air pollution, noise and vibration. A detailed DEMP(s) will be prepared in accordance with relevant legislation and good practice guidance available at the time.

9.6.30 The detailed DEMP(s) will be informed by ecological surveys at the Site in advance of decommissioning. These surveys are secured through the **Outline LEMP (Doc Ref. 7.10)** and will be undertaken during the operational phase and may inform appropriate management of the Site ahead of decommissioning.

9.6.31 During the decommissioning phase, prior to the removal of above ground infrastructure commencing, grassland (to be subject to removal of PV infrastructure) will be managed to minimise the risk of potential conflict with ground nesting birds. This will be done in a manner that also minimises risks to legally protected species. A suitably experienced ecologist will provide advice on the relevant changes to grassland management regime and associated protected species considerations and constraints. These measures are secured through the **Outline DEMP (Doc Ref. 7.12)**.

9.7 Assessment of Effects

9.7.1 This section assesses the impacts and potential effects of the Project on ecological important features incorporating the Embedded Mitigation described in **Section 9.6** 'Embedded Design Mitigation'. Potential impacts have been assessed for the construction, operation and decommissioning phases.

Construction Phase

9.7.2 Construction effects entail the removal of habitats to facilitate the Project and impacts associated with construction machinery, limited earthworks and increased on-Site activity from machinery and workforce. The risk of loss or damage on habitats along with the associated risk of disturbance upon species (potentially causing displacement or reduced breeding success) and risk of mortalities will occur during the construction phase across the Site. Indirect disturbance from noise, increased workforce presence, dust deposition, air quality impacts and ground and surface water will also occur, though noting construction is generally limited to installation of PV panels and cables across the majority of the Site and will be of shorter duration and less intrusive than many other construction types.

9.7.3 The spatial phasing and timing of construction will depend on a number of factors. For the purposes of the EIA, a worst-case assumption has been taken that the Project will be constructed over a single phase across the whole Site area.

9.7.4 A detailed assessment of the construction phase effects on the following ecological features is presented in full in **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)**. With effective implementation of these Embedded Mitigation measures, no significant adverse effects are predicted upon the following important ecological features during the construction phase:

- All national and international statutory designated sites: Wye and Crundale Downs SAC, Folkestone to Etchinghill Escarpment SAC and SSSI, Dungeness SAC, Stodmarsh SSSI, SAC, SPA and Ramsar site, Dungeness Romney Marsh and Rye Bay Ramsar and SPA and Hatch Park SSSI;
- All local statutory designated sites: Poulton Wood LNR;
- All non-statutory designated sites: Backhouse Wood LWS, Aldington Sand Pit LWS, Aldington Woods LWS and Bilsington Woods and Pasture LWS;
- Ancient woodland;
- Veteran trees;
- Notable habitats: River (East Stour River),
- Notable habitats (woodland, hedgerows, ponds, arable field margins)
- Notable plants;
- Notable fungi;
- Notable invertebrate assemblage;
- GCN;
- Common toad;
- Reptile assemblage;
- Wintering bird assemblage;
- Breeding bird assemblage;
- Bats (roosting, foraging and commuting assemblage);
- Assumed hedgehog population;
- Harvest mouse;
- Hazel dormouse;
- Badger;
- Otter; and
- Invasive non-native species.

9.7.5 **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)** concludes that the following species have the potential to be significantly affected during the construction phase of the Project:

- Yellowhammer;
- Skylark; and
- Brown hare.

9.7.6 **Table 9.13** provides a detailed assessment of construction phase effects each on these receptors in the absence of additional mitigation measures.

Table 9.13: Construction Assessment (Yellowhammer, Skylark and Brown Hare)

Ecological Feature (Valuation)	Potential Impacts	Potential for Significant Effects
Yellowhammer County	Loss of habitat. Short-term, reversible. The presence of weedy margins and spilt cereal grain are important winter foraging resources for yellowhammer within the Site. Whilst field margins will be retained and are unlikely to significantly reduce in suitability for yellowhammer (through e.g., succession of habitat types) during the construction phase, the winter cereal forage resource will be mostly or entirely lost, which will temporarily reduce the overall suitability and forage value of the Site for this species until winter bird crop strips and BIAs are established. The retention of c.98.7% of boundary habitats will continue to provide other parts of the overall winter and summer foraging habitat mix and breeding habitat favoured by yellowhammer, and the availability of alternative arable cropland habitat in nearby off-Site areas will provide alternative foraging opportunities. The inclusion of 'set aside' BIAs has been specifically targeted to provide a range of habitats (including large flower rich and rough grassland areas but also scrub and wetland areas) suitable for species including breeding and wintering yellowhammer. While such habitats will not be fully established during the construction phase, large areas not subject to construction activities will be available for this species. Management of hedgerow and PV Array buffer zones will also include areas of tussocky grassland, bird crop strips and enhancement of hedgerow margins, although these will not be fully established during the construction phase. The extent of loss of important winter foraging resource during construction will reduce food availability for the yellowhammer population, which will affect both individual birds and the recorded yellowhammer population.	Yes (Local adverse)

Ecological Feature (Valuation)	Potential Impacts	Potential for Significant Effects
Skylark Local (District)	Construction. Loss of habitat. Short-term, reversible. Creation of 'set aside' BIAs is targeted to provide a range of habitats (including large flower rich and rough grassland areas but also scrub and wetland areas) suitable for bird species including breeding and wintering skylark. While such habitats will not be fully established during the construction phase, it is reasonable to assume that large areas not subject to construction activities will be available for this species throughout the construction phase. Management of hedgerow and PV Array buffer zones (secured through the **Outline LEMP (Doc Ref. 7.10)**) will include areas of tussocky grassland, bird crop strips and enhancement of hedgerow margins, however again these will not be fully established during the construction phase. Loss of suitable skylark breeding and winter foraging habitat will occur for at least one and potentially two years.	Yes (Local adverse)
Brown hare Local (District)	Construction: Habitat loss and disturbance (noise, human activity, lighting), displacement of species. Short-term, reversible. The construction phase of the Project will result in the loss of winter resting and foraging opportunities, and breeding opportunities for brown hare, and will also likely deter the species from using the Site due to disturbance as a result of construction activities, for 12 months (expected one breeding and one wintering season) whilst these activities are underway. Use of construction exclusion zones and environmental good construction practice measures as part of the **Outline CEMP (Doc Ref. 7.8)** will reduce disturbance during the construction period but will not be able to completely avoid this impact. The provision of BIAs and retention of boundary habitats does provide retained and alternative habitats for brown hare during construction. However, these are reduced in extent compared to the existing baseline and will not be fully established during the construction period.	Yes (Local adverse)

Ecological Feature (Valuation)	Potential Impacts	Potential for Significant Effects
	Localised disturbance will therefore occur within and near to suitable brown hare habitat, although noting hare will be habituated to existing agricultural disturbance (e.g. use of machinery, presence of farm workers). Disturbance is likely to occur only for a limited duration in each location (although as a worst case it is assumed this is the case). Alternative, undisturbed habitat is available in proximity to all areas of Site. However, disturbance during construction and potential impacts of displacement and/or reduced breeding success could still occur.	

Operational Phase

9.7.7 The operational phase of the Project poses few risks to important ecological features. These risks are primarily limited to the risk of killing, injury or disturbance of species, damage or destruction of nests or habitat features and loss or degradation of habitat through inappropriate management.

9.7.8 During the operational phase, habitats newly planted or enhanced during the construction phase will establish and mature. These will add significant ecological value to the overall habitat network at the Site, and for most of the ecological important species and species groups scoped into this assessment.

9.7.9 A detailed assessment of operational phase effects on all ecological important features is provided within **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)**. With effective implementation of these Embedded Mitigation measures, **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)** concludes that no significant effects (beneficial or adverse) are predicted upon the following important ecological features:

- All national and international statutory designated sites: Wye and Crundale Downs SAC, Folkestone to Etchinghill Escarpment SAC and SSSI, Dungeness SAC, Stodmarsh SSSI, SAC, SPA and Ramsar site, Dungeness Romney Marsh and Rye Bay Ramsar and SPA and Hatch Park SSSI and Gibbin's Brook SSSI;
- All local statutory designated sites: Poulton Wood LNR;
- The following non-statutory designated sites: Aldington Sand Pit LWS, Aldington Woods LWS and Bilsington Woods and Pasture LWS;
- Irreplaceable habitats;
- Other Ancient Woodlands;
- Veteran Trees;

- Notable fungi; and
- Yellowhammer.

9.7.10 With implementation of Embedded Mitigation measures, significant beneficial effects are predicted during the operational phase on the following important ecological features**:**

- Non-statutory designated sites: Backhouse Wood LWS;
- Backhouse Wood ancient woodland;
- Notable habitats (River);
- Notable habitats (Pond, Hedgerow, Woodland, Arable Field Margins);
- Notable plants;
- Invertebrate assemblage;
- GCN;
- Common toad;
- Reptiles;
- Wintering bird assemblage;
- Breeding bird assemblage;
- Bat assemblage;
- Assumed hedgehog population;
- Harvest mouse;
- Hazel dormouse;
- Brown Hare; and
- Otter.

9.7.11 A significant adverse effect upon skylark, during the operational phase, is predicted.

9.7.12 Predicted significant beneficial and adverse effects are described in **Table 9.14** (and the detailed assessment in **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)**).

Table 9.14: Operational Phase Assessment (Habitats and Species)

Ecological Feature (Valuation)	Potential Impacts	Potential for Significant Effects
Backhouse Wood LWS County	Buffering and diversification of habitat, reduction of pollution (in comparison to existing agriculture uses at the Site). Medium-term, temporary. A beneficial effect of local significance is predicted as a result of the introduction of a significant new buffer habitat adjacent to this woodland as shown on	Yes (Local, beneficial)

Ecological Feature (Valuation)	Potential Impacts	Potential for Significant Effects
	the **Works Plans (Doc Ref. 2.3)** and management of this adjacent habitat in accordance with the **Outline LEMP (Doc Ref. 7.10)**.	
Backhouse Wood Ancient Woodland County	As per the Backhouse Wood LWS.	Yes (Local, beneficial)
Notable Habitats (River) Regional	Buffering and expansion of habitat, reduction of pollution (in comparison to existing agricultural uses at the Site). Medium-term, temporary. The Project will deliver extensive new habitats and enhancement of existing habitats around the East Stour River (i.e. grassland, wetland scrapes and ponds and trees). This will result in an expansion of the extent and quality of habitats around these important habitat types, increased buffering from on-Site activities and reduced edge effects, providing a more robust and better-connected habitat network and enhancing the ecological quality of the retained habitats.	Yes (Local, beneficial)
Notable Habitats (Pond, Hedgerow, Woodland, Arable Field Margins) Local (District)	Buffering, enhancement and expansion of habitat, reduction of pollution (in comparison to existing agriculture uses at the Site). Medium-term, temporary. The Project will deliver extensive new habitats and enhancement of existing habitats around existing woodland, ponds, hedgerows and arable margins. This will result in an expansion of the extent and quality of habitats around these important habitat types, increased buffering from on-Site activities and reduced edge effects, providing a more robust and better-connected habitat network and enhancing the ecological quality of the retained habitats. Existing hedgerows and arable field margins will be enhanced through measures set out in the **Outline LEMP (Doc Ref. 7.10)** and include relaxation of the existing management (i.e. reduced hedgerow cutting and grassland mowing).	Yes (Local, beneficial)

Ecological Feature (Valuation)	Potential Impacts	Potential for Significant Effects
Notable plants Local (District)	Buffering, enhancement and expansion of habitat, reduction of pollution (in comparison to existing agriculture uses at the Site). Medium-term, temporary. The Project will enhance existing habitats and create extensive new habitats (flower rich grassland in particular) which will expand the extent and quality of habitats on Site, allowing the spread and dispersal of notable plant species.	Yes (Local, beneficial)
Invertebrates Local (District)	Habitat enhancement, expansion and diversification. Medium-term, temporary. The proposed extensive creation and enhancement of habitats (e.g., grasslands and hedgerow) will result in an expansion of the extent, diversity and quality of habitats suitable for important invertebrate assemblages.	Yes (Local, beneficial)
GCN Local (District)	Habitat enhancement, expansion. Medium-term, temporary. The PV Arrays will be permeable to GCN and comprise a mix of grasslands (low intensity pasture and flower rich grassland) which this species can utilise for foraging and dispersal. While some mowing or machine cutting will be required, this will be subject to appropriate timing and cut height restrictions as secured through the **Outline LEMP (Doc Ref. 7.10)** to minimise the risk of GCN mortalities as far as reasonably possible. The BIAs include specific enhancements for GCN including habitat ponds, hibernacula, refugia and habitat mosaics, as secured through the **Outline LEMP (Doc Ref. 7.10)**. The creation of both terrestrial and aquatic habitats is likely to result in increasing the local GCN population in the long term. The boundary habitat network will also be significantly enhanced with creation of new hedgerows and establishment of wider boundary margins and tussocky grassland which will connect the BIAs across Site as well as preserving the Site-wide habitat network for foraging, sheltering and dispersal of this species between existing ponds.	Yes (Local, beneficial)

Ecological Feature (Valuation)	Potential Impacts	Potential for Significant Effects
Common Toad Local (District)	Habitat enhancement, expansion. Medium-term, temporary. The BIAs and associated enhancements will provide a significant increase in suitable habitat for common toad. The PV Arrays will be permeable to this species, allowing foraging and dispersal across these areas.	Yes (Local, beneficial)
Reptiles Local (District)	Habitat enhancement, expansion. Medium-term, temporary. The BIAs and associated enhancements will provide a significant increase in suitable habitat for reptiles. The PV Array areas will be permeable to this species allowing foraging and dispersal across these areas. The boundary habitat network enhancements connecting the BIAs across Site will provide a connected habitat network for foraging, sheltering, breeding and dispersal of reptiles.	Yes (Local, beneficial)
Wintering Bird assemblage (including Schedule 1 species; and excluding yellowhammer and skylark, which are assessed separately) Local (District)	Habitat enhancement, expansion. Medium-term, temporary. The BIAs will be subject to low levels of management (occasional grassland management) compatible with their maintenance as suitable foraging habitats for wintering birds. The relaxing and rotational management of the Site hedgerow network, as secured through the **Outline LEMP (Doc Ref. 7.10),** will similarly maintain and increase the availability of wintering berry food sources. Woodlands, hedgerows and open grassland will be maintained within the Site providing roosting opportunities for a range of species. While the PV Arrays will be subject to a greater degree of management than the BIAs, management will include low intensity conservation density grazing with sheep on rotation and / or meadow mixes with reduced mowing regimes, which will maintain areas of variable grass sward and the associated seed and invertebrate food sources over winter.	Yes (Local, beneficial)

Ecological Feature (Valuation)	Potential Impacts	Potential for Significant Effects
	The management principles for winter bird crop strips are set out in the **Outline LEMP (Doc Ref. 7.10)**, to ensure these features are maintained during the operational phase to continue to provide winter food sources for seed eaters. Extensive habitat creation and enhancement will take place across the Site which will benefit wintering birds. Notably: ▪ A network of BIAs and wide field margins throughout the Project providing open winter foraging habitat. ▪ Hedgerow, scrub and tree planting and enhancement for field boundary species. ▪ Planting of boundary bird crop along field margins to provide partial on-Site compensation for the loss of mid-winter arable seed food sources. ▪ Planting of diverse grass sward and flower rich mixes within the PV Array areas to maximise invertebrate diversity and populations, in turn acting as a food source for a variety of birds. ▪ Creation of ponds, scrapes and wet meadows provide suitable habitat for wildfowl and waders to utilise the Site, particularly the expansive habitats proposed within the Field 26-29 BIA. While extensive recreational disturbance is not anticipated within this BIA from newly created permissive access areas, large meadow areas have been excluded from public access to ensure undisturbed habitat is available for wintering birds.	
Breeding Bird Assemblage (including	Habitat enhancement, expansion. Medium-term, temporary.	Yes (Local, beneficial)

Ecological Feature (Valuation)	Potential Impacts	Potential for Significant Effects
Schedule 1 species; and excluding yellowhammer and skylark, which are assessed separately) Local (District)	The Project will deliver extensive habitat creation and enhancement which will be of benefit to breeding birds (including Schedule 1 species) including: ▪ Set aside open meadow and grassland areas throughout the Project (as BIAs and wide margins), providing open breeding habitat for ground nesting bird species. ▪ Hedgerow, scrub and tree planting and enhancement for yellowhammer and other species that extensively utilise field boundary habitats. ▪ Diverse grass sward and flower rich mixes within the PV Array areas to maximise invertebrate diversity and populations, in turn acting as a food source for a variety of birds. ▪ Targeted nest boxes for species such as owls (minimum two, away from existing owl boxes already present on Site) and cavity boxes for larger species (minimum 30 no. across BIAs and boundary features). ▪ Creation of ponds, scrapes and wet meadows providing suitable habitat for wildfowl and waders, particularly the expansive habitats of the Field 26 to 29 BIA.	
Skylark Local (District)	Reduction in open habitat suitable for nesting. Medium-term, reversible. The proposed new grassland cover on the Site will provide potential new nesting opportunities for skylark, however the presence and density of PV Arrays presents a reduction of large open field space and early growth arable crop of suitable short height. This could discourage skylark from nesting within the PV Arrays as this species generally prefers open areas with long, unbroken sightlines and generally vegetation height of between 20cm and 60cm.	Yes (Local, adverse)

Ecological Feature (Valuation)	Potential Impacts	Potential for Significant Effects
	Foraging habitat would be greatly enhanced through provision of extensive areas of flower rich grassland; however, availability of suitable nesting sites would be limited by the reduced available open areas within PV Arrays. A large proportion of the BIAs (free of panels) are to be managed as relatively short and open grassland areas distributed throughout the Site, providing compensatory habitat of high quality for nesting skylark. Compared to baseline arable fields these will allow rearing of multiple broods (as these areas will not become unsuitable for nesting with tall crop growth) and will overall benefit a much greater diversity of species in excess of skylark. The BIA within Fields 26-29 includes extensive open grassland and meadow areas with no PV panels suitable for use by nesting skylark. While a limited degree of disturbance may occur from the permissive public access proposed for this area, this area is over 12 hectares in size and includes large areas excluded from public access such that skylark breeding success is unlikely to be affected. Other open grassland BIAs are distributed throughout the Site, providing suitable nesting areas in proximity to PV Arrays. Wide field margins and buffer zones in place for other constraints (e.g., watercourses, woodlands or badger setts) also provide an additional network of suitable but less optimal open spaces for nesting skylark. Skylark plots and other open areas within the PV Arrays, shown in the **Illustrative Landscape Drawings (Doc Ref. 2.7)** and as specified within the Breeding Bird Assemblage section above, have also been included to provide compensatory opportunities for skylark and other ground nesting birds to nest within the PV Array areas by providing open spaces. Use of 'skylark plots' specifically for nesting and the practice of supplying two plots per territory is subject to debate (Morris and Gilroy 2008[68]). However, studies have identified pesticide application as an issue that can reduce the success of these measures; which will not be applicable to the	

Ecological Feature (Valuation)	Potential Impacts	Potential for Significant Effects
	Project. Skylarks are known to nest within arable field tramlines (Morris and Gilroy, 2008) and barley field plots (Odderskær, 1997[69]), as a habitat context with similar constraints. The application of skylark plots as a mitigation tool in combination with other measures set out above is considered appropriate mitigation. The effectiveness of these measures is to be monitored during the operation of the Project as part of the **Outline LEMP (Doc Ref. 7.10)**. The adjacent habitats to the Site will remain in agricultural use. Such habitats are generally limited in their carrying capacity for numbers of nesting skylark by the availability of adjacent optimal foraging habitat (i.e. meadow grassland), Donald et al 2001[70]. In the case of the Project, it is likely that these adjacent arable fields will be able to support greater numbers of nesting skylarks by utilising the PV Array areas for foraging, though a reliable estimate would be difficult to quantify. This may include some dispersion of nesting birds from the Site to adjacent habitats (foraging in the PV Array areas but nesting in adjacent arable habitats). Bird crop strips and grassland enhancement and creation (both within BIAs and the PV Arrays) will increase winter and breeding foraging resources for skylark.	
Bat Assemblage Local (District)	Habitat enhancement, expansion. Medium-term, temporary. The Project will deliver extensive habitat suitable for foraging and commuting bats (woodland, woodland buffer planting trees, hedgerows, grassland, habitat ponds and wetland features) across the BIAs, boundary features and PV Arrays. The BIA in Fields 26 to 29 will enhance an area of over 12 ha of meadow, woodland edge and wetland habitats for foraging and commuting bats. This represents a substantial enhancement on the existing baseline.	Yes (Local, beneficial)
Assumed Hedgehog Population Local (District)	Habitat enhancement, expansion. Medium-term, temporary. Habitat creation and enhancement across Site (including hedgerows and BIAs) will provide suitable foraging, breeding and hibernation habitat for	Yes (Local, beneficial)

Ecological Feature (Valuation)	Potential Impacts	Potential for Significant Effects
	hedgehog and represent a substantial enhancement over the existing baseline.	
Harvest Mouse Local (District)	Habitat enhancement, expansion. Medium-term, temporary. The Project will provide additional breeding and foraging habitats (tussocky grassland, grassy hedgerows and bird crop strips) which will be of net benefit to the harvest mouse population.	Yes (Local, beneficial)
Hazel Dormouse Local (District)	Habitat enhancement, expansion. Medium-term, temporary. The Project will deliver an increase in suitable dormouse habitat (primarily the on-Site hedgerow network) extent, quality and connectivity including over 5km of new species rich hedgerow and reinforcement of over 10km of existing hedgerow.	Yes (Local, beneficial)
Brown Hare Local (District)	Reduced habitat connectivity and availability. Medium-term, reversible. The BIAs and enhancement of the boundary networks will benefit brown hare. PV Arrays will be permeable to brown hare through fence gaps and access gates. To mitigate for the loss of arable habitats, the following specific mitigation measures will be implemented: ▪ BIAs and field margin open meadow and grassland areas throughout the Project, providing provide open areas of differing structure for brown hare to utilise for display and forage; ▪ Hedgerow, scrub and tree planting enhancement to provide a network of extensive shelter and cover; ▪ Planting of boundary bird crop strips along field margins which to provide partial on-Site compensation for the loss of mid-winter arable seed food sources for mammals as well as birds;	Yes (Local, beneficial)

Ecological Feature (Valuation)	Potential Impacts	Potential for Significant Effects
	▪ Planting of diverse grass sward and flower rich mixes which will provide tussocky, meadow areas for foraging and breeding brown hare; and ▪ Skylark plots and other open areas within the PV Array areas to provide variation in habitat structure and topography to provide additional open areas for brown hare. These measures provide an extensive increase in brown hare foraging and breeding habitat quality and connectivity compared to the baseline.	
Otter Local (District)	Habitat enhancement, expansion. Medium-term, temporary. The Project will deliver new habitats and enhancement of existing habitats around the East Stour River (i.e. grassland, wetland scrapes and ponds and trees) which will result in an expansion of the extent and quality of habitats for otter.	Yes (Local, beneficial)

Decommissioning Phase

9.7.13 Decommissioning will involve the removal of built infrastructure constructed as part of the Project (with the exception of elements of Work No. 4 that are within Sellindge Substation, any repairs, upgrades or replacements of/to the existing bridge/riparian drain crossings, PRoW footbridges and highway improvements). Upon decommissioning, the Site will be returned to the control of the landowners.

9.7.14 Effects associated with decommissioning will be broadly similar to those of construction but reduced in extent in terms of disturbance and habitat loss, as only infrastructure is to be removed. It is assumed that ecological features present at the time of decommissioning, including hedgerows and woodland, will be retained (where reasonably practicable) during the decommissioning works. It is expected that any impacts will be mitigated fully in line with legislative requirements in force at the time, including protected species legislation.

9.7.15 Decommissioning effects on are assessed in **Table 1** of **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)** for all designated sites. No significant effects are identified for the decommissioning phase of the Project.

9.7.16 Decommissioning effects on are assessed in **Table 2** of **ES Volume 4, Appendix 9.7: Assessment of Effects (Doc Ref. 5.4)** for habitats and species. No significant effects are identified for the decommissioning phase of the Project.

9.7.17 Under current legislative, policy and statutory body regimes, decommissioning mitigation principles are expected to be broadly as those stated for construction. The **Outline LEMP (Doc Ref. 7.10)** and **Outline DEMP (Doc Ref. 7.12)** includes requirement for pre-decommissioning surveys in a comparable manner to construction but noting the likely requirement for additional mitigation (e.g., securing of additional receptor areas for some species) to be determined by future baseline surveys and the **Outline DEMP (Doc Ref. 7.12)** requires that principles of good practice measures are followed to mitigate and manage decommissioning related effects on biodiversity.

9.8 Additional Mitigation, Monitoring and Enhancement Measures

9.8.1 The Project design incorporates extensive Embedded Mitigation to avoid significant adverse effects on the majority of ecological features. The landscape proposals and operational phase management of the Site (secured through the **Outline LEMP (Doc Ref. 7.10)** and **Outline OMP (Doc Ref. 7.11)**) will also lead to significant beneficial effects as set out in **Section 9.7** 'Assessment of Effects' with monitoring is proposed for ecological features where significant adverse effects are predicted primarily to allow the success of mitigation and enhancement measures over the long term to be assessed.

9.8.2 In order to assess the effectiveness of habitat creation, establishment and any remedial actions needed for habitats or ecological features post-development, ecological monitoring surveys are proposed at a frequency to be reviewed with stakeholders as secured through the **Outline LEMP (Doc Ref. 7.10)**. The monitoring programme, its objectives and remedial actions will be developed with stakeholders and set out in the detailed LEMP(s).

9.8.3 Any additional ecological mitigation to enable the decommissioning phase will be informed by the future ecological surveys secured the **Outline LEMP (Doc Ref. 7.12),** recognising that the baseline condition is likely to change in the future.

9.9 Residual Effects

Construction Phase

9.9.1 As no additional mitigation measures have been identified, the residual effects remain as identified after the implementation of embedded mitigation measures. Accordingly, the significant residual effects on ecological features remain as follows:

- Yellowhammer - Loss of important yellowhammer winter foraging resource and disturbance during construction (potential displacement from noise and human disturbance), which will affect both individual birds and the recorded yellowhammer population for at least one and potentially two

seasons, resulting in a short-term, reversible adverse effect of local significance (significant adverse) upon the yellowhammer population.

- Skylark - Loss of suitable skylark breeding and winter foraging habitat for at least one and potentially two seasons during construction. Given the extent of this loss of nesting opportunity, a short-term, reversible adverse effect of local significance (significant adverse) is predicted.
- Brown Hare - Loss of winter resting and foraging opportunities, and breeding opportunities (through habitat loss and disturbance during construction (potential displacement from noise and human disturbance), for brown hare and deterrence of the species from using the Site for at least one or two seasons whilst construction activities are underway. These effects are expected to be short-term, reversible and of local significance (significant adverse).

Operational Phase

9.9.2 The Project has been designed to retain and enhance existing ecologically valuable habitats within the Site. The landscape and ecological enhancement proposals will deliver an extensive, high quality, connected habitat network across the Site and enhance habitat connectivity across the wider local landscape. The Project will create, enhance and restore hedgerows and field margins and will create extensive areas of botanically diverse grassland and other habitats which will result in a significant habitat improvement over the existing arable baseline.

9.9.3 The Project will result in residual **significant beneficial** effects at a local level for the following ecological features:

- Backhouse Wood LWS;
- Backhouse Wood ancient woodland;
- Notable habitats (River);
- Notable habitats (Pond, Hedgerow, Woodland, Arable Field Margins);
- Notable plants;
- Invertebrate assemblage;
- GCN;
- Common toad;
- Reptiles;
- Wintering bird assemblage;
- Breeding bird assemblage;
- Bat assemblage;
- Assumed hedgehog population;
- Harvest mouse;
- Hazel dormouse;
- Brown Hare; and

- Otter.

9.9.4 The Project will reduce the extent of available nesting habitat available to skylark during the operational phase compared to the existing baseline of arable fields. To mitigate this, the Project design includes skylark plots located throughout the Site that provide alternative nesting provision of higher quality than existing arable and in addition an over 12ha area of grassland and wetland meadow across the Fields 26 - 29 BIA which will benefit skylark.

9.9.5 Mitigation measures for the loss of skylark nesting habitat have been incorporated into the Project as far as possible within the operational requirements. However, there is some uncertainty around successful skylark nesting within the PV Arrays (which will comprise the majority of the Site). The existing arable fields are known to support a population of local significance, therefore the residual effect is assessed as reversible and of local significance (**significant adverse**).

9.9.6 Habitat enhancements across the Site during the operational phase are evidenced through the predicted biodiversity gains reported within the **BNG Assessment (Doc Ref. 7.1)**. The **BNG Assessment (Doc Ref. 7.1)** based on the **Illustrative Landscape Drawings (Doc Ref. 2.7)** indicates that the Project could deliver habitat unit gains of 186.65%, hedgerow unit gains of 36.28% and river unit gains of 15.24%. A biodiversity design strategy which will provide details of how the landscape and biodiversity enhancement works provided as part of the authorised development will comply with the biodiversity net gain requirement (to secure biodiversity net gain during the operation of the authorised development of at least 100% for habitat units, at least 10% for hedgerow units and at least 10% for river units, calculated using the statutory biodiversity metric published by the Department for Environment, Food & Rural Affairs on 12 February 2024) is secured by a Requirement of the **Draft Development Consent Order (Doc Ref 3.1)**.

Decommissioning Phase

9.9.7 No significant adverse effects on ecological features are predicted during the decommissioning phase of the Project.

9.9.8 Residual effects associated with habitat creation are likely to extend beyond the Project's operational lifespan, although this cannot be assessed with certainty as the Site will be returned to the control of the landowner.

9.10 Cumulative Effects

9.10.1 An assessment of cumulative effects has been made with reference to the methodology and guidance set out in **ES Volume 2, Chapter 6: EIA Methodology (Doc Ref. 5.2)** and **ES Volume 4, Appendix 6.1: List of Cumulative Schemes (Doc Ref. 5.4)**.

9.10.2 The Project includes sufficient avoidance and retention of ecological features and the creation of extensive areas of new habitat. In combination with other mitigation and enhancement measures (described in **Section 9.8** of this Chapter) the impacts and effects on ecological receptors have been minimised or avoided.

9.10.3 The long list of cumulative schemes as set out in **ES Volume 4, Appendix 6.1: List of Cumulative Schemes (Doc Ref. 5.4)** were reviewed for potential overlapping spatial and temporal interactions with the Project. Where these potential overlapping interactions of ecological receptors was likely to occur, the relevant ecological receptors were identified and the cumulative scheme was taken forward for cumulative assessment.

9.10.4 There is limited potential for inter-project cumulative effects where the Project has a negligible effect, so this assessment of cumulative effects has focused on assessed effects of local significance (or above) as reported in **Section 9.7** 'Assessment of Effects'.

9.10.5 The schemes identified in **ES Volume 4, Appendix 9.8: Cumulative Assessment (Doc Ref. 5.4)**, were considered to have the potential to interact cumulatively with the Project have followed good design principles to minimise and avoid significant effects on ecological receptors and all avoid spatial and temporal interaction with the Project. The Project is therefore not considered to have a significant adverse effect on ecological receptors in combination (cumulatively) with other schemes during all phases of the Project. The detailed cumulative assessment is provided within **ES Volume 4, Appendix 9.8: Cumulative Assessment (Doc Ref. 5.4)**.

Residual Effects

9.10.6 Overall, the cumulative schemes assessed to have potential to interact adversely with the Project incorporate sufficient mitigation within that scheme to avoid significant effects and thus interaction with Project adverse effects. The Project is therefore unlikely to have a significant adverse effect on important ecological features in combination (cumulatively) with other schemes.

9.10.7 Where cumulative schemes are assessed to have potential to interact beneficially with the Project, they do contribute overall to local habitat extent, quality and connectivity for a limited number of ecological features but not to the extent to increase the predicted geographic level of significance of these effects.

9.11 Summary

9.11.1 An overview of the potential for significant effects for each ecological feature is provided in **Table 9.15** which highlights where any residual significant effect is predicted (adverse or beneficial) following Embedded Mitigation and any additional mitigation.

9.11.2 During the 12-month construction phase, three adverse effects of local significance (significant in EIA terms) have been identified, being local effects on yellowhammer, skylark and brown hare. These are short-term, reversible effects.

9.11.3 During the 40-year operational phase:

- One adverse effect of local significance (significant in EIA terms) has been identified on skylark due to the removal of arable monoculture cropland.

The Project includes mitigation but there is some uncertainty around successful skylark nesting within PV Arrays and therefore a worst-case assumption has been taken in the assessment, in line with EIA requirements.

- Seventeen beneficial effects of local significance (all significant in EIA terms) have been identified, including on Backhouse Wood LWS, Backhouse Wood ancient woodland, notable habitats and plants and a range of protected and priority species including GCN, reptiles, wintering and breeding birds and brown hare.

9.11.4 No significant effects have been identified during decommissioning. Residual beneficial effects are likely to extend beyond the Project's operational lifespan, although these cannot be assessed with certainty as the Site will be returned to the control of the landowner.

9.11.5 Habitat enhancements associated with the Project will result in a biodiversity net gain of at least 100% for habitat units, and at least 10% for hedgerow and river units and a biodiversity design strategy is secured by Requirement of the **Draft Development Consent Order (Doc 3.1)** which will provide details of how the landscape and biodiversity enhancement works provided as part of the authorised development will comply with the biodiversity net gain requirement.

9.11.6 In overall terms, the Project clearly results in an improved biodiversity outcome relative to the current baseline position.

Table 9.15: Summary of Potential for Residual Significant Effects

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Construction Phase				
Stodmarsh designated site complex	Nutrient effects Medium-term, reversible	Negligible adverse (non-significant	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)
Wye and Crundale Downs SAC	Air quality Medium-term, reversible	Negligible adverse (non-significant	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)
Folkestone to Etchinghill Escarpment SAC and SSSI	Air quality Medium-term, reversible	Negligible adverse (non-significant	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)
Dungeness SAC	Air quality, water pollution	No effect	None required	No effect
Dungeness Romney Marsh and Rye Bay Ramsar and SPA	Functionally linked land, water pollution Medium term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)
Hatch Park SSSI	Air quality, water pollution Medium term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Poulton Wood LNR	Air quality Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)
Backhouse Wood LWS	Damage, air quality, noise, dust deposition, water pollution, flooding Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)
Aldington Woods LWS	Air quality. Medium term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)
Bilsington Woods and Pasture LWS	Air quality, water pollution.	No effect	None required	No effect
Aldington Sandpit LWS	Air quality, noise, dust, light deposition, water pollution. Medium term, reversible.	Negligible adverse (non-significant	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)
Backhouse Wood ancient woodland:	Damage, air quality, noise, dust deposition, water pollution, flooding Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant
Other ancient woodlands including Poulton Wood ancient woodland and Handen	Air quality, water pollution Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Wood ancient woodland				
Veteran trees	Damage Permanent	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Habitat of Principal Importance: River (East Stour River)	Water quality, dust, light, vibration, damage Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Other Habitats of Principal Importance: (pond, hedgerow, woodland, arable field margins)	Air quality, water quality, light, dust, noise, vibration damage, destruction Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Notable plants	Loss, damage Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Notable fungi assemblage	Loss, damage Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Notable invertebrate assemblage	Loss or damage of habitat Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Great crested newt	Physical harm, disturbance Long-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Damage or destruction of habitat Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Common toad	Physical harm, disturbance Long-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Damage, destruction of habitat Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Reptiles	Physical harm Long-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
	Damage, destruction of habitat Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Wintering bird assemblage including Schedule 1 species (excluding yellowhammer and skylark)	Loss of habitat, disturbance (noise, human disturbance, lighting) Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Breeding bird assemblage including Schedule 1 species (excluding yellowhammer, skylark and Schedule 1 species)	Destruction, damage and disturbance (noise, human disturbance, lighting) of nests. Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Yellowhammer	Loss of habitat Short-term, reversible	Local adverse (significant)	Monitoring throughout operation phases and habitat management adjustments if required Further mitigation not feasibly possible	Local adverse (significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Skylark	Loss of habitat Short-term, reversible	Local adverse (significant)	Monitoring throughout operation phases and habitat management adjustments if required. Further mitigation not feasibly possible	Local adverse (significant)
Bat assemblage	Habitat damage, disturbance (lighting, noise, vibration) Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Physical harm Long-term, and reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Assumed hedgehog population	Habitat loss / damage Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Physical harm Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Harvest mouse	Habitat loss / damage Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
	Physical harm. Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Hazel dormouse	Physical harm, disturbance (noise, lighting, vibration) Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Loss / damage of habitat Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Brown hare	Habitat loss and disturbance (noise, human activity, lighting), displacement of species Short-term, reversible	Local adverse (significant)	Monitoring throughout operation phases and habitat management adjustments if required. Further mitigation not feasibly possible	Local adverse (significant)
Badger	Physical harm of badgers / setts, disturbance (noise, vibration, lighting) Medium - term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Otter	Disturbance (noise, human activity, lighting, vibration) Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
	Physical harm Medium-term, likely reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Invasive non-native species	Spread, reducing diversity of on-Site habitats Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Operational Phase				
Stodmarsh designated site complex	Nutrient effects Medium-term, reversible	Negligible adverse (non-significant	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant
Wye and Crundale Downs SAC	Air quality through operation or site maintenance	No effect	None required	No effect
Folkestone to Etchinghill Escarpment SAC and SSSI	Air quality through operation or site maintenance	No effect	None required	No effect
Dungeness SAC	Air quality, water pollution through operation or site maintenance	No effect	None required	No effect
Dungeness Romney Marsh and Rye Bay Ramsar and SPA	Air quality, water pollution through operation or site maintenance	No effect	None required	No effect

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Hatch Park SSSI	Air quality, water pollution through operation or site maintenance	No effect	None required	No effect
Poulton Wood LNR	Air quality, dust through operation or site maintenance	No effect	None required	No effect
Backhouse Wood LWS	Buffering and diversification of habitat, reduction of pollution (in comparison to existing agriculture uses at the Site) Medium-term, temporary	Local beneficial (significant)	None required	Local beneficial (significant)
	Loss, damage through inappropriate habitat management or site maintenance	No effect	None required	No effect
Aldington Sandpit LWS	Loss, damage through inappropriate habitat management or site maintenance	No effect	None required	No effect
Aldington Woods LWS	Air quality, dust through operation or site maintenance	No effect	None required	No effect
Bilsington Woods and Pasture LWS	Air quality, water pollution through operation or site maintenance	No effect	None required	No effect
Backhouse Wood ancient woodland	Buffering and diversification of habitat, reduction of pollution (in comparison to existing agriculture uses at the Site)	Local beneficial (significant)	None required	Local beneficial (significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
	Medium-term, temporary			
	Loss, damage through inappropriate habitat management or site maintenance	No effect	None required	No effect
Other ancient woodlands including Poulton Wood ancient woodland and Handen Wood ancient woodland	Air quality, dust through operation or site maintenance.	No effect	None required	No effect
Veteran trees	Damage through inappropriate habitat management or site maintenance Permanent	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Habitat of Principal Importance: River (East Stour River)	Buffering and expansion of habitat, reduction of pollution (in comparison to existing agriculture uses at the Site Medium-term, temporary	Local beneficial (significant)	None required	Local beneficial (significant)
	Damage or disturbance through inappropriate habitat management or site maintenance Medium-term, temporary	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Other Habitats of Principal Importance (pond, hedgerow, woodland, arable field margins)	Buffering, enhancement and expansion of habitat, reduction of pollution (in comparison to existing agriculture uses at the Site) Medium-term, temporary	Local beneficial (significant)	None required	Local beneficial (significant)
	Loss, damage through inappropriate habitat management or site maintenance Medium-term, temporary	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Notable plants	Buffering, enhancement and expansion of habitat, reduction of pollution (in comparison to existing agriculture uses at the Site) Medium-term, temporary	Local beneficial (significant)	None required	Local beneficial (significant)
	Loss, damage through inappropriate habitat management or site maintenance Medium-term, temporary	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Notable fungi	Loss, damage through inappropriate habitat management or site maintenance Medium-term, temporary	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Notable invertebrate assemblage	Habitat enhancement, expansion and diversification Medium-term, temporary	Local beneficial (significant)	None required	Local beneficial (significant)
Great crested newt	Habitat damage, physical harm, disturbance Medium-term, reversible	Negligible adverse (not significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Habitat enhancement, expansion Medium-term, temporary	Local beneficial (significant)	None required	Local beneficial (significant)
Common toad	Habitat damage, physical harm Medium-term, reversible	Negligible adverse (not significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Habitat enhancement, expansion Medium-term, temporary	Local beneficial (significant)	None required	Local beneficial (significant)
Reptiles	Habitat damage, physical harm Medium-term, reversible	Negligible adverse (not significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Habitat enhancement, expansion Medium-term, temporary	Local beneficial (significant)	None required	Local beneficial (significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Wintering bird assemblage including Schedule 1 species (excluding yellowhammer and skylark)	Habitat enhancement, expansion Medium-term, temporary	Local beneficial (significant)	None required	Local beneficial (significant)
	Lighting, noise, habitat damage Medium-term, reversible.	Negligible adverse (not significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Breeding bird assemblage including Schedule 1 species (excluding yellowhammer and skylark)	Habitat damage, physical harm, disturbance Medium-term, reversible	Negligible adverse (not significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Habitat enhancement, expansion Medium-term, temporary	Local beneficial (significant)	None required	Local beneficial (significant)
Yellowhammer	Sustained depletion of local food and habitat resource Long-term, reversible	Negligible adverse (not significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Skylark	Reduction in open habitat suitable for nesting Medium-term, reversible	Local adverse (significant)	Monitoring throughout operation phases and habitat management adjustments if required. Further mitigation not feasibly possible	Local adverse (significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Bat assemblage	Habitat damage, physical harm, disturbance Long-term, reversible	Negligible adverse (not significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Light-driven disturbance Medium-term, reversible	Negligible adverse (not significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Habitat enhancement, expansion Medium-term, temporary	Local beneficial (significant)	None required	Local beneficial (significant)
Assumed hedgehog Population	Habitat damage, physical harm Medium-term, reversible	Negligible adverse (not significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Habitat enhancement, expansion Medium-term, temporary	Local beneficial (significant)	None required	Local beneficial (significant)
Harvest mouse	Habitat damage, physical harm Medium-term, reversible	Negligible adverse (not significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Habitat enhancement, expansion Medium-term, temporary	Local beneficial (significant)	None required	Local beneficial (significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Hazel dormouse	Habitat damage, physical harm, disturbance Medium-term, reversible	Negligible adverse (not significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Habitat enhancement, expansion Medium-term, temporary	Local beneficial (significant)	None required	Local beneficial (significant)
Brown hare	Reduced habitat connectivity and availability. Medium-term, reversible.	Local beneficial (significant)	None required, addressed through Embedded Mitigation	Local beneficial (significant)
	Habitat damage, physical harm, disturbance. Medium-term, reversible	Negligible adverse (not significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Badger	Habitat damage, physical harm, disturbance Medium-term, reversible	Negligible adverse (not significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Habitat enhancement, expansion Medium-term, temporary	Negligible beneficial (not significant)	None required	Negligible beneficial (not significant)
Otter	Habitat damage, physical harm, disturbance Long-term, reversible	Negligible adverse (not significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
	Habitat enhancement, expansion Medium-term, temporary	Local beneficial (significant)	None required	Local beneficial (significant)
Invasive non-native species	Spread, reducing diversity of on-Site habitats Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Decommissioning Phase				
Stodmarsh designated site complex	Nutrient effects Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)
Wye and Crundale Downs SAC	Air quality Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)
Folkestone to Etchinghill Escarpment SAC and SSSI	Air quality Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)
Dungeness SAC	Air quality, water pollution	No effect	None required	No effect
Dungeness Romney Marsh and Rye Bay Ramsar and SPA	Functionally linked land, water pollution Medium term, reversible.	Negligible adverse	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
		(non-significant)		
Hatch Park SSSI	Air quality, water pollution Medium term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)
Poulton Wood LNR	Air quality Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)
Backhouse Wood LWS	Damage, air quality, noise, dust deposition, water pollution, flooding	No effect	None required	No effect
Aldington Sandpit LWS	Air quality, water pollution Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)
Aldington Woods LWS	Air quality Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (non-significant)
Bilsington Woods and Pasture LWS	Air quality, water pollution	No effect	None required	No effect
Backhouse Wood ancient woodland	Damage, air quality, noise, dust deposition, water pollution, flooding	No effect	None required	No effect

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Other ancient woodlands including Poulton Wood ancient woodland and Handen Wood ancient woodland	Air quality, water pollution Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Veteran trees	Damage Permanent	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Habitat of Principal Importance: River (East Stour River)	Water quality, light, dust, noise, vibration damage or disturbance Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Other Habitats of Principal Importance (pond, hedgerow, woodland, arable field margins)	Air quality, water quality, light, dust, noise, vibration damage, destruction Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant),
Notable plant species	Loss, damage Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Notable fungi species	Loss, damage Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Notable invertebrate assemblage	Loss, damage of habitat Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Great Crested Newt	Physical harm, disturbance, habitat damage Long-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Common toad	Physical harm, disturbance, habitat damage Long-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Reptiles	Physical harm, disturbance, habitat damage Long-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Wintering bird assemblage including Schedule 1 species (excluding yellowhammer and skylark)	Loss or damage of habitat, disturbance Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Breeding bird assemblage including Schedule 1 species (excluding yellowhammer and skylark)	Destruction and disturbance of nests. Disturbance of Schedule 1 nesting species Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Loss or damage of habitat Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Yellowhammer	Loss of habitat Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Skylark	Loss of habitat Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Bat assemblage	Light-driven disturbance Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Habitat loss or damage, disturbance Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Assumed hedgehog population	Habitat loss, damage, physical harm, Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Harvest mouse	Physical harm Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Habitat loss Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Hazel dormouse	Physical harm, disturbance Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Habitat loss (e.g. minor scrub loss) Permanent	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Brown hare	Physical harm, disturbance Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Habitat loss, damage Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Badger	Physical harm of badgers / setts, disturbance. Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Habitat loss, damage Medium-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
Otter	Physical harm, Medium-term, likely reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)
	Disturbance Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)

Receptor	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/ Enhancement measure	Residual effect after mitigation
Invasive non-native species	Spread, reducing diversity of on-Site habitats. Short-term, reversible	Negligible adverse (non-significant)	None required, addressed through Embedded Mitigation	Negligible adverse (not significant)

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