



OAKLANDS FARM SOLAR PARK

Applicant: Oaklands Farm Solar Ltd

Environmental Statement

Appendix 6.15 – Important Hedgerow Assessment

January 2024

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Oaklands Farm Solar Park - Environmental Statement Volume 3

Appendix 6.15: Important Hedgerow Assessment

Final report

Prepared by LUC

January 2024

Oaklands Farm Solar Limited

Oaklands Farm Solar Park Technical Appendix 6.15: Important Hedgerow Assessment

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Chapter 1

Introduction

Terms of Reference

1.1 In April 2021, LUC was appointed by Oaklands Farm Solar Limited to provide ecological support to inform an application to construct and operate Oaklands Farm Solar Park, a proposed solar photovoltaic (PV) electricity generating facility, hereafter referred to as 'the Proposed Development'.

1.2 This report forms a Technical Appendix, which has informed an Ecological Impact Assessment (EclA) as part of the Environmental Statement (ES), in support of a development consent application for the Proposed Development.

1.3 This report has been prepared for the exclusive use of Oaklands Farm Solar Limited. No part of this report should be considered as legal advice.

This report relates to Oaklands Farm and land within the grid cable route, including Park Farm, Fairfield Farm, and Drakelow Power Station, hereafter referred to as 'the Site'.

Scope of Report

1.4 The scope of this report is to present an assessment of hedgerows proposed to be impacted by the Proposed Development, against the criteria set out in the Hedgerow Regulations 1997¹. The aim is to identify any hedgerows determined to be 'important' under this criteria.

¹ Hedgerow Regulations 1997. Available at: <https://www.legislation.gov.uk/ukxi/1997/1160/contents/made>
[Accessed 29/09/23]

1.5 This report presents the baseline survey findings of the Important Hedgerow Assessment, including mitigation requirements, and provision of appropriate enhancements.

1.6 The assessment has focussed on the hedgerows that will be subject to impacts from the Proposed Development. Impacts include the removal of hedgerow to allow for visibility splays along Coton Road, and localised removal to accommodate access tracks within the Site.

Site Description

1.7 The Site boundary is located to the east of Walton-on-Trent in South Derbyshire (OS Central Grid Reference: SK 23456 17577). The Site boundary comprises land within Oaklands Farm, Park Farm and Fairfield Farm land-holdings, which are currently used for arable crop production and grazing, and Drakelow National Grid Substation in the north.

1.8 The wider area comprises a mosaic of agricultural and pastoral land and woodland with Rosliston Forestry Centre located approximately 0.7km to the east and the River Trent located approximately 1.7km to the west of the Site boundary.

Proposed Development Description

1.9 The Proposed Development comprises a solar farm with an associated Battery Energy Storage System. It would have a generating capacity of over 50MW and would be situated on 191 hectares of land at Oaklands Farm to the south-east of Walton-on-Trent and to the west of Rosliston in south Derbyshire. The solar farm itself, comprising photovoltaic panel arrays, a central electricity substation and Battery Energy Storage System together with access, landscaping and other works would be located on 135 hectares of agricultural land currently in use for arable production and grazing. A high voltage underground electricity cable would then run through land at Fairfield Farm and Park Farm to the north to connect the solar farm to the national grid via an electricity substation located at the former Drakelow Power Station which sits south of Burton-upon-Trent.

Policy and Legal Considerations

1.10 This baseline report has been prepared in cognisance of relevant legislation and policy. Further detail is provided in **Appendix A**; however, the following primary documents are of relevance:

- The Wildlife and Countryside Act of 1981² (WaCA).
- The Countryside and Rights of Way Act 2000³ (CRoW Act).
- The Natural Environment and Rural Communities Act 2006 (NERC Act)⁴.
- The Conservation of Habitats and Species Regulations 2017⁵.
- The Protections of Badgers Act 1992⁶.
- Hedgerow Regulations 1997¹.
- The National Planning Policy Framework (2023)⁷.
- South Derbyshire District Local Plan Part 1 (Adopted June 2016)⁸.

² The Wildlife and Countryside Act (1981). Available at: <https://www.legislation.gov.uk/ukpga/1981/69>. [Accessed 29/09/23]

³ The Countryside and Rights of Way Act (CRoW Act), (2000). Available at: <https://www.legislation.gov.uk/ukpga/2000/37/contents> [Accessed 29/09/23]

⁴ The Natural Environment and Rural Communities Act (2006). Available at: <https://www.legislation.gov.uk/ukpga/2006/16/contents> [Accessed 29/09/23]

⁵ The Conservation of Habitats and Species Regulations (2017). Available at: <https://www.legislation.gov.uk/uksi/2017/1012/contents/made> [Accessed 29/09/23]

⁶ The Protections of Badgers Act (1992). Available at: <https://www.legislation.gov.uk/ukpga/1992/51/contents> [Accessed 29/09/23]

⁷ Department for Levelling Up, Housing and Communities 2023) The National Planning Policy Framework. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Accessed 29/09/23]

⁸ South Derbyshire District Council (2016) Local Plan Part 1 (Adopted June 2016). Available at: <https://www.southderbyshire.gov.uk/our-services/planning-and-building-control/planning/planning-policy/local-plan/adopted-local-plan> [Accessed 29/09/23]

- Department for Energy and Climate Change. 2011. Overarching National Policy Statement for Energy (EN-1)⁹ and Draft NPS EN-1 for designation dated 2023¹⁰.
- Department for Energy and Climate Change. 2011. National Policy Statement for Renewable Energy Infrastructure (EN-3)¹¹ and Draft NPS EN-3 for designation dated 2023¹².
- Department for Energy and Climate Change. 2011. National Policy Statement for Electricity Networks Infrastructure (EN-5)¹³ and Draft NPS EN-5 for designation dated 2023¹⁴.

1.11 Further to this, it should be noted that in September 2023, South Derbyshire District Council declared an ecological emergency in response to the ongoing threat to wildlife and ecosystems.

Status of Hedgerows at National and County Level

1.12 In addition to the protections afforded to hedgerows under the Hedgerow Regulations, hedgerows are a National Priority Habitat due to providing key semi-natural habitats and biodiversity within the landscape.

⁹ Department for Energy and Climate Change (2011) Overarching National Policy Statement for Energy. Available at: <https://assets.publishing.service.gov.uk/media/5a79522de5274a2acd18bd53/1938-overarching-nps-for-energy-en1.pdf> [Accessed 29/09/23]

¹⁰ Department for Energy Security and Net Zero (2023) Draft Overarching National Policy Statement for Energy (EN-1). Available at: <https://assets.publishing.service.gov.uk/media/655dc190d03a8d001207fe33/overarching-nps-for-energy-en1.pdf> [Accessed 16/01/24]

¹¹ Department for Energy and Climate Change (2011) National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: <https://assets.publishing.service.gov.uk/media/5a79c422e5274a684690bf53/1940-nps-renewable-energy-en3.pdf> [Accessed 29/09/23]

¹² Department for Energy Security and Net Zero (2023) Draft National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: <https://assets.publishing.service.gov.uk/media/655dc352d03a8d001207fe37/nps-renewable-energy-infrastructure-en3.pdf> [Accessed 16/01/24]

¹³ Department for Energy and Climate Change (2011) National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: <https://assets.publishing.service.gov.uk/media/5a74877840f0b61938c7e2d9/1942-national-policy-statement-electricity-networks.pdf> [Accessed 29/09/23]

¹⁴ Department for Energy Security and Net Zero (2023) Draft National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: <https://assets.publishing.service.gov.uk/media/655dc25e046ed400148b9dca/nps-electricity-networks-infrastructure-en5.pdf> [Accessed 16/01/24]

1.13 Previous legislation included hedgerows within the UK Biodiversity Action Plan¹⁵ habitats. However, hedgerows are now listed under Sections 41 and 42 of the NERC Act⁴ as habitats of ‘principal importance’. The list is for:

- Public bodies – to help them meet their ‘biodiversity duty’ to be aware of biodiversity conservation in their policy or decision making
- Landowners – to inform their nature recovery planning, action and funding applications
- Funding bodies – to support suitable nature recover

1.14 Despite the now historic use of UK BAP, many local plans retain aspects of the categorisation, targeting Priority Habitats within the local BAP area. At county level, hedgerows are included as a Priority Habitat under the Lowland Derbyshire Biodiversity Action Plan⁸. Within the local landscape, hedgerows are predominantly dominated by hawthorn and enclose arable fields.

¹⁵ UK Biodiversity Action Plan; Priority Habitat Descriptions. BRIG (ed. Ant Maddock) (2008)

Chapter 2

Methodology

Desk Study

2.1 To provide additional background and to highlight likely features or species groups of interest, a study of available biological records was undertaken to identify sites designated for their nature conservation value, and existing records of protected or notable species of relevance to the Site. A search of the following resources was undertaken, within a 2km radius from the Site boundary:

- Derbyshire Biological Records Centre (DBRC);
- Multi-Agency Geographical Information for the Countryside (MAGIC)¹⁶;
- Ordnance Survey (OS) mapping; and
- Aerial photography.

2.2 The search area was extended to 5km for Sites of Special Scientific Interest (SSSI), 15km for European designated sites and 20km for European designated sites designated for supporting bat species.

2.3 The full detail of the desk study is reported separately within **Appendix 6.5: Phase 1 Habitat Survey Report** in Volume 3 of the ES.

2.4 All hedgerows were individually numbered for reference within the Tree Retention and Removal Plan, reported separately within **Appendix 6.14: Arboricultural Survey Report** in Volume 3 of the ES. The hedgerows on Site are shown within the Phase 1 Habitat Map, presented in **Figure 6.5.1a and 6.5.1b**, reproduced in **Appendix B**.

2.5 To inform the assessment of the hedgerows with regards to their historic significance, the following sources were referenced during the desk study:

¹⁶ Natural England (2021) MAGIC Map. Available at: <https://magic.defra.gov.uk>

- Walton-on-Trent Tithe Map¹⁷;
- Rosliston Tithe Map¹⁸;
- Derbyshire and Staffordshire Historic Environment Records (HER); and
- Aerial photography.

Study Area

2.6 The study area consisted of the hedgerows proposed to be impacted by the Proposed Development. Hedgerows assessed are shown on **Figures 6.15a and 6.15b** in **Appendix B**. The following hedgerows were assessed; H2, H25, H28, H41 north, H44 east, H45, H50 north, H53, H66, H70, H79, H87, H89 north and H89 south.

Hedgerow assessment

2.7 Under the Hedgerow Regulations hedgerows are required to be assessed against the ecological and heritage criteria set out therein to determine if the hedgerow is an 'important hedgerow' and the provisions in the Hedgerows Regulations apply. These criteria are detailed below.

Assessment Against Ecological Criteria

2.8 Hedgerows were assessed in accordance with the methods detailed in the Hedgerow Survey Handbook¹⁹. All 'essential assessment elements' were recorded, in addition to relevant 'optional assessment elements' for native species-rich hedgerows.

2.9 Hedgerows were assessed either along their full length, if under 30 metres, or if exceeding this length, along 30m samples. Survey forms from the Hedgerow Survey Handbook were completed, with the following data collected:

¹⁷ National Archives Reference ID: IR 30/8/220

¹⁸ National Archives Reference ID: IR 30/8/176

¹⁹ Defra (2007). Hedgerow Survey Handbook. Available at:

https://www.hedgelink.org.uk/cms/cms_content/files/89_hedgerow-survey-handbook.pdf

- Hedgerow type;
- Length and number of connections;
- Adjacent land use;
- Associated features;
- Undisturbed ground;
- Nutrient enrichment ground flora indicator species;
- Recently introduced non-native species;
- Hedgerow shape and dimensions;
- Hedgerow integrity;
- Any isolated hedgerow trees; and
- Woody species present.

2.10 The results of the field surveys and Importance Assessment are detailed within **Chapter 3** of this report.

2.11 In order to determine whether a hedgerow qualifies as an important hedgerow under the Hedgerow Regulations²¹, associated features²⁰ were also assessed. Hedgerows are considered important under the Regulations if they are 30 years old or more, and they satisfy at least one of the criteria detailed within Schedule 1 Part 2 of the Hedgerow Regulations.

Assessment Against Historical Criteria

2.12 The hedgerows were assessed for their historic significance in accordance with the criteria set out by the Hedgerow Regulations 1997²¹ which are presented in Appendix A. Eleven

²⁰ Associated features comprise the following: bank or wall; ditch; parallel hedgerow within 15m; total gaps less than 10% of length; 1 standard tree if less than 50m length; 2 standard trees if 50-100m length; average 1 standard tree every 50m for more than 100m length; 3 woodland species within 1m of edge; and 4 points worth of connections.

²¹ See The Hedgerows Regulations 1997. Available at:

<https://www.legislation.gov.uk/uksi/1997/1160/contents/made> (Accessed 30/10/2023)

hedgerows, the alignment of which predates 1845, met at least one of the criteria that labelled them as historically significant:

- H25 – Part of a pre-1845 field system;
- H28 – Part of a pre-1845 field system;
- H41 north – Part of a pre-1845 field system;
- H44 east – Part of a pre-1845 field system;
- H45 – Part of a pre-1845 field system and boundary of a barn enclosure (no longer extant);
- H50 north – Part of a pre-1845 field system;
- H53 – Part of a pre-1845 field system;
- H66 – Part of a pre-1845 field system;
- H70 – Part of a pre-1845 field system;
- H79 – Part of pre-1850 parish boundary;
- H87 – Parish boundary and part of a pre-1845 field;
- H89 north – Part of pre-1850 parish boundary; and
- H89 south – Marks the boundary of a pre-1600 estate or manor.

Survey Constraints

General Limitations

2.13 Ecological surveys provide information regarding the ecological baseline of a Site for only a ‘snapshot’ of time. If significant time lapses between the surveys and the further development or implementation of proposals, updated ecological surveys may be required to identify any change in the baseline, such as natural succession of habitats, or local extinction or colonisation of species. Therefore, if a year lapses between the progressions of development proposals, it is

recommended that ecological advice is sought regarding the applicability of the survey findings, in cognisance of advice given by CIEEM on the lifespan of ecological reports and surveys²².

2.14 The hedgerows assessed were identified from the proposals within the Tree Retention and Removal Plan at the time of appraisal. If subsequent changes to the proposals result in an impact on additional hedgerows, further surveys and an updated assessment may be required.

Timing Limitations

2.15 The surveys were completed on 6th September 2023, and 28th to 29th November 2023. Although this is outside of the optimal timing of June to July¹⁹, it is not considered to impact the overall conclusions due to longer than usual period of warmer weather at the time of the September survey, meaning many species were still in leaf and flower, and easily identifiable. In addition, the assessment was supported by survey data collected as part of the Phase 1 Habitat Survey Report (ES **Appendix 6.5: Phase 1 Habitat Survey Report**), which was completed during the optimal period.

²² CIEEM (2019). *Advice Note: On the Lifespan of Ecological Reports and Surveys*. Winchester: Chartered Institute for Ecology and Environmental Management.

Chapter 3

Results

Desk Study

Ecological Considerations

3.1 No statutory or non-statutory designated sites were identified adjacent to or in close proximity to the hedgerows included within this assessment. Therefore, the hedgerows are not additionally protected through being located within a statutory or non-statutory designated site.

3.2 Full details of the review of biological records are provided in ES **Appendix 6.5: Phase 1 Habitat Survey Report**.

Historic Considerations

3.3 No designated assets were identified adjacent to or within close proximity of the hedgerows which are included within this assessment. Nor do the hedgerows form part of the setting for any designated or non-designated heritage assets which may cause further statutory protection.

Field Assessment

3.4 A total of 14 hedgerows were assessed due to the impact on them from the Proposed Development. Nine assessed hedgerows were considered to be species-rich, three hedgerows were considered to be intact species-poor, one hedgerow was identified as defunct species-poor, and one hedgerow was considered species-poor with trees. The results of all hedgerows assessed are present within **Table 3.1**, with those deemed to be important detailed within **Table 3.2**.

3.5 In order to be classified as an 'important' hedgerow under the Regulations, a hedgerow must be at least 30 years old and satisfy at least one of the eight criteria within Schedule 1 of the Regulations. Further detail is summarised within **Appendix A**.

Table 3.1: Surveyed Hedgerows

Hedgerow number	H2	H25	H28	H41 north	H44 east	H45	H50 north	H53	H66	H70	H79	H87	H89 north	H89 south
Important under criteria of the Hedgerow Regulations ¹	No ²³	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Species-rich	No	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
(a) A bank or wall which supports the hedgerow along at least half of its length	No	No	No	No	No	No	No	No	No	No	No	No	No	No
(b) Gaps which aggregate do not exceed 10% of length of hedgerow	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
(c) Where the length of the hedgerow does not exceed 50m, at least one standard tree	N/A ²⁴	N/A ²⁴	N/A ²⁴	N/A ²⁴	N/A ²⁴	N/A ²⁴	N/A ²⁴	N/A ²⁴	N/A ²⁴	N/A ²⁴	N/A ²⁴	N/A ²⁴	N/A ²⁴	Yes

²³ The assessment for H2 was constrained by the age of the historic maps available at the time of the assessment. As the earliest map available was 1884, it was confirmed that the hedgerow was older than 30 years, but it could not be determine whether it was part of a pre-1850 parish boundary or pre-1845 field system.

²⁴ Criteria Not Applicable due to hedgerow length outside this range

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Hedgerow number	H2	H25	H28	H41 north	H44 east	H45	H50 north	H53	H66	H70	H79	H87	H89 north	H89 south
(d) Where the length of the hedgerow exceeds 50m but does not exceed 100m, at least 2 standard trees	N/A ²⁴	Yes	Yes	N/A ²⁴	N/A ²⁴	N/A ²⁴	N/A ²⁴	N/A ²⁴	No	N/A ²⁴	N/A ²⁴	N/A ²⁴	N/A ²⁴	N/A ²⁴
(e) Where the length of the hedgerow exceeds 100m, such number of standard trees (within any part of its length) as would when averaged over its total length amount at least one for each 50m	No	N/A ²⁴	N/A ²⁴	No	No	No	No	No	N/A ²⁴	No	Yes	No	Yes	N/A ²⁴
(f) At least 3 woodland species (listed in Schedule 2 of the Regulations ¹) within one metre, in any direction, of the outermost edges of the hedgerow	No	Yes	No	No	No	No	No	No	No	No	No	Yes	No	No
(g) A ditch along at least one half of the length of the hedgerow	No	Yes	No	No	No	No	Yes	No	No	No	No	Yes	Yes	No

Hedgerow number	H2	H25	H28	H41 north	H44 east	H45	H50 north	H53	H66	H70	H79	H87	H89 north	H89 south
(h) Connections scoring 4 points or more. In accordance with sub-paragraph (5), of Part II, Schedule 1 of the Regulations ¹	No	No	No	No	No	No	No	No	No	No	No	No	No	No
(i) A parallel hedge within 15m of the hedgerow	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	No	No	No
Hedge older than 30 years?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Does hedge currently support or have desk study records of spp protected in Schedules 1, 5 or 8 of the The Wildlife and Countryside Act ² (WaCA), or Red Data Bird species ²⁵ for 2007 to date.	No	No	No	No	No	No	No	No	No	No	No	No	No	No ²⁶

²⁵ Species categorised as a declining breeder (Category 3), within *Red Data Birds in Britain* (1990), Batten LA, Bibby CJ, Clement P, Elliott GD and Porter RF, for the Nature Conservancy Council and the Royal Society for the Protection of Birds.

²⁶ Badger were noted to be supported within H89 south, which although not listed within the WaCA, are protected under the Protection of Badgers Act 1992. The exact location of this record is to be kept confidential.

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Hedgerow number	H2	H25	H28	H41 north	H44 east	H45	H50 north	H53	H66	H70	H79	H87	H89 north	H89 south
Does the hedge include at least 7 woody species (from Schedule 3 of the Regulations ¹ and listed in Appendix A)	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Does the hedge include at least 6 woody species (from Schedule 3 of the Regulations ¹) + 3 features in Appendix A (a-i in this table)	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Does the hedge include at least 6 woody species (from Schedule 3 of the Regulations ¹), including native black poplar, small or large lvd lime or service tree?	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Does the hedge include at least 5 woody species (from Schedule 3 of the Regulations ¹) + four associated features listed in Appendix A	No	No	No	No	No	No	No	No	No	No	No	No	No	No

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Hedgerow number	H2	H25	H28	H41 north	H44 east	H45	H50 north	H53	H66	H70	H79	H87	H89 north	H89 south
Hedge adjacent to a bridleway, foot path/road used by public, path/byway open to all traffic + at least 4 woody species (from Schedule 3 of the Regulations ¹) + at least 2 of the features described in (a) to (g) above.	No	No	No	No	No	No	Yes	No	No	No	No	No	No	No
Historic criteria - marks all or part of a parish boundary that existed before 1850	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes
Historic criteria – contains an archaeological feature such as a scheduled monument	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Historic criteria – is completely or partly in or next to an archaeological site listed on the Historic Environment Record	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Historic criteria – marks the boundary of an estate or	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes

Hedgerow number	H2	H25	H28	H41 north	H44 east	H45	H50 north	H53	H66	H70	H79	H87	H89 north	H89 south
manor, or looks to be related to any building or other feature that is part of the estate or manor that existed before 1600														
Historic criteria - is part of a field system or looks to be related to any building or other feature associated with the field system that existed before 1845	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes

Table 3.2: Hedgerow qualifying as 'important' under the Hedgerow Regulations

Hedge Number	National Grid Reference	Length (km)	Species Rich	Important	Qualifying Features
H25	SK 23433 17821	0.05	No	Satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations ¹	Part of pre-1845 field system
H28	SK 23405 17599	0.08	No	Satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations ¹	Part of pre-1845 field system
H41 north	SK 22573 16424	0.21	Yes	Satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations ¹	Part of pre-1845 field system

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Hedge Number	National Grid Reference	Length (km)	Species Rich	Important	Qualifying Features
H44 east	SK 23144 16637	0.38	Yes	Satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations ¹	Part of pre-1845 field system
H45	SK 23132 16764	0.18	Yes	Satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations ¹	Part of pre-1845 field system
H50 north	SK 22775 16262	0.22	Yes	Satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations ¹	5 woody species, 2 Associated Features and hedge adjacent to a public byway. Part of pre-1845 field system
H53	SK 22962 16205	0.52	Yes	Satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations ¹	Part of pre-1845 field system
H66	SK 23285 17047	0.08	No	Satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations ¹	Part of pre-1845 field system
H70	SK 23532 16670	0.20	Yes	Satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations ¹	Part of pre-1845 field system
H79	SK 23449 15943	0.58	No	Satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations ¹	Part of a pre-1850 parish boundary
H87	SK 23431 17393	0.19	Yes	Satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations ¹	Part of a pre-1850 parish boundary

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Hedge Number	National Grid Reference	Length (km)	Species Rich	Important	Qualifying Features
H89 north	SK 23432 17576	0.08	Yes	Satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations ¹	Part of a pre-1850 parish boundary
H89 south	SK 23625 16416	0.005	Yes	Satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations ¹	Marks the boundary of a pre-1600 estate or manor

Chapter 4

Conclusion

4.1 During field surveys undertaken in September and November 2023, 14 hedgerows were identified as being impacted by the Proposed Development, and hence were assessed in accordance with the Hedgerow Regulations¹. The full extent of the impacts to the hedgerows, included proposed removals, are detailed separately within **Appendix 6.14: Arboricultural Survey Report**. Most impacts comprise small-scale loss of hedgerow sections to facilitate installation of access tracks, cable routes and visibility splays.

4.2 Of the 14 hedgerows assessed, 1 hedgerow was considered to be important under the Wildlife and Landscape Criteria (H50 north), and 13 were considered to be important under the Historic Criteria (H25, H28, H41 north, H44 east, H45, H50 north, H53, H66, H70, H79, H87, H89 north, and H89 south), with H2 not considered to be important.

4.3 With respect to H50 north, numerous criteria were passed as detailed in **Table 3.2**, with both historic and wildlife and landscape criteria passed. The functionality of this hedgerow will likely be reduced as a result of the Proposed Development, due to the removal of 120m of the eastern section to accommodate the visibility splay at Coton Road. Although this will be a loss for biodiversity, with H50 north a species rich native hedgerow, extensive compensation is being provided both throughout the Site and adjacent to H50 north. Extensive new hedgerow planting is proposed to the north along farmer's track, and to the north-east of H50 north on the opposite verge of field O4²⁷ which will improve existing connectivity and visuals along Coton Road. The creation of an extension along the existing hedgerow network, as well as the mainly retained H53 to the east, will likely reduce the resulting historic impact of removal, maintaining the distinct field boundaries.

4.4 The visibility splay clearance will also impact H41 north and H53. Located directly to the north and to the east of H50 north respectively, with a planned 60m section of removal in H41 north, and 3m removed of H53 to widen the existing gateway. As species-rich hedgerows,

²⁷ Field numbers are included in **Figure 1.4a and 1.4b** in ES **Volume 2**.

impacts on biodiversity as similar to those of H50 north above, although H41 north and H53 are considered to be important under the historic criteria only. As above, it is anticipated that the additional hedgerow planting and increasing connectivity of the hedgerow system, will minimise the historic impact of removing sections within existing field boundaries.

4.5 The remaining important hedgerows (H28, H44 east, H45, H66, H70, H79, H87, H89 north, and H89 south) are considered important due to satisfying at least one of the historic criteria listed in Part II of Schedule 1. These comprise those with their alignment part of a pre-1845 field system, part of a pre-1850 parish boundary, and marking the boundary of a pre-1600 estate or manor. However, the remaining hedgerows are mostly being retained, with losses of small-scale sections to allow for access tracks and cable routing. Although disrupting the continuity of the hedgerows, these small-scale losses still retain much of the boundary function of the hedgerow and as such have a reduced historic impact.

Mitigation and Enhancement

Habitat Creation

4.6 As part of the Proposed Development, extensive hedgerow creation is proposed to mitigate for the sections removed, as detailed previously. The hedgerow proposed will comprise intact, native species rich hedgerow, consisting of mainly the following species:

- Hawthorn *Crataegus monogyna*;
- Hazel *Corylus avellana*;
- Holly *Ilex aquifolium*;
- Field maple *Acer campestre*;
- Blackthorn *Prunus spinosa*; and
- Purging buckthorn *Rhamnus cathartica*.

4.7 Hedgerow trees will consist mainly of:

- Pedunculate oak *Quercus robur*;
- Field maple;

- Small leaved lime *Tilia cordata*;
- Crab apple *Malus sylvestris*;
- Aspen *Populus tremula*; and
- Rowan *Sorbus aucuparia*.

4.8 The new hedgerows are proposed within the centre of Oaklands Farm, increasing existing connectivity across the Site. The new hedgerows will connect Coton Road and the existing hedgerow network south of Ashtree Farm, increasing connectivity from Redferns Wood in the north, to treelines along Catton Lane and Thompsons Wood to the east. These new hedgerows will be species-rich and in time have the potential to become ‘important hedgerows’ themselves, subject to the presence of Associated Features²⁰.

4.9 In addition to increasing habitat connectivity of the hedgerow network, additional woodland understorey and scrub planting as part of the Proposed Development will add further eco connectivity value, linking hedgerow and existing woodland within the National Forest.

Hedgerow Enhancement

4.10 The current condition of many of the hedgerows on Site is poor, often due to low species diversity and high percentage of gaps within the hedgerows, reducing canopy continuity. Current land management from farming and intensive grazing has also reduced the value and condition of the hedgerow network. As part of proposals, existing hedgerows on Site will be enhanced through infill planting in defunct hedgerows using native species, strengthening hedgerows and increasing species richness. Sections of enhancements have been designed to maximise the existing network, joining up existing defunct hedgerows and providing greater connectivity between habitats.

4.11 Proposals will result in additional benefits to the hedgerow network, as due to the changing land use, hedgerows outside of the visibility splays will be allowed to grow taller, to heights of 2.5m-3m. The proposed adjacent habitat enhancement and creation of species-rich grassland along field margins is also likely to overall improve the habitat network, as well as reducing damage at the base of hedgerows from overgrazing.

Conclusions

4.12 The Proposed Development will directly impact the hedgerows proposed for removal through reducing available habitat for wildlife, and reducing hedgerow connectivity within the network. This will have the greatest impact on H41 north and H50 north, where the most extensive removal is located within the visibility splays. Without mitigation, this would result in breaks of 60m and 120m respectively, a significant distance for network continuity and loss of habitat. As such, additional hedgerow will be created within these sections but set back outside of the visibility splay, providing mitigating habitat and connecting the retained hedgerows to the east and west.

4.13 The remaining direct impacts on hedgerows will comprise small, localised removals to accommodate access tracks and cabling. These will be of maximum 6m in length with minimal detriment to habitat connectivity, with 5m considered the standard gate width in some areas (according to the Hedgerow Survey Handbook¹⁹). Many of these removals comprise widening of existing gates or installation of new field access gates, in keeping with the existing hedgerow network.

4.14 Full details of direct impacts and hedgerow removals extents are provided within **Appendix 6.14: Arboricultural Survey Report**. Indirect impacts on retained hedgerows as part of the Proposed Development will be avoided and mitigated through management and tree protection measures, detailed in the above Arboricultural Report and the Outline Landscape and Ecological Management Plan (LEMP) (**ES Volume 3, Appendix 5.6: Outline Landscape Ecological Management Plan**).

4.15 Overall, it is considered that the Proposed Development's impacts on important hedgerows is mitigatable. This is due to the existing poor condition of hedgerows, the mainly small-scale and localised impacts, and the substantial hedgerow creation and enhancement proposed, that will overall increase the biodiversity value and connectivity of the Site.

Appendix A

Criteria for Important Hedgerow

Hedgerow Regulations Ecological Criteria

A.1 In order to be classified as ‘important’ under the Wildlife and Landscape criteria of the Hedgerow Regulations, a hedgerow must be at least 30 years old and satisfy one of the following criteria:

- At least 7²⁸ woody species per 30m;
- At least 6²⁸ woody species per 30m and 3 Associated Features;
- At least 6²⁸ woody species per 30m (including black poplar (*Populus nigra*), small-leaved lime (*Tilia cordata*), large-leaved lime (*Tilia platyphyllos*), or wild service tree (*Sorbus torminalis*));
- At least 5²⁸ woody species + 4 Associated Features; or
- Adjacent to a public right of way (bridleway/footpath but excluding adopted highways), + at least 4 woody species + at least 2 Associated Features.

A.2 Associated features comprise the following: presence of a bank or wall; ditch; parallel hedgerow within 15m; total gaps less than 10% of length; 1 standard tree if less than 50m length; 2 standard trees if 50-100m length; average 1 standard tree every 50m for more than 100m length; 3 woodland species within 1m of edge; and 4 points worth of connections.

A.3 A hedgerow may also be classified as ‘important’ due to the presence or recorded presence of particular animal and plant species. Further details are found within Criteria 6, sub-paragraphs 1-4 of the Regulations¹.

²⁸ Except if the hedgerow is located wholly or partly within one of the counties listed in Criteria 7, sub-paragraph 2 of the Regulations. In which case the number of woody species required should be reduced by 1.

A.4 The woody species recognised in Schedule 3 by the Hedgerow Regulations¹ are contained within **Table A.1** below, in addition to the species codes used on the record sheet.

Table A.1: Recognised woody species and species codes

Spp.	Scientific name	English name	Spp.	Scientific name	English name
Ac	<i>Acer campestre</i>	Field Maple	Pa	<i>Prunus avium</i>	Wild cherry
Ag	<i>Alnus glutinosa</i>	Alder	Pp	<i>Prunus padus</i>	Bird cherry
Bpe	<i>Betula pendula</i>	Silver birch	Ps	<i>Prunus spinosa</i>	Blackthorn
Bpu	<i>Betula pubescens</i>	Downy birch	Pyc	<i>Pyrus communis</i>	Pear
Bxs	<i>Buxus sempervirens</i>	box	Qp	<i>Quercus petraea</i>	Sessile oak
Cb	<i>Carpinus betulus</i>	Hornbeam	Qr	<i>Quercus robur</i>	Pedunculate oak
Cos	<i>Cornus sanguinea</i>	Dogwood	Rc	<i>Rhamnus cathartica</i>	Buckthorn
Ca	<i>Corylus avellana</i>	Hazel	Ruv	<i>Ribes uva-crispa</i>	Gooseberry
Cla	<i>Crataegus laevigata</i>	Midland hawthorn	Ros	<i>Rosa sp(p)</i>	Rose
Cm	<i>Crataegus monogyna</i>	Hawthorn	Rac	<i>Ruscus aculeatus</i>	Butcher's-broom
Cys	<i>Cytisus scoparius</i>	Broom	Sx	<i>Salix sp(p)</i>	Willow

Appendix A
Criteria for Important Hedgerow

Oaklands Farm Solar Park
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Spp.	Scientific name	English name	Spp.	Scientific name	English name
DI	<i>Daphne laureola</i>	Spurge-laurel	Sxv	<i>Salix viminalis</i>	Osier
Ee	<i>Euonymus europaeus</i>	Spindle	Sn	<i>Sambucus nigra</i>	Elder
Fs	<i>Fagus sylvatica</i>	Beech	Sac	<i>Sorbus aucuparia</i>	Rowan
Fa	<i>Frangula alnus</i>	Alder buckthorn	Sor	<i>Sorbus sp(p)</i>	Whitebeam
Fe	<i>Fraxinus excelsior</i>	Ash	Sot	<i>Sorbus torminalis</i>	Wild service-tree
Hr	<i>Hippophae rhamnoides</i>	Sea-buckthorn	Tb	<i>Taxus baccata</i>	Yew
Ia	<i>Ilex aquifolium</i>	Holly	Tic	<i>Tilia cordata</i>	Small-leaved lime
Jr	<i>Juglans regia</i>	Walnut	Tip	<i>Tilia platyphyllos</i>	Large-leaved lime
Jc	<i>Juniperus communis</i>	Common juniper	Ue	<i>Ulex europaeus</i>	Gore
Liv	<i>Ligustrum vulgare</i>	Wild privet	Ug	<i>Ulex gallii</i>	Western gorse
Ms	<i>Malus sylvestris</i>	Crab apple	Umi	<i>Ulex minor</i>	Dwarf gorse
Pal	<i>Populus alba</i>	White poplar	Um	<i>Ulmus sp(p)</i>	Elm

Spp.	Scientific name	English name	Spp.	Scientific name	English name
Pn	<i>Populus nigra</i> <i>subspecies</i> <i>betulifolia</i>	Black poplar	VI	<i>Viburnum lantana</i>	Wayfaring-tree
Pot	<i>Populus tremula</i>	Aspen	Vop	<i>Viburnum opulus</i>	Guelder rose
Pcan	<i>Populus x</i> <i>canescens</i>	Grey poplar			

Hedgerow Regulations Historic Criteria

A.5 In order to be classified as ‘important’ under the Archaeology and History criteria of the Hedgerow Regulations, a hedgerow must be at least 30 years old and satisfy one of the following criteria:

- The hedgerow marks the boundary, or part of the boundary, of at least one historic parish or township; and for this purpose “historic” means existing before 1850.
- The hedgerow incorporates an archaeological feature which is:
 - Included in the schedule of monuments compiled by the Secretary of State under section 1 (schedule of monuments) of the Ancient Monuments and Archaeological Areas Act 1979; or
 - Recorded at the relevant date in a Sites and Monuments Record.²⁹
- The hedgerow:
 - Is situated wholly or partly within an archaeological site included or recorded as mentioned in paragraph 2 or on land adjacent to and associated with such a site; and
 - is associated with any monument or feature on that site.

²⁹ Now referred to as the Historic Environment Record

- The hedgerow:
 - Marks the boundary of a pre-1600 estate or manor recorded at the relevant date in a Sites and Monuments Record or in a document held at the date at a record office; or
 - Is visibly related to any building or other feature of such as estate or manor.
- The hedgerow is recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the Inclosure Acts;³⁰ or is part of, or visibly related to, any building or other feature associated with such a system, and that system is substantially complete or; is of a pattern which is recorded in a document prepared before the relevant date by a local planning authority, within the meaning of the 1990 Act, for purposes of development control within the authority's area, as a key landscape characteristic.

³⁰ in the UK Government (2019) Countryside Hedgerows: Protection and Management Guidance. Available at: <https://www.gov.uk/guidance/countryside-hedgerows-regulation-and-management> this has been rendered into 'existed before 1845' to aid those unfamiliar with the Inclosure Acts of the 1780s-1840s

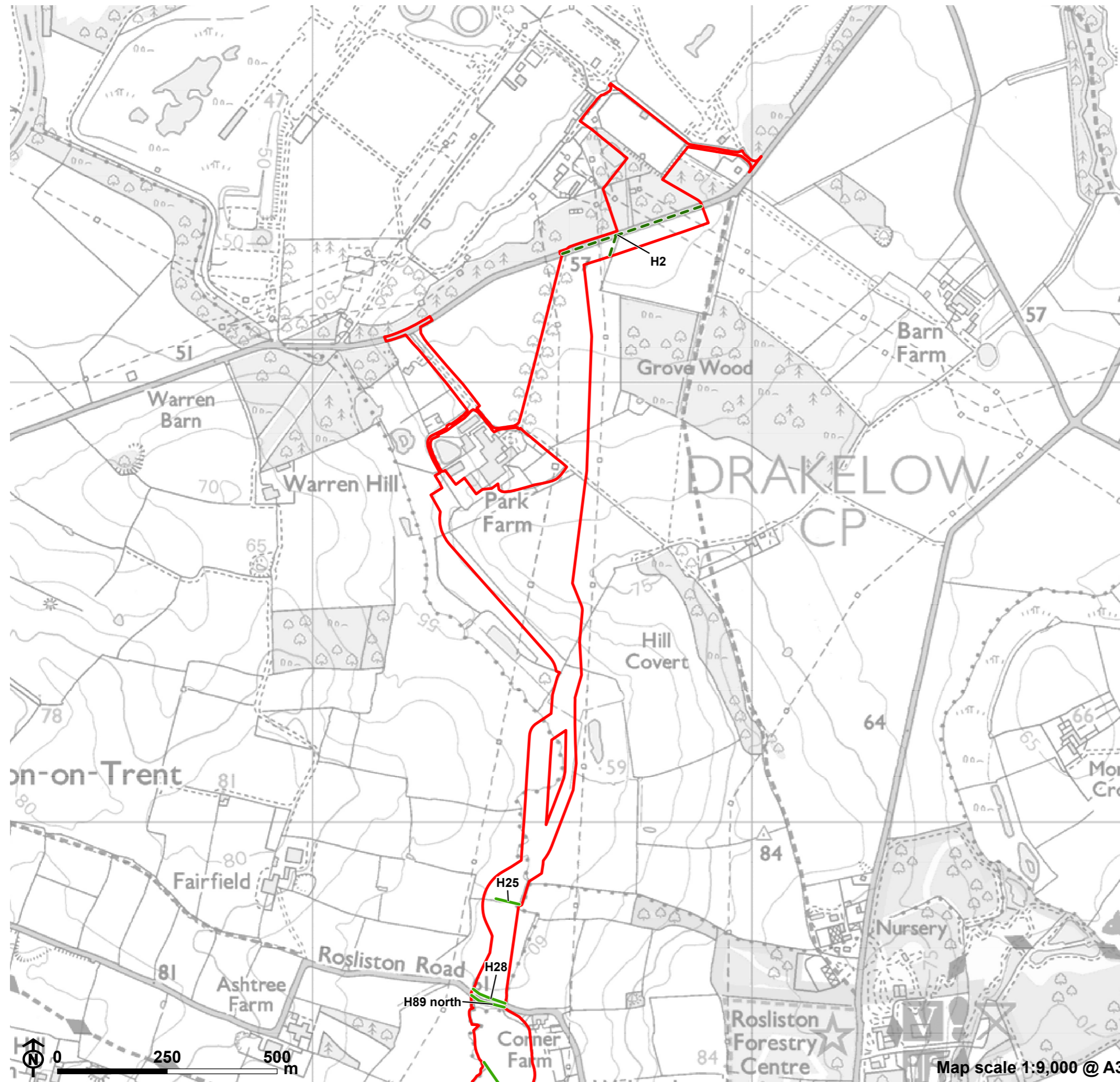
Appendix B

Figures



Figure 6.15a: Important Hedgerow Assessment North

- Site boundary
- Assessed hedgerow (important)
- Assessed hedgerow (not important)



PINS reference: EN010122

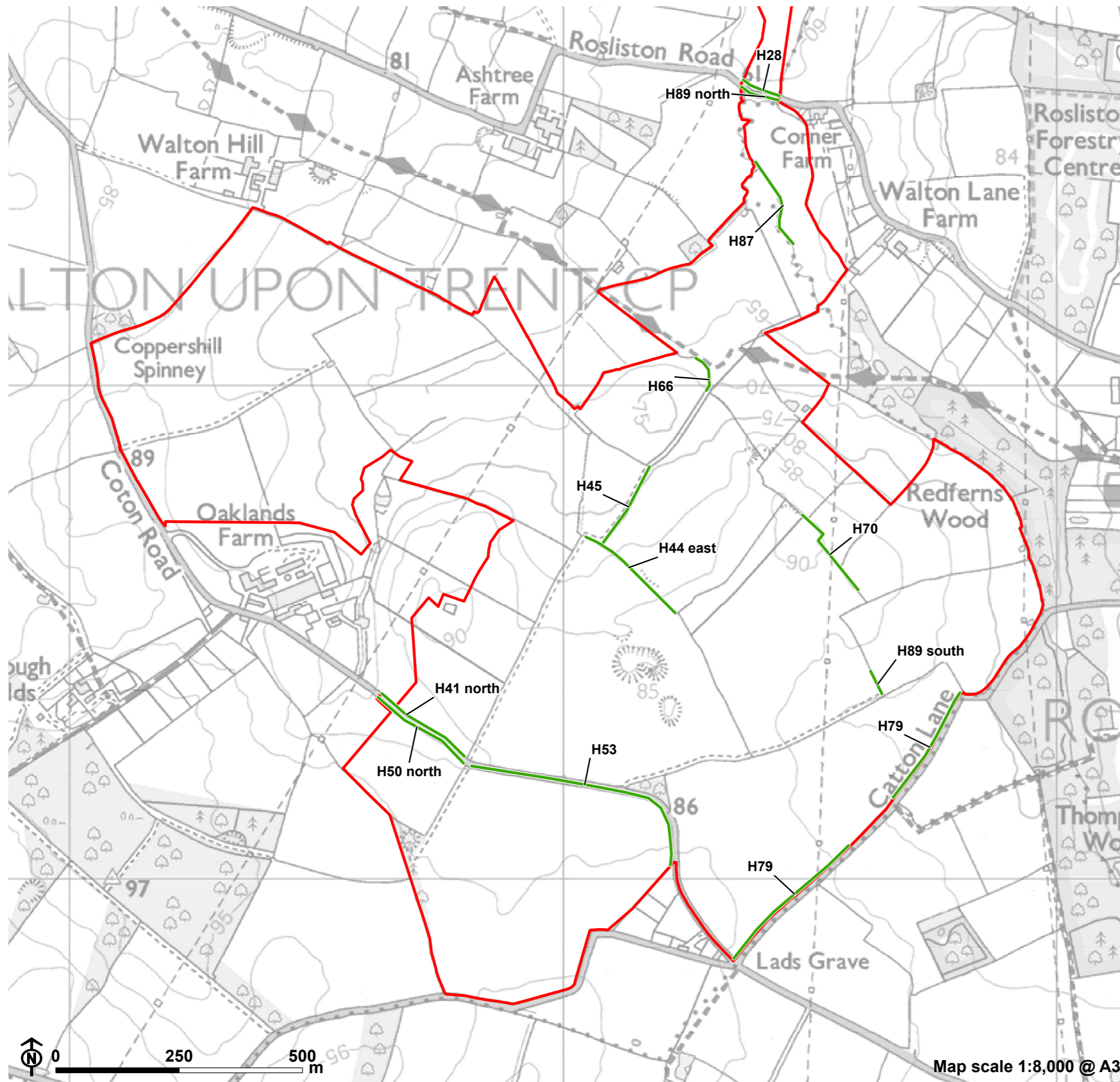


Map scale 1:9,000 @ A3



Figure 6.15b: Important Hedgerow Assessment South

- Site boundary
- Assessed hedgerow (important)



PINS reference: EN010122



Map scale 1:8,000 @ A3

Appendix C

Photographs

Table C.1: Hedgerow Photographs

Hedgerow number	Grid Reference	Photographs
H2	SK 23581 19302	 A photograph showing a paved road stretching into the distance. On the right side of the road, there is a dense hedgerow of green bushes and trees. A speed limit sign with the number '50' is visible on the right side of the road. In the background, there are power lines and a clear blue sky.


Appendix C
Photographs

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Hedgerow number	Grid Reference	Photographs
H25	SK 23433 17821	 A photograph showing a dense hedgerow of green trees and shrubs. To the left of the hedgerow is a grassy field. In the background, there are utility poles and a cloudy sky.


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Photographs

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Hedgerow number	Grid Reference	Photographs
H28	SK 23140 47600	



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Photographs

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Hedgerow number	Grid Reference	Photographs
H41 north	SK 28127 96263	

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Photographs

Oaklands Farm Solar Park
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Hedgerow number	Grid Reference	Photographs
H44 east	SK 23144 16637	 A photograph showing a muddy, rutted path or track on the left side of a hedgerow. The hedgerow is composed of dense, leafless bushes and trees. To the right of the hedgerow, there is a wooden fence. The ground is wet and reflective, suggesting recent rain. The sky is blue with scattered white clouds.
H45	SK 23132 16764	 A photograph of a rural landscape. In the foreground, there is a field of dry, brown grass or stubble. A hedgerow runs across the middle ground, with a large tree on the left side. In the background, there are rolling hills, a utility pole, and a clear blue sky with some clouds.


Appendix C
Photographs

Oaklands Farm Solar Park
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Hedgerow number	Grid Reference	Photographs
H50 north	SK 22775 16262	 A photograph showing a dense hedgerow of various trees and shrubs running parallel to a paved road. The road has a yellow dashed line on the right side. In the background, there are power lines and a utility pole under a blue sky with light clouds.

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Photographs

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Hedgerow number	Grid Reference	Photographs
H53	SK 22855 16224	

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Photographs

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Hedgerow number	Grid Reference	Photographs
H66	SK 23296 17032	


Appendix C
Photographs

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Hedgerow number	Grid Reference	Photographs
H70	SK 23535 16668	

Appendix C
Photographs

Oaklands Farm Solar Park
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Hedgerow number	Grid Reference	Photographs
H79	SK 23172 06232	

Appendix C
Photographs

Oaklands Farm Solar Park
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Hedgerow number	Grid Reference	Photographs
H87	SK 23431 17393	


Appendix C
Photographs

Oaklands Farm Solar Park
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Hedgerow number	Grid Reference	Photographs
H89 north	SK 23412 17587	

Appendix C
Photographs

Oaklands Farm Solar Park
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Hedgerow number	Grid Reference	Photographs
H89 south	SK 23625 16416	 A photograph showing a hedgerow with several trees, some with autumn-colored leaves, and power lines in the background under a clear blue sky. The foreground is a field of dry, brown grass.