Lime Down
Solar Park

Environmental Statement

Volume 1, Chapter 10: Arboriculture

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10 Arboriculture

10.1 Introduction

10.1.1 This chapter of the Environmental Statement (ES) presents the findings of the assessment of the likely significant effects on Arboriculture as a result of the Scheme. For more details about the Scheme, refer to **Chapter 3: The Scheme [EN010168/APP/6.1]** of this ES.

10.1.2 This chapter identifies and proposes measures to address the potential impacts and likely significant effects on Arboriculture, during the construction, operation and maintenance, and decommissioning phases of the Scheme.

10.1.3 For the purposes of this chapter, Arboriculture includes trees, groups of trees and woodlands which are collectively referred to throughout as 'arboricultural features'. Hedgerows are considered separately in **Chapter 9: Ecology and Biodiversity [EN010168/APP/6.1]** in this ES.

10.1.4 The following aspects will be considered within the Arboriculture assessment process:

- The baseline arboricultural conditions within the Study Area10.5;
- Embedded mitigation for arboricultural features;
- Assessment of likely significant effects on arboricultural features and any additional mitigation required; and
- Assessment of potential residual likely significant effects once any additional mitigation measures have been employed.

10.1.5 This chapter presents the potential significant arboricultural effects of the Scheme, but it is recognised that trees have various inherent interconnected values such as ecological and landscape value. The ecological and landscape effects of tree impacts may be inferred in this report but are formally assessed within the respective chapters, **Chapter 8: Landscape and Visual [EN010168/APP/6.1]** and **Chapter 9: Ecology and Biodiversity [EN010168/APP/6.1]**.

10.1.6 This chapter is supported by the following figures in **ES Volume 2 [EN010168/APP/6.2]**:

- **Figures 10-1-1 to 10-1-23 Tree Constraints Plans**; and
- **Figures 10-2-1 to 10-2-23 Tree Impact Plans**.

10.1.7 This chapter is supported by the following appendices in **ES Volume 3 [EN010168/APP/6.3]**:

- **Appendix 10-1 Arboricultural Impact Assessment and Outline Arboricultural Method Statement**;

- **Appendix 10-2 Definitions for Tree Survey Schedule;**
- **Appendix 10-3 Tree Survey Schedule**; and
- **Appendix 10-4 Summary of Relevant Legislation, Policy, and Guidance**.

10.2 Consultation

10.2.1 A request for an EIA Scoping Opinion was sought from the Secretary of State through the Planning Inspectorate in July 2024. The issues raised in the Scoping Opinion are summarised and responded to within **ES Volume 3, Appendix 1-2: Scoping Opinion Responses [EN010168/APP/6.3],** which demonstrates how the matters raised in the Scoping Opinion are addressed in this ES. Matters where the scope of the assessment has been raised by the Planning Inspectorate are summarised in **Table 10-1** below.

Table 10-1: Planning Inspectorate Scoping Opinion Responses

ID	Summary of Matter	Response
3.4.1	The Scoping Report proposes to scope out impacts to trees in Lime Down A to E and Land at Melksham Substation for all phases on the basis that no significant effects are considered likely due to embedded mitigation to avoid impacts on trees and further mitigation to be included within the outline CEMP being in place. The Inspectorate notes that the ground level tree surveys of Lime Down A to E and Land at Melksham Substation have identified 36 veteran trees to date. The Scoping Report states that a full tree survey in accordance with BS 5837:2012 is being undertaken at Land at Melksham Substation and other targeted areas within Lime Down A to E and the Cable Route Corridor where the potential exists for arboricultural impacts. The Inspectorate agrees that significant effects are not likely to occur on the basis that suitable mitigation would be in place and a full tree survey would be undertaken where the potential exists for arboricultural impacts. As such, the Inspectorate agrees to	The ES scopes out arboricultural impacts across Sites Lime Down A-E except for effects on ancient and veteran trees and ancient woodlands which are assessed separately. Land at Melksham Substation has been removed from the Scheme and has therefore not been assessed. A full baseline tree survey has been untaken in targeted areas. Embedded mitigation measures and securing mechanisms are described in the ES and furthermore at section 10.9 of this chapter, where arboricultural mitigation is described).

ID	Summary of Matter	Response
	scope this matter out for all phases. However, the ES should describe the mitigation which has been relied on to avoid significant effects and explain how this has been secured.	
3.4.2	The Scoping Report states that given that the Cable Route Search Area is still to be refined and the potential for arboricultural impacts from construction activities, it is not proposed to scope out the impacts to trees within the Cable Route Area (once refined) at this point. It is further stated that this will be kept under review and due to proposed mitigation and refinement of the route, the potential for impacts may be unlikely and there is potential for the Cable Route to be scoped out of the ES. The Inspectorate considers that the ES should provide an assessment of arboricultural impacts within the cable route where there is potential for likely significant effects to occur or demonstrate the absence of likely significant effects supported by appropriate survey data and with agreement from the relevant consultation bodies.	A full tree survey has been completed in all accessible areas of the cable route corridor so that arboricultural constraints and potential impacts can be fully considered. This approach has been discussed and agreed with the Local Planning Authority Wiltshire Council. Anticipated arboricultural impacts and effects are assessed at section 10.10.
3.4.3	The Scoping Report proposes an arboriculture study area of the entirety of the site with a 15m buffer from the boundary. The ES should fully justify why a 15m buffer is considered to be sufficient with agreement if possible, from the relevant consultation bodies.	The 15m buffer proposed at EIA scoping accounts for maximum RPA (Root Protection Area) constraints as per BS5837:2012 and the minimum ancient woodland protective buffer as per standing government advice. For the purpose of ES submission, the study area has been increased to encompass the DCO Order Limits and a 50m buffer beyond its extents. Tree surveys have been undertaken as required within the Order Limits and within a 15m buffer of the Order Limits and a desktop study of the full study area has been completed to inform the arboriculture assessment. Details of the study area and assessment methodologies are

ID	Summary of Matter	Response
		described at sections 10.5 and 10.6 below.

10.2.2 Engagement has been undertaken with stakeholders, notably Wiltshire Council. The matters raised are summarised in **Table 10-2** below.

Table 10-2: Summary of Engagement Undertaken

Consultee and Date	Issue/Topic	Response
Wiltshire Council - 24.03.25	*Council cannot fully assess the impact on trees due to insufficient detail in the submitted Arboricultural Report and Tree Constraints Plans at PEIR.*	Draft tree impact plans are to be discussed in a future meeting alongside project approach to methodology of works and implementation of effective protection measures. Tree Impact Plans were sent to Wiltshire Council on 5th September 2025.
Wiltshire Council - 24.03.25.	*Requirement to fully consider all arboricultural features in the ES, as the cable route and its impact on trees remain undefined.*	All arboricultural features not scoped out of this assessment have been recorded as far as practicable so that arboricultural constraints and potential impacts can be fully considered. This approach has been discussed and agreed with the Local Planning Authority Wiltshire Council. Anticipated arboricultural impacts and effects are assessed at section 10.10.
Wiltshire Council - 24.03.25.	*Recommends a supplementary consultation prior to DCO submission*	Additional consultation has be carried out with the LPA, prior to DCO submission.
Wiltshire Council – 19.05.25	Updated Draft Tree Impact Plans tree survey data was circulated with the Council and an opportunity provided to discuss any outstanding consultee issues in relation to arboriculture.	We understand that the Council has reviewed the provided information and we welcome any further input and comments on the Scheme and arboriculture.

10.2.3 Statutory consultation was held between 29 January 2025 and 19 March 2025. A full list of consultation responses in relation to Arboriculture are presented in the Consultation Report at **ES Volume 5, Consultation Report (Chapters 6-13) [EN010168/APP/5.1]** submitted as part of the ES.

10.3 Legislation, Planning Policy and Guidance

10.3.1 A summary of applicable legislation, planning policy and other guidance documents relating to Arboriculture pertinent to the Scheme is provided below.

10.3.2 Full details of the legislation, policy, and guidance of relevance to the assessment of Arboriculture is provided in full in **Volume 1, Chapter 5: Energy Need Legislative Context and Energy Policy [EN010168/APP/6.1]**.

Legislation

10.3.3 Applicable legislation to inform the Arboriculture assessment includes:

- Town and Country Planning Act 1990 (Section 198) Tree Preservation Orders (Ref 10-1); and
- Town and Country Planning Act 1990 (Section 211) Conservation Areas (Ref 10-1).

National Planning Policy

10.3.4 The National Policy Statements (NPSs) that are relevant to the Scheme are:

- Overarching National Policy Statement for Energy (EN-1) (January 2024) (Ref 10-2)
- National Policy Statement for Renewable Energy Infrastructure (EN-3) (January 2024) (Ref 10-3)
- National Policy Statement for Electricity Networks Infrastructure (EN-5) (January 2024) (Ref 10-4)

10.3.5 The NPSs listed above came into effect on 17 January 2024. These NPSs set out the Government's energy policy for the delivery of nationally significant energy infrastructure, the need for new energy infrastructure, and guidance for the determination of an application for a Development Consent Order (DCO).

10.3.6 The relevant NPS requirements, together with an indication of where in the ES the information is provided to address these requirements, are provided in **Volume 3, Appendix 5-1: National Policy Statement Requirements [EN010168/APP/6.3].**

10.3.7 The National Planning Policy Framework (NPPF) (December 2024) (Ref 10-5) sets out the Government's planning policies for England and how these are expected to be applied.

10.3.8 Paragraph 193 part c) states that:

"development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists"

10.3.9 It should be noted that in the context of DCO applications, while the NPPF is an important and relevant consideration, applications must be decided in accordance with the relevant National Policy Statements.

Local Planning Policy

10.3.10 Local planning policies that are relevant to the Scheme and Arboriculture are:

- Wiltshire Core Strategy (Adopted January 2015) (Ref 10-6);
- Draft Wiltshire Local Plan (Currently under examination with the Secretary of State for Housing Communities and Local Government) (Ref 10-7); and
- The Melksham Neighbourhood Plan 1 (July 2021) Policy 16 Trees and hedgerows (Ref 10-8) and the emerging Neighbourhood Plan 2 Policy 17 Trees and hedgerows (Ref 10-9) and the Wiltshire Design Guide are relevant specifically to land near Whitley within the Cable Route Corridor. These policies are not relevant to the wider Scheme.

Other Guidance

10.3.11 Other guidance documents relevant to the assessment of the impacts of the Scheme on Arboriculture include:

- Natural England and Forestry Commission, Ancient woodland, ancient trees and veteran trees: advice for making planning (Ref 10-10);
- Planning Policy Guidance for Tree Preservation Orders and Conservation Areas (Ref 10-11);
- British Standard 5837:2012 Trees in Relation to Design, Demolition and Construction (Ref 10-12); and
- British Standard 3998: 2010 Tree Work Recommendations (Ref 10-13)

10.4 Assessment Assumptions and Limitations

10.4.1 The methodology for Arboriculture has considered the following assumptions:

- It is assumed that all trees bisecting the open cut sections of the Cable Route Corridor may require removal to achieve the required working widths and permanent easements for the cables. The exception is for any veteran, and category A or high-quality trees within the Cable Route Corridor which are assumed to be retained given embedded mitigation for these trees.

Open cut sections of the Cable Route Corridor are shown at **ES Figure 3-2: Key Construction Phase Features [EN010168/APP/6.2]**;

- It is assumed that all arboricultural features standing outside of the Order Limits but adjacent to open-cut Sections of the Cable Route Corridor can be retained;
- It is assumed that all arboricultural features in trenchless solution (e.g. HDD) sections of the Cable Route Corridor will be retained;
- It is assumed that permanent access points will be required. The BESS Area and substation access will be 6.00m width, access points from the public highway and bends in the carriageway will be wider where necessary to accommodate Abnormal Indivisible Loads (AIL) turning spaces;
- Internal tracks will be 3.5m and vehicular passing places will be 6.00m. The permanent easement for the cables within the Cable Route Corridor will be 10.00m;
- It is assumed that the permanent easement for sections of the Grid Connection Cable that will be installed using a trenchless solution will not require any tree removal as the depth of the cable will far exceed the potential influence of tree roots;
- It is assumed that the permanent access tracks within the Sites will also be used for decommissioning;
- It is anticipated that additional access tracks may be required for construction (additional to those shown on the Outline Landscape and Ecological Management Plan at **Volume 7, Appendix 7.18: Outline Landscape and Ecological Management Plan [EN010168/APP/7.18])**, it is assumed that all construction access tracks will be sited outside of the RPAs and canopy spreads of existing arboricultural features;and
- Overall, this assessment of arboricultural impacts is limited given that the design of the Solar PV Sites are still subject to detailed design to take place post-DCO consent and follows the maximum project design parameters are shown for each technical discipline. All tree impacts provided in the assessment therefore represent the ‘worst case scenario’ in regards to arboricultural impacts.

10.4.2 The methodology for Arboriculture has considered the following limitations:

- The positions of all trees, groups of trees and woodlands plotted in the Cable Route Corridor, temporary construction compounds and adjacent to temporary access points were mapped indicatively on Site with the aid of aerial imagery and GPS software. Arboricultural features in the vicinity of temporary access points were subsequently replotted to align with topographical surveys where practicable as they became available. All other

recorded features along the Cable Route Corridor and in the vicinity of temporary construction compounds are shown indicatively in the absence of topographical surveys. Consequently, tree positions and anticipated impacts in these areas have been estimated using a relative level of accuracy and professional judgement. This is not considered to be a significant constraint given that the design of these elements is indicative only and not available in sufficient detail to allow for accurate predictions of potential canopy or root impacts even if precise tree locations were known, and;

- Access to some tree stems and canopy spreads by the surveyors was sometimes impeded due to a range of factors such as dense vegetation. Estimates were therefore made of dimensions where necessary.

10.5 Study Area

10.5.1 The Study Area comprises the Order Limits and a 50m buffer beyond its extents. It includes five land parcels described as Lime Down A, B, C, D, E (collectively known as the Solar PV Sites, which includes areas for battery storage and associated infrastructure, landscaping, heritage, surface water and biodiversity mitigation areas). The Solar PV Sites are situated in an area of countryside to the south of Malmesbury and northeast of Bath.

10.5.2 The Study Area also includes the Cable Route Corridor**,** temporary access points and temporary construction compounds and in accordance with BS5837:2012 (Ref 10-12), the Study Area also includes trees within influencing distance of the boundary of the Solar PV Sites and Cable Route Corridor; i.e. within 15m. The influencing distance of 15m accounts for the maximum size of Root Protection Areas (RPAs) as defined in BS5837:2012 and also the minimum required buffer zone for ancient woodland; in line with standing government advice (Ref 10-10).

10.6 Assessment Methodology

10.6.1 This section sets out the scope and methodology for the assessment of the impacts of the Scheme on Arboriculture.

10.6.2 The methodologies described in the following section have been developed in line with the relevant planning policy and appropriate industry guidance for assessing the potential effects from the Scheme on arboricultural features.

Sources of Information

10.6.3 In the preparation of this chapter, the following sources of published information shown in **Table 10-3** have been used:

Table 10-3: Information Sources for Desk Study

Feature	Data Source
Ancient woodlands	Natural England – Ancient Woodland (England) Ref 10-15 reviewed on 05 June 2025.
Ancient and veteran trees	The Woodland Trust – Ancient Tree Inventory Ref 10-17 reviewed on 05 June 2025.
Tree Preservation Orders	GIS shapefiles for all recorded TPOs received from Wiltshire Council on 30 May 2025.
Conservation Areas	Historic England – Conservation Areas Ref 10-18 reviewed on 03 June 2025.

Arboricultural Features

10.6.4 Arboricultural features, for the purpose of this assessment, are defined as individual trees, groups of trees and woodlands. Hedgerows are not included in this assessment and are considered separately in **Chapter 9: Ecology and Biodiversity [EN010168/APP/6.1]**.

10.6.5 Definitions and characteristics used to assess whether an arboricultural feature is an ancient tree, a veteran tree or an ancient woodland are shown in **Table 10-4**.

Table 10-4: Definitions of Ancient and Veteran Trees and Ancient Woodland

Ancient/Veteran Tree	Definition
Ancient Tree	• An ancient tree is one that has passed beyond maturity and is old or aged in comparison with other trees of the same species. Definition as per the Ancient Tree Forum guidance (Ref 10-19)

Veteran Tree	• A veteran tree is a survivor that has developed some of the features found on an ancient tree, not necessarily as a consequence of time, but of its life and environment. Definition as per the Ancient Tree Forum guidance.
	• As per Natural England advice (Ref 10-10) the following are characteristics of a veteran tree, the more characteristics a tree has the stronger the indication that it is a veteran:
	  ○ Girth large for the tree species concerned
	  ○ Major trunk cavities or progressive hollowing
	  ○ Naturally forming water pools
	  ○ Decay holes

Ancient/Veteran Tree	Definition
	○ Physical damage to trunk ○ Bark loss ○ Large quantity of dead wood in the canopy ○ Sap runs ○ Crevices in the bark, under branches or on the root plate sheltered from direct rainfall ○ Fungal fruiting bodies (e.g. from heart rotting species) ○ High number of interdependent wildlife species ○ Epiphytic plants ○ An 'old' look ○ High aesthetic interest
Ancient Woodland	• An area that has been wooded continuously since at least 1600 AD. • It includes ancient semi-natural woodland and plantations on ancient woodland Sites. Definition as per NPPF.

Desk Study of the Study Area

10.6.6 A desk study was undertaken in 2024 and 2025 to review records of existing ancient woodlands, ancient and veteran trees and trees protected by a TPO or Conservation Area designation. **Table 10-3** above details the information reviewed in the desk study.

10.6.7 The datasets above were overlaid onto the Order Limits within Quantum Geographic Information Service (QGIS) Ref 10-14 software. The desk study considered all land within the Order Limits as well as within 50 m of the boundaries of the Order Limits. The 50m distance from the Order Limits was chosen as this is considered the maximum influencing distance of the Scheme on arboricultural features in terms of potential impacts to roots, canopies and veteran tree buffer zones.

High Level Tree Surveys at The Solar PV Sites

10.6.8 BS5837:2012 guidance states that all trees with a stem diameter above 75mm diameter at a height of 1.5m should be recorded at a proposed development Site. However, given the number of trees that would need to be recorded under BS5837:2012 and the size of the Order Limits, a high level and more proportionate survey approach was followed which aimed to provide sufficient tree constraints information to inform the design of the Site in a timely and proportionate manner. This approach is explained below.

10.6.9 The Solar PV Sites were divided into numbered fields. For example, Lime Down A comprises twelve fields referred to as A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11 and A12. Further details can be found at **Figures 2-2 to 2-5: Field Boundaries and Numbering [EN010168/APP/6.2].**

10.6.10 Within each field, the tree with the largest stem diameter (and therefore the largest Root Protection Area) was identified and recorded on the northern, eastern, southern and western boundaries of that field. In addition to identifying the largest tree on each field boundary, all ancient and veteran trees within the Sites or within 15m of the Sites were also recorded in accordance with the survey parameters defined in BS5837:2012 Ref 10-12. All trees were recorded in accordance with BS5837:2012. The following data was recorded for each arboricultural feature:

- Reference number (T = individual tree, G = group of trees, W = woodland, preceded by the field reference where feature was located within the Solar PV Sites; e.g. A4-T1, A4-T2 etc;
- Species (common name and scientific name);
- Tree height in metres (to nearest half metre for dimensions up to 10m and nearest whole metre for dimensions over 10m);
- Stem diameter measured at 1.5m height (to nearest 10mm);
- Branch spread at four cardinal points - north, east, south and west (to nearest half metre for dimensions up to 10m and nearest whole metre for dimensions over 10m);
- Existing height above ground level of a) first significant branch and direction of growth and b) canopy;
- Life stage (young, semi-mature, early-mature, mature, over-mature, ancient);
- Comments; General observations, particularly on structural and/or physiological condition, observed defects etc;
- Estimated remaining contribution in years (<10, 10-20, 20-40, 40+); and
- BS5837:2012 quality category A-C and U and subcategory (1-3).

10.6.11 This approach produced tree constraints information for the design team which informed the minimum arboricultural buffer required for each field boundary in order to avoid arboricultural impacts.

10.6.12 High level tree surveys of the Solar PV Sites were undertaken between November 2023 and August 2024 by Ross Gamblin MArborA HNDArb and Chris Harris HNDArb. A Forestry Pro Laser was used to record tree height, a

laser Distometer D110 was used to measure canopy spread and stem diameter was measured using a Diameter at Breast Height (DBH) measuring tape.

10.6.13 Tree positions were plotted directly onto topographical surveys provided.

10.6.14 Hedgerows were not recorded and are not included in this report as they are considered separately in the Biodiversity Net Gain Assessment Report at **Volume 7, Biodiversity Net Gain Assessment Report [EN010168/APP/7.8]**

Cable Route Corridor Tree Survey

10.6.15 A BS5837:2012 tree survey of the Cable Route Corridor was undertaken between February 2025 and May 2025 by Ryan Wilson BSc (Hons), Ho Ming Mak FdSc Arb and Chris Harris HNDArb. As above, a Forestry Pro Laser was used to record tree height, a laser Distometer D110 was used to measure canopy spread and stem diameter was measured using a Diameter at Breast Height (DBH) measuring tape.

10.6.16 The survey recorded all individual trees, groups of trees and woodlands within the Cable Route Corridor and within 15m of the Cable Route Corridor. BS5837:2012 data categories listed in paragraph 10.6.10 were collected. Trees along the Cable Route Corridor were given a four-digit reference number (e.g. T0001, G0001, W0001).

10.6.17 Hedgerows were not recorded and are not included in this report as they are considered separately in ecological reports at **Chapter 9: Ecology and Biodiversity [EN010168/APP/6.1]**.

10.6.18 Tree groups and woodlands were identified where trees formed cohesive arboricultural features. Principal trees within a group were plotted individually. Maximum stem diameters, tree heights and canopy spreads of the groups and woodlands were recorded. Insignificant trees (those with a stem diameter of less than 75mm at 1.5m height) were omitted from the survey.

10.6.19 At the time surveys commenced in February 2025, the Cable Route Corridor under consideration was broader than the final Order Limits. Since then, the corridor has been refined, but as a result of the earlier, wider scope, tree data was collected across a broader area in some locations.

10.6.20 No topographical survey was available for the Cable Route Corridor therefore trees were mapped on ARCGIS Survey123 software with a relative accuracy of 2-3m and later plotted and post processed in QGIS.

Focused Tree Surveys

10.6.21 Additional tree constraints data was collected in targeted areas of the Order Limits once additional information was received on the locations of:

- temporary construction compounds for the Cable Route Corridor;

- temporary construction vehicular accesses for the Cable Route Corridor; and
- permanent vehicular accesses and visibility splays for the Solar PV Sites.

10.6.22 A desktop review of the above information was undertaken and areas where potential tree impacts may occur (such as removal, root or canopy impacts) were identified for survey. By surveying these targeted areas, data was collected to inform this impact assessment and required mitigation and compensation.

10.6.23 Targeted tree surveys in accordance with BS5837:2012 were undertaken between August 2024 and June 2025 by Ryan Wilson BSc (Hons), Ho Ming Mak FdSc Arb and Chris Harris HNDArb using a Forestry Pro Laser, laser Distometer D110 and DBH measuring tape. BS5837:2012 data categories listed in paragraph 10.6.10 were collected and trees along the Cable Route Corridor were given a four digit reference number with no field reference (e.g. T0001, G0001, W0001). Trees, groups and woodlands recorded within the Solar PV Sites on the focused surveys were given a sequential number, preceded by the Solar PV area reference e.g. A-T1, B-G1, C-W1, D-W2, E-T1, rather than specific field numbers.

10.6.24 No topographical surveys were available for temporary construction compounds therefore trees were mapped on ARCGIS Survey123 software with a relative accuracy of 2-3m and later plotted and post processed in QGIS.

10.6.25 Trees within the influence of temporary construction vehicular accesses for the Cable Route Corridor were surveyed prior to topographical surveys being available therefore trees were mapped on ARCGIS Survey123 software with a relative accuracy of 2-3m and later plotted to align to the topographical surveys and post processed in QGIS.

Tree Constraints Mapping

10.6.26 All tree constraints were mapped in QGIS software.

10.6.27 RPAs were calculated using the standard formulas provided in BS5837:2012 which provides an RPA circle with a radius 12 times the stem diameter of the tree. Veteran tree buffer zones for ancient and veteran trees were calculated by multiplying the stem diameter of the tree by 15 or by adding 5m to the maximum canopy spread, whichever was larger, in accordance with Natural England and the Forestry Commission's standing guidance Ref 10-10. Ancient woodland buffer zones were created by taking the polygons of ancient woodland mapped by Natural England Ref 10-15 and applying a 15m buffer to these polygons. These buffer zones only apply to ancient and veteran trees and ancient woodland and are often larger than RPAs.

Impact Assessment Methodology

10.6.28 This assessment considers the potential effects on existing arboricultural features during the construction, operational, and decommissioning phases of the Scheme.

10.6.29 The following arboricultural features are scoped into the assessment in accordance with the Planning Inspectorate's Scoping Opinion:

- Ancient and veteran trees and ancient woodlands within the Sites; and
- All arboricultural features, including ancient and veteran trees within the Cable Route Corridor.

10.6.30 The following sources of information were reviewed to assess the potential impacts to arboricultural features.

Table 10-5: Sources of Information for Assessment of Impacts

Element of Scheme Design	Document Reference
Chapter 3: The Scheme - provides a description of the proposed Scheme including the physical characteristics and key activities	**[EN010168/APP/6.1]**
Outline Landscape and Ecological Management Plan – provides an indicative layout of the Solar PV Sites and proposed tree planting	**[EN010168/APP/7.18]**
Works Plan – shows locations of temporary construction compounds along the Cable Route Corridor	**[EN010168/APP/2.3]**
Key Construction Phase Features – shows locations of proposed open cut trenching and trenchless solution (e.g. Horizontal Directional Drilling (HDD) in the Cable Route Corridor	**[EN010168/APP/6.2]**
Access Plan – shows permanent and temporary access points into the Solar PV Sites and the Cable Route Corridor as well as visibility splays	**[EN010168/APP/2.6]**

10.6.31 Impacts to arboricultural features have also taken account of the embedded mitigation provided in Section 10.9.

10.6.32 Effects on relevant trees are assessed by understanding both the sensitivity of the arboricultural receptor and the magnitude of the impact to that receptor to provide an overall assessment of the significance of the arboricultural effect. **Table 10-6** and **Table 10-7** below describe how this chapter defines the sensitivity of an arboricultural receptor, the magnitude of the impact and the significance of the overall arboricultural effect.

Sensitivity of Receptors

10.6.33 The sensitivity of arboricultural features to potential effects arising from the Scheme is defined below in **Table 10-6**.

Table 10-6: Criteria for Sensitivity/Value of Arboricultural Feature

Sensitivity (value)	Description
High	Ancient and veteran trees.
Medium	Trees protected by a TPO and/or classified as Category A in BS 5837:2012.
Low	Trees protected by a Conservation Area designation and/or classified as Category B in BS 5837:2012.
Negligible	Trees classified as Category C and U in BS 5837:2012

Magnitude of Impacts

10.6.34 The magnitude of impact to an arboricultural feature is defined below in **Table 10-7**.

Table 10-7: Criteria for Determining Magnitude of Impact

Sensitivity (value)	Description
High	Tree removal or significant tree pruning which alters the value/sensitivity of an arboriculture feature.
Medium	Canopy or root impacts which do not alter the value/sensitivity of an arboricultural feature but may have a medium to long term impact on tree condition, health and safe life expectancy.
Low	Canopy or roots impacts which do not meet the definitions of 'high' or 'medium' above and are likely to have a temporary/short term impacts on the condition of the arboricultural feature, health and safe life expectancy.
Negligible	Very minor impact to the arboricultural feature which does not meet the definitions of high, medium or low magnitude.
Neutral	No feasible impact to the arboricultural feature.

Assessment of Significance

10.6.35 Likely significant arboricultural effects for the purposes of the assessment, will be defined as effects which are assessed as having moderate significance or above, as defined in **Table 10-8** below. Where an effect can be moderate or minor in **Table 10-8**, and therefore either significant or not significant, professional arboricultural judgement will be applied to determine which is most appropriate.

Table 10-8: Criteria for Determining Significance of Effect

	Arboricultural Sensitivity (value)			
Magnitude of Impact	**High**	**Medium**	**Low**	**Negligible**
High	Major	Major/Moderate	Moderate	Moderate/Minor
Medium	Major/Moderate	Moderate	Moderate/Minor	Minor
Low	Moderate	Moderate/Minor	Minor	Negligible
Negligible	Moderate/Minor	Minor	Negligible	Negligible
Neutral	Neutral	Neutral	Neutral	Neutral

10.6.36 Mitigation and compensation measures will be required for any likely significant effects. The likely significant residual effects on arboricultural features will then be assessed in accordance with Tables 10-6 to 10-8 which will confirm what the effects are likely to be on each feature once advised mitigation and compensation is in place.

10.7 Baseline Conditions

10.7.1 This section describes the existing and anticipated future baseline conditions for the Arboriculture assessment.

Existing Baseline

10.7.2 The existing baseline conditions are derived from the completed desk and field-based studies.

Desk Study

10.7.3 **Table 10-9** below summarises the results of the desk study of the Order Limits and up to 50m of the Order Limits.

Table 10-9: Summary of Desk Study Results

Feature	Features and Description	Figure Reference
Tree Preservation Orders	• N/TPO8 (Grittleton Estate, Chippenham) Area Order TPO – Extents within Cable Route Corridor, east of Grittleton and bordering the area of proposed highway improvements at the Alderton Road and The Street Junction in Grittleton.	**ES Volume 2, Figure 10-01-09** and **ES Volume 2, Figure 10-01-18 [EN010168/APP/6.2]**

Feature	Features and Description	Figure Reference
	• N/TPO42 (M3 - No 3. Leigh Delamere) Mixed Order TPO – Within Cable Route Corridor, north of M4.	**ES Volume 2 Figure 10-01-09 [EN010168/APP/6.2]**
	• N/TPO31 (Grittleton Estate No 3.) Individual Orders - Within 47m of Cable Route Corridor, north of M4.	**ES Volume 2 Figure 10-01-09 [EN010168/APP/6.2]**
	• N/TPO7 (Grittleton Estate) Mixed Order TPO – Partially within Cable Route Corridor north of M4 and partially within 34m of Cable Route Corridor, south of M4.	**ES Volume 2 Figure 10-01-09 [EN010168/APP/6.2]**
Conservation Areas	• Rodbourne Conservation Area in Rodbourne, located beyond the Order Limits, northeast of parcel E;	**ES Volume 2 Figure 10-01-06 [EN010168/APP/6.2]**
	• Corsham Conservation Area in Corsham borders the Order Limits on Bath Road where a Cable Route Corridor access point is proposed;	**ES Volume 2 Figure 10-01-13 [EN010168/APP/6.2]**
	• Easton Conservation Area in Easton is beyond the Order Limits near a section of the Cable Route Corridor;	**ES Volume 2, Figure 10-01-13** and **ES Volume 2, Figure 10-01-14 [EN010168/APP/6.2]**
	• Grittleton Conservation Area in Grittleton within the Order Limits in areas of proposed highways improvements and a Cable Route Corridor access point;	**ES Volume 2 Figure 10-01-09 [EN010168/APP/6.2]**
Recorded Ancient Trees	The are no ancient tree records within the Order Limits or within 50m of the Order Limits.	N/A
Recorded Veteran Trees	The are no ancient tree records within the Order Limits or within 50m of the Order Limits.	N/A

Feature	Features and Description	Figure Reference
Ancient Woodland	• Lords Wood, an Ancient Replanted Woodland is located north of Lime Down C outside of the Order Limits but immediately adjoining parcel C21.	**ES Volume 2 Figure 10-01-03 [EN010168/APP/6.2]**
	• Surrendell Wood, an Ancient and Semi-Natural Woodland is located south of Lime Down C beyond the Order Limits, but within 20m of parcel C15 and near to a proposed temporary construction compound at the north of the Cable Route Corridor.	**ES Volume 2, Figure 10-01-03** and **ES Volume 2, Figure 10-01-04** and **ES Volume 2, Figure 10-01-08 [EN010168/APP/6.2]**
	• Bradfield Wood, an Ancient and Semi-Natural Woodland is located beyond the Order Limits near Lime Down D but it adjoins parcel D10.	**ES Volume 2 Figure 10-01-05 [EN010168/APP/6.2]**
	• North Bincombe Wood, an Ancient and Semi-Natural Woodland is located outside of the Order Limits but is bordered by field parcels E1, E2, E3 and E6.	**ES Volume 2, Figure 10-01-06** and **ES Volume 2, Figure 10-01-07 [EN010168/APP/6.2]**
	• Bincombe Wood, an Ancient and Semi-Natural Woodland is located west of Lime Down E, beyond the Order Limits next to field parcels E11, E12, E13, E14 and E15.	**ES Volume 2 Figure 10-01-07 [EN010168/APP/6.2]**
	• Seagry Wood, an Ancient Replanted Woodland is located southeast of Lime Down E and beyond the Order Limits close to field parcel E34.	**ES Volume 2 Figure 10-01-07 [EN010168/APP/6.2]**

Tree Surveys

10.7.4 A total of 1,021 individual trees, 226 groups of trees, 57 hedgerows and 11 woodlands were recorded altogether across the Order Limits.

10.7.5 52 veteran trees were recorded, none of which were found to be ancient. 6 woodlands were recorded as ancient in accordance with the desk study results.

10.7.6 A summary of the trees recorded is shown in **Table 10-10** below.

Table 10-10: Summary of Tree Classification

BS5837:2012 Quality Category	Number			
	Individual Trees	Group of Trees	Woodland	Hedgerows
A (high quality)	295	13	8	9
B (moderate quality)	334	114	3	41
C (low quality or young)	301	91	0	7
U (very low quality)	91	8	0	0
Total	**1021**	**226**	**11**	**57**

10.7.7 Full results of the tree survey are provided in the Tree Survey Schedule in **ES Volume 3, Appendix 10-2: Tree Survey Schedule [EN010168/APP/6.3]**. The locations of trees are also shown in **ES Volume 2, Figures 10-1-1 to 10-1-23: Tree Constraints Plans [EN010168/APP/6.2].**

10.7.8 It should be noted that due to the high-level survey methodology used for the Solar PV Sites, the tree survey data therefore contains a disproportionately large number of mature and Category A trees of large dimensions which does not necessarily reflect the average age or quality of trees within the Order Limits.

Future Baseline

10.7.9 This section considers those changes to the baseline conditions, as described above, that might occur in the absence of the Scheme and during the time period over which the Scheme would be in place. The future baseline scenarios are set out in **Chapter 6: EIA Methodology [EN010168/APP/6.1]**.

10.7.10 In the absence of the Scheme, it is anticipated that over the 60-year operation and maintenance lifetime of the Scheme, the baseline arboricultural features on the Solar PV Sites are likely to change negatively as a result of climate change (because of the effects of increasingly erratic weather patterns) and the progression of existing and future tree pests and diseases and potentially positively as a result of future land management.

10.7.11 Of note for the Study Area is the presence of ash dieback disease *Hymenoscyphus fraxineus* which was recorded frequently across Lime Down A, B, C, D and E during surveys. Veteran ash trees were occasionally recorded as

being affected by ash dieback disease. This disease was first officially recorded in the UK in 2012 and research from the UK and Europe predicts that 70-80% of ash trees may die from the disease (Ref 10-16). For the Study Area, this would result in a significant loss of some of largest trees with notable implications for landscape and ecology.

10.7.12 Other pests and diseases that may affect the future baseline arboricultural conditions of the Study Area include oak pests and pathogens such as chronic oak decline (COD) and acute oak decline (AOD); both complex disorders or syndromes of Quercus species as well as *Phytophthora* species infections.

10.7.13 While it is assumed that land within the Scheme will remain as farmland, an alternative scenario is that the future baseline arboricultural conditions may change positively in the Order Limits should any of the land fall out of agricultural use and change into secondary woodland through natural regeneration over time. While the Scheme design team is unaware of any planned programmes, it is also possible that environmental land management schemes may also be implemented within the Solar PV Sites and Cable Route Corridor which could see the planting of new hedgerows, trees and woodland, and therefore improve future Site conditions. The potential for these scenarios is however considered low as there is no evidence available at present to support their likelihood of occurrence.

10.8 Potential Impacts

10.8.1 Embedded mitigation measures being incorporated into the design and construction of the proposed Scheme are set out in Section 10.8.2 below. Prior to the implementation of any mitigation (embedded or additional), the proposed Scheme has the potential to affect arboricultural features (positively or negatively), during construction in the following ways:

- Tree removal, RPA incursions and access facilitation pruning of retained trees for the creation of temporary construction access routes and visibility splays;
- Tree removal, RPA incursions and access facilitation of retained trees for the creation of permanent access routes and visibility splays;
- Tree removal, RPA incursions and access facilitation of retained trees for the creation of temporary construction compounds/parking areas/materials storage areas;
- Tree removal, RPA incursions and access facilitation of retained trees for the creation of permanent parking areas and compounds;
- Tree removal, RPA incursions and access facilitation pruning of retained trees for the installation of cables, Solar PV Panels, services, protective fencing and ancillary equipment; and

- Access facilitation pruning to accommodate movements of tall and/or heavy machinery and AIL.

10.8.2 Potential impacts to arboricultural features from the operation and maintenance phase of the Scheme include:

- Tree pruning to maintain permanent access routes, visibility splays, parking areas and compounds; and
- Pruning to reduce shading to the Solar PV Panels.

10.8.3 The risks of these impacts during the operation and maintenance phase, during routine maintenance and large-scale equipment replacement are likely to be minor given that suitable distance offsets from trees have been applied during the design stage. These offsets or buffers were informed by baseline tree surveys, details of which can be found at sections 10.6.8-10.6.14.

10.8.4 No significant impacts to arboricultural features from the decommissioning of the Scheme are anticipated, given that the Scheme's infrastructure is likely to be removed via pre-established permanent access routes and is therefore unlikely to require any additional tree removal, pruning or root loss.

10.9 Embedded Mitigation

10.9.1 The Scheme has been designed, as far as practicable, to avoid and reduce impacts and effects on arboricultural features by embedding mitigation measures into the design process. In addition, how the Scheme is constructed, operated and maintained and decommissioned would be controlled in order to manage and minimise potential environmental effects (required as a result of legislative requirements and/or standard sectoral practices).

10.9.2 The following embedded mitigation measures have been incorporated into the Scheme design.

Construction

- Significant tree and woodland planting is proposed within the Solar PV Sites to compensate for any tree losses associated with the Scheme – secured in the **Volume 7, Outline Landscape and Ecological Management Plan (LEMP) [EN010168/APP/7.18];**
- No new landscaping is proposed within the veteran tree buffers zones to avoid soil disturbance to veteran trees during construction – secured in **Volume 7, Outline LEMP [EN010168/APP/7.18]**;
- Cable Route Corridor design work has been undertaken in order to retain, avoid and fully protect identified veteran trees to provide sufficient space to allow for open cut trenching around veteran tree buffer zones ensuring

impacts to veteran trees are avoided – secured in the Works Plan at **Volume 2, Works Plan [EN010168/APP/2.3]**;

- Micro-siting will be employed to avoid the removal of veteran trees and high-quality category A trees within the Cable Route Corridor. If micro-siting cannot be achieved around such arboricultural features, trenchless techniques such as Horizontal Directional Drilling (HDD) will be explored to avoid impacts to veteran and category A trees – secured at **Volume 7, Outline Construction Environmental Management Plan [EN010168/APP/7.12]**;
- An Arboricultural Clerk of Works (ACoW) will be required to guide consented tree removal and pruning and ensure tree protection measures are put in place and maintained to safeguard trees during construction – secured at **Volume 7, Outline Construction Environmental Management Plan [EN010168/APP/7.12]**;
- If required, tree removal along the Cable Route Corridor will preferentially target trees of lower quality over those of higher quality. Veteran trees will not be removed in the Cable Route Corridor. The order of priority for tree removal will be as follows: Category U, C, B and lastly Category A trees – secured in at **Volume 7, Outline Construction Environmental Management Plan [EN010168/APP/7.12];**
- Tree pruning requirements will be specified by an ACoW in collaboration with the construction contractor. Pruning will be minimised wherever possible. The order of priority for tree pruning will be as follows: Category U, C, B and A trees. All tree works will be undertaken by a suitably qualified arborist working in accordance with British Standard 3998:2010 Tree Work – Recommendations Ref 10-13 – secured at **Volume 7, Outline Construction Environmental Management Plan [EN010168/APP/7.12];**
- Temporary construction compounds will be sited outside of the canopy spreads and RPAs of adjacent trees and woodlands – secured at **Volume 7, Outline Construction Environmental Management Plan [EN010168/APP/7.12]**;
- Trees within the Solar PV Sites will be protected throughout construction by the installation of perimeter fencing which will be installed prior to construction. Any trees within the Solar PV Sites not protected by perimeter fencing will be protected with tree protection fencing for the duration of construction – secured at **Volume 7, Outline Construction Environmental Management Plan [EN010168/APP/7.12];**
- Retained trees along the Cable Route Corridor will also be protected with tree protection fencing for the duration of works as appropriate in sections of

the Cable Route Corridor – secured at **Volume 7, Outline Construction Environmental Management Plan [EN010168/APP/7.12];**

- Fit for purpose temporary ground protection measures will be used where unavoidable vehicle/machinery access is required within the RPAs of retained trees - secured at **Volume 7, Outline Construction Environmental Management Plan [EN010168/APP/7.12]**;
- Any excavation work within the RPAs of retained trees (such as for cable trenches, access tracks or permanent/temporary access points) will be undertaken using hand tools only and the root pruning methodology within **Volume 3, Appendix 10-1 Arboricultural Impact Assessment and Outline Arboricultural Method Statement [EN010168/APP/6.3]**. All excavation work within RPAs will also be supervised by the ACoW – secured at **Volume 7, Outline Construction Environmental Management Plan [EN010168/APP/7.12];**
- Tall machinery working near the canopies of retained trees will be accompanied by a banksman to ensure no damage occurs to tree stems and canopies - secured at **Volume 7, Outline Construction Environmental Management Plan [EN010168/APP/7.12];**
- All machinery used for trenchless solutions (e.g. HDD) will be situated outside the RPAs of retained trees. Entry and exit points for the trenchless solutions will be sited more than 15m from retained tree stems. Trenchless solution depths will exceed 1m under RPAs - secured at **Volume 7, Outline Construction Environmental Management Plan [EN010168/APP/7.12];**
- Machinery movements and spoil/material storage will avoid the RPAs of retained trees within the Solar PV Sites and the Cable Route Corridor - secured at **Volume 7, Outline Construction Environmental Management Plan [EN010168/APP/7.12]**; and
- Dust and sediment controls will be in place for relevant works near ancient woodlands along the Cable Route Corridor and near the Solar PV Sites - secured at **Volume 7, Outline Construction Environmental Management Plan [EN010168/APP/7.12].**

Operation

- Perimeter fencing (wooden post fencing with deer wire mesh to a height of 2.5m) will be installed and remain in situ during operation of the Solar PV Sites. This will suitably protect trees on the field boundaries of the Sites from operation and maintenance impacts such as maintenance and replacement activities – secured at **Volume 7, Outline LEMP [EN010168/APP/7.18];**
- New tree and woodland planting is not proposed within the open cut sections of Cable Route Corridor, ensuring that future tree removal will not

be required to remedy possible tree root interference with the cables – secured at **Volume 7, Outline LEMP [EN010168/APP/7.18];**

- No new tree planting is proposed within the veteran tree buffer zones of identified veteran trees to ensure no future shading and resulting decline in the health and longevity of veteran trees – secured at **Volume 7, Outline LEMP [EN010168/APP/7.18]**;
- Replacement activities will be facilitated through use of access tracks installed during the construction of the Scheme, ensuring no additional root or canopy impacts to retained trees during replacement activities – secured at **Volume 7, Outline Operational Environmental Management Plan [EN010168/APP/7.13]**;
- Permanent access points and visibility splays for the Solar PV Sites will be the same as those used for construction, ensuring no additional tree removal or pruning during operation of the Sites – secured at **Volume 7, Outline Operational Environmental Management Plan [EN010168/APP/7.13]**; and
- All maintenance and replacement activities near veteran trees will be supervised by an ACoW to ensure no machinery or materials enter the Veteran tree buffer zone. This may be achieved through implementation of ground protection and/or tree protection fencing around the veteran tree buffer zones during maintenance and replacement activities – secured at **Volume 7, Outline Operational Environmental Management Plan [EN010168/APP/7.13]**.

Decommissioning

- Permanent access points and visibility splays for the Solar PV Sites will be the same as those used for construction, ensuring no additional tree removal or pruning during decommissioning of the Solar PV Sites – secured at **Volume 7, Outline Decommissioning Strategy [EN010168/APP/7.14]**;
- Decommissioning and removal of Solar PV Panels will take place using the existing access tracks installed at the construction stage, ensuring no additional tree root or canopy impacts to retained trees during decommissioning works – secured at **Volume 7,Outline Decommissioning Strategy [EN010168/APP/7.14]**;
- Cabling will likely be left in situ after decommissioning which will avoid any future tree removal or root impacts from excavation to remove cables. Should cabling require removal, it may be possible to remove cabling at the jointing bays and extracting it from the ducting to avoid the need for significant lengths of open cut trenching which may harm trees – secured at **Volume 7, Outline Decommissioning Strategy [EN010168/APP/7.14]**; and

- Prior to decommissioning of the Scheme, a tree survey must be undertaken in accordance with BS 5837:2012 (or in line with most recent adopted standard and industry guidelines) of the Order Limits. An Arboricultural Impact Assessment must be produced alongside an Arboricultural Method Statement to guide the decommissioning works and ensure potential tree impacts are identified, mitigated and compensated for where appropriate - secured at **Volume 7,Outline Decommissioning Strategy [EN010168/APP/7.14]**.

10.10 Assessment of Likely Impacts and Effects

10.10.1 This section considers the potential impacts outlined in Section 10.8 and, taking into account the committed mitigation measures as detailed in Section 10.8.2, assesses the potential for the Scheme to generate effects using the methodology as detailed in Section 10.5.1.

Construction

Effects on Ancient and Veteran Trees and Ancient Woodlands at the Solar PV Sites

10.10.2 No ancient or veteran trees require removal at the Solar PV Sites. No ancient woodland requires removal at the Solar PV Sites.

10.10.3 **Table 10-11** below shows the likely effects to ancient and veteran trees and ancient woodlands at the Solar PV Sites during construction and the likely significance of that effect. Significant effects are highlighted in **bold**. Ancient and veteran trees and ancient woodlands are underlined in all Tables.

Table 10-11: Likely Effects on Ancient and Veteran Trees and Ancient Woodlands at the Solar PV Sites

Site	Tree Reference	Value/Sensitivity	Magnitude of Impact	Significance of Effect
Lime Down E	North Bincombe Wood	High	Negligible arboricultural impact to North Bincombe Wood overall. Crown lifting and root pruning may be required to facilitate construction of a 242m section of access track within the Ancient Woodland Buffer Zone. Impacts only anticipated if a) the base of the existing informal track in this location requires removal to install a new subbase (which may cause root damage to edge trees North Bincombe Wood) and b) if the canopies of edge trees require pruning to provide clearance for construction traffic.	Minor – for woodland edge trees only

Site	Tree Reference	Value/Sensitivity	Magnitude of Impact	Significance of Effect

Effects on All Arboricultural Features within the Cable Route Corridor

10.10.4 The following tree removals may be required along the Cable Route Corridor as detailed in **Table 10-12**. Significant effects are highlighted in **bold**. Ancient and veteran trees and ancient woodlands are underlined.

Table 10-12: Likely Tree Removals and Effects for All Trees along the Cable Route Corridor

BS5837:2012 Quality Category	Tree Reference	Value/Sensitivity	Magnitude of Impact	Significance of Effect
Category A trees, hedgerows and tree groups	N/A	Medium	High	N/A

BS5837:2012 Quality Category	Tree Reference	Value/Sensitivity	Magnitude of Impact	Significance of Effect
Category B trees, hedgerows and tree groups	G0011, G0016*, G0017*, G0019, G0020, G0024, G0025, G0026, G0034 (partial), G0037 (partial), G0038, G0042 (partial), G0043, G0044, G0046, G0048, G0051, G0052, G0053, G0055, G0056, G0057, G0058, G0059 (partial), G0060, G0061, G0062, G0063, G0064 (partial), G0066 (partial), G0069 (partial), G0070 (partial), G1001, G1007 (partial), G1011, G1013, G1017, T0031, T0036, T0048, T0050, T0052, T0053, T0070*, T0071*, T0110*, T0117, T0118, T0123, T0131, T0134, T0136, T0137, T0140, T0143, T0155, T0156, T0157, T0160, T0161, T0166, T0167, T0169, T0170, T0173, T0174, T0176, T0177, T0181, T0186, T0191, T0195, T0197, T0207, T0215, T1025, T1050, T1051, T1057, T1058, T1060, T1061, T1063, T0293, T0291, T0292, T0290, T0288, G0123, T0281, G0112 (partial), T0280, T0267, T0271, G0106, T0274	Low	High	**Moderate**
Category C trees and tree groups	G0001 (partial), G0006, G0010 (partial), G0018, G0021, G0022, G0023, G0028, G0029, G0033 (partial), G0039 (partial), G0040, G0041, G1003,	Negligible	High	Minor

BS5837:2012 Quality Category	Tree Reference	Value/Sensitivity	Magnitude of Impact	Significance of Effect
	G1014, T0001, T0003, T0004, T0015, T0017, T0037, T0038, T0039, T0040, T0046, T0049, T0051, T0097, T0098, T0102, T0103, T0104, T0112, T0113, T0114, T0116, T0120, T0121, T0122, T0124, T0126, T0132, T0133, T0135, T0138, T0190, T0208, T0209, T0210, T1005, T1006, T1007, T1008, T1009, T1026, T1048, T1049, T1052, T1065, G0122, G0121, T0294, T0289, G0135, G0132, G0128, T0300, G0127, G0126, T0299, G0125, T0297, T0296, G0124, T0295, T0285, G0114 (partial), G0111, G0110.			
Category U trees and tree groups	G1002, G1004, T0002, T0033, T0075*, T0115, T0119, T0125, T0211, T1001, T1002, T1003, T1004, T1013, T1043, T1044, T1045, T1046, T1047, T1053, T1054, T1056, T1064, T0287, T0002, T0273.	Negligible	High	Minor

*trees subject to a TPO

10.10.5 The following trees in **Table 10-13** may also be subject to root and canopy impacts from construction activities along the Cable Route Corridor. Significant effects are highlighted in **bold**. Ancient and veteran trees and ancient woodlands are underlined.

Table 10-13: Likely Canopy/Root Impacts and Effects on All Trees along the Cable Route Corridor

BS5837:2012 Quality Category	Tree Reference	Value/Sensitivity	Magnitude of Impact	Significance of Effect
Category A trees and tree groups	W0005 - North Bincome Wood, W0001 – Surrendell Wood, T0067, T0047, T0139, T0153, T1010, T1011, T0286, C9-T4.	High	Neutral	Neutral
Category A trees and tree groups	T0020, T0021, T0034, T0035, T0074, T0078, T0203, D15-T1, D-T30, D-T29, D-T28, D-T27, T0168, D18-T2, T0171, T0163, T0164, T0165, G0047, T0154, T0158, T0162, T0175, T0159, T0178, T0179, T0180, T0182, T0183, T0184, T0185, T0187, T0188, T0189, T0192, T0193, T0204, T0203, E2-T2, T0198, T0199, E1-T1, T0200, T0201, T0202, T1059, C24-T2, T1069, C35-T1, C25-T2, C25-T4, T0302, T0303, T0305, T0306, T0298, G0134,-E9-T2, E-T15, E-T16, E-G1, E-T12, T0279, T0278, T0277, T0272, G0107, G0108, G0109, T0275, G0068, T0018, T0205,	Medium	Medium	**Moderate**

BS5837:2012 Quality Category	Tree Reference	Value/Sensitivity	Magnitude of Impact	Significance of Effect
	T0206, T1012, T0066, T0236, T0241, T0218, T0231. T0250, T0241, T0240, T0242, T0251, T0238			
Category B trees and tree groups	C18-T1, T0194, T0196, C18-T3,	High	Neutral	Neutral
Category B trees and tree groups	T0234, G0093, T0266, T0143, C22-T1, B3-T3, D24-T3, D24-T4, G0030, G1012, T0007, T0011, T0013, T0070, T0071, T0077, T0085, T0096, T0143, T0151, T0152, T0266, T0172, T0301, G0015, G0073, G0017, G0015, G0032, T0223, G0075, G0076, T0227, T0232, T0230, T0229, G1006, T0256, T0252, T0244, T0243, G0091, G0089, G0085, T0095, T0100, G0031, G1016	Low	Low	Minor
Category C trees and tree groups	C18-T2	Negligible	Neutral	Neutral
Category C trees and tree groups	G0002, G0003, G005, G0007, G0029, G0079, T0254, A10-T6, C-T88, C22-T1, C-T89, G1015, T0005, T0008, T0009, T0010, T0012, T0014, T0016, T0023, T0024,	Negligible	Low	Negligible

BS5837:2012 Quality Category	Tree Reference	Value/Sensitivity	Magnitude of Impact	Significance of Effect
	T0026, T0027, T0028, T0029, T0079, T0080, T0081, T0082, T0087, T0150, T0212, T0214, T0254, T0311, G0129, T0222, T0217, T0216, G0074, G0072, T0220, G0078, G0033, T0226, T0233, T0249, T0105, G0008, G0087, G0086, G0009, G0092, G0090, G0005, T0043, G0088, T0239, T0145, G0084, T0237, T0099, G0083, T0101			
Category U trees and tree groups	C-T19, G0027, T0221, T0219, T0224, T0225, T0248, T0257.	Negligible	Low	Negligible

10.10.6 Details of the nature of the anticipated impacts to trees listed in **Table 10-13** is provided in the Arboricultural Impact Assessment and Outline Arboricultural Method Statement **Appendix 10-1 Arboricultural Impact Assessment and Outline Arboricultural Method Statement [EN010168/APP/6.3]** and below in **Table 10-15**.

Operation

10.10.7 During operation of the Scheme, maintenance and replacement activities (as detailed in **ES Chapter 3, The Scheme [EN010168/APP/6.1]**) will need to take place during the Scheme's 60 year lifespan. Embedded mitigation is in place to protect trees from impacts to arboricultural features during maintenance and replacement activities (see section 10.9) which will ensure no impacts to retained trees during Scheme operation.

10.10.8 During operation, trees and woodlands planted at the Solar PV Sites will mature and have a significant positive impact upon overall canopy cover.

Decommissioning

10.10.9 Given that the Solar PV Panels are anticipated to be removed using the access tracks and permanent access points installed during the construction stage, no significant effects to ancient and veteran trees and ancient woodland at the Solar PV Sites are anticipated during decommissioning.

10.10.10 It is anticipated that the cables installed within the Cable Route Corridor will not be removed at decommissioning. Excavation work to remove cables is therefore not anticipated and therefore no significant effects to trees along the Cable Route Corridor are anticipated during decommissioning. If cable removal is required, it can be undertaken from the jointing bays by extracting the cables from the ducting, thereby avoiding the need for extensive open cut trenching that could affect arboricultural features.

10.10.11 Embedded mitigation is secured (see section 10.9) for a BS5837:2012 tree survey (or most recent updated standard or industry guidelines) to be undertaken prior to decommissioning in order to inform an Arboricultural Impact Assessment and Arboricultural Method Statement to guide decommissioning works and specify mitigation and compensation measures as required.

10.11 Additional Mitigation

10.11.1 Potential significant effects have been identified in this arboriculture assessment, so additional mitigation and monitoring is proposed.

Monitoring

10.11.2 Likely Significant effects (LSEs) are identified so the Outline Construction Environmental Management Plan includes monitoring requirements to minimise and mitigate any potential significant residual effects as far as practicable.

10.12 Residual Effects and Conclusions

10.12.1 This section summarises the residual significant effects of the Scheme on Arboriculture following the implementation of embedded and additional mitigation.

Residual Effects for Ancient and Veteran Trees and Ancient Woodlands at the Solar PV Sites

10.12.2 Neutral and non-significant impacts are anticipated for all veteran trees at the Solar PV Sites provided that embedded mitigation measures are followed, Neutral and non-significant impacts are anticipated for ancient woodlands at the Solar PV Sites provided embedded mitigation measures are followed, however, minor and non-significant impacts to a small number of trees on the outer northern edge of W0005 - North Bincombe Wood are anticipated from the installation of an access track near the woodland.

Residual Effects for All Trees within the Cable Route Corridor

10.12.3 Neutral and non-significant residual impacts are anticipated to the ancient woodlands and veteran trees W0005 - North Bincome Wood, W0001 – Surrendell Wood, T0067, T0047, T0139, T0153, T1010, T1011, T0286, C9-T4, C18-T1, T0194, T0196, C18-T3, C18-T2. The spatial clearances within the Cable Route Corridor allow for the retention, avoidance and protection of each of these features and their protective buffer zones.

10.12.4 A **moderate** residual impact is anticipated from the potential RPA incursions and pruning requirements of Category A trees along the Cable Route Corridor in order to create working space, visibility splays at access points, the creation of open cut sections of cable route trenching and a 10m width permanent easement. It is likely that many of the Category A trees listed precautionarily in **Table 10-13** as being affected can be avoided and fully protected so that potential impacts are minimised.

10.12.5 A **moderate** residual impact is anticipated from the potential removal of Category B trees along the Cable Route Corridor in order to create working space, open cut sections of cable route trenching and a 10m width permanent easement. It is likely that many of the Category B trees listed precautionarily in **Table 10-12** as requiring removal can be retained through micro-siting during construction.

10.12.6 Minor and non-significant residual impacts are anticipated from the removal of Category C and Category U trees along the Cable Route Corridor as well as potential canopy and root impacts to Category B trees along the Cable Route Corridor.

10.12.7 Significant residual effects are defined as **moderate** or **major**. These are listed in **Table 10-14** (construction). No significant residual effects have been identified for the operation stage of the Scheme. Non- significant residual effects are summarised in **Appendix 10-15: Summary of Non Significant Effects [EN010168/APP/6.3]**

10.12.8 See **Chapter 22: Summary of Significant Effects [EN010168/APP/6.1]** for a summary of significant effects.

Table 10-14: Summary of Significant Residual Effects (Construction)

Receptor	Sensitivity (value)	Description of impact	Mitigation/Enhancement measure	Residual effect after mitigation
Construction Phase – All Trees along the Cable Route Corridor				
Category B Trees: G0011, G0016*, G0017*, G0019, G0020, G0024, G0025, G0026, G0034 (partial), G0037 (partial), G0038, G0042 (partial), G0043, G0044, G0046, G0048, G0051, G0052, G0053, G0055, G0056, G0057, G0058, G0059 (partial), G0060, G0061, G0062, G0063, G0064 (partial), G0066 (partial), G0069 (partial), G0070 (partial), G1001, G1007 (partial), G1011, G1013, G1017, T0031, T0036, T0048, T0050, T0052, T0053, T0070*, T0071*, T0110*, T0117, T0118, T0123, T0131, T0134, T0136, T0137, T0140, T0143, T0155, T0156, T0157, T0160, T0161, T0166, T0167, T0169, T0170, T0173, T0174, T0176, T0177, T0181, T0186, T0191, T0195, T0197, T0207, T0215, T1025, T1050, T1051, T1057, T1058, T1060, T1061, T1063, T0293, T0291, T0292, T0290, T0288, G0123, T0281, G0112 (partial), T0280, T0267, T0271, G0106, T0274	Low	Potential removal to achieve: working corridors and/or permanent easements for cables; temporary access points and visibility splays; and temporary construction compounds	Micro-siting, tree protection fencing, ground protection, root pruning with hand digging, tree removal hierarchy prioritising removal of lower quality trees.	**Moderate** (if some Category B trees require removal after micro-siting)

Receptor	Sensitivity (value)	Description of impact	Mitigation/Enhancement measure	Residual effect after mitigation
Category A trees: T0020, T0021, T0034, T0035, T0074, T0078, T0203, D15-T1, D-T30, D-T29, D-T28, D-T27, T0168, D18-T2, T0171, T0163, T0164, T0165, G0047, T0154, T0158, T0162, T0175, T0159, T0178, T0179, T0180, T0182, T0183, T0184, T0185, T0187, T0188, T0189, T0192, T0193, T0204, T0203, E2-T2, T0198, T0199, E1-T1, T0200, T0201, T0202, T1059, C24-T2, T1069, C35-T1, C25-T2, C25-T4, T0302, T0303, T0305, T0306, T0298, G0134, E9-T2, E-T15, E-T16, E-G1, E-T12, T0279, T0278, T0277, T0272, G0107, G0108, G0109, T0275, G0068, T0018, T0205, T0206, T1012, T0066, T0236, T0241, T0218, T0231. T0250, T0241, T0240, T0242, T0251, T0238	Medium	Canopy pruning and/or root impacts from sections of open cut trenching, temporary access points, indicative construction access routes and visibility splays along Cable Route Corridor	Excavation and construction utilising low impact methodology and materials under arboricultural monitoring/supervision. Suitable methodology is to be outlined in OAMS. Input into access route design. Pruning to be specified by ACoW and undertaken in accordance with BS3998:2010. Root pruning/hand digging under ACoW supervision. Retention of subbases for existing access tracks.	**Moderate**

10.13 Cumulative Effects Assessment

Inter-Project Cumulative Effects

10.13.1 This section presents an assessment of cumulative effects between the Scheme and other proposed and committed plans and projects.

10.13.2 This assessment has been made with reference to the methodology and guidance set out in **Chapter 6, EIA Methodology [EN010168/APP/6.1]** of this ES and shortlist of cumulative plans and projects identified at **ES Volume 2, Figure 21-1: Location of Short List Cumulative Developments [EN010168/APP/6.2]** of this ES.

10.13.3 For individual receptors, this cumulative effect assessment identifies where the assessed effects of the Scheme could interact with effects arising from other plans and/or projects on a spatial and/or temporal basis.

10.13.4 For Arboriculture, cumulative effects are relevant where arboricultural features within the Study Area may also be impacted by other projects in the local area. For ancient woodlands, cumulative effects are considered relevant using professional judgement where such woodlands within the Study Area or within 50m of the Study Area may also be impacted by other projects in the local area. For all other arboricultural features, cumulative effects are relevant where trees are within 15m of the Study Area as this reflects the maximum influencing distance provided by BS5837:2012.

10.13.5 Plans and projects identified from **ES Volume 3, Appendix 21-1 Long List of In-Combination Effects and Cumulative Developments [EN010168/APP/6.3]** of this ES which have the potential to result in cumulative effects on Arboriculture are set out in **Table 10-15** and considered below. The remaining plans and projects were reviewed in relation to Arboriculture receptors identified in this assessment and no further potential for cumulative effects are identified.

Table 10-15: Plans and projects relevant to Arboriculture cumulative effects assessment

ID	Reference and Description	Distance from the Scheme	Potential Cumulative Effects
123	PL/2024/01560 - Pending Consideration (Validated 12/02/2024)	0km - Development adjacent to the Existing Melksham Substation and within the Cable Route Corridor.	Potential for further albeit minor loss of individual trees, groups of trees and hedgerows. No significant cumulative effects have been identified on adoption of embedded mitigation.
129	PL/2022/09253 - Approved (27/04/2023)	0km -Development adjacent to the Existing Melksham Substation and within the Cable Route Corridor.	Potential for further albeit minor loss of individual trees, groups of trees and hedgerows. No significant cumulative effects have been identified on adoption of embedded mitigation.
346	PL/2024/09410 - Pending Consideration (Validated 29/10/2024)	0.1km (from Cable Route Corridor)	Potential for further albeit minor loss of individual trees, groups of trees and hedgerows. No significant cumulative effects have been identified on adoption of embedded mitigation.
243	PL/2023/08481- Approved (Validated 31/01/2025)	0.1km (from Cable Route Corridor)	Potential for further albeit minor loss of individual trees, groups of trees and hedgerows. No significant cumulative effects have been identified on adoption of embedded mitigation.

In-Combination Cumulative Effects

10.13.6 In-combination cumulative effects are those where impacts from two or more environmental disciplines are considered likely to result in a new or different likely significant effect, or an effect of greater significance, than any one of the impacts on their own. The identified in-combination effects are set out within **ES Volume 1, Chapter 21 Cumulative and In-Combination Effects [EN010168/APP/6.1]**.

10.13.7 No in-combination effects alongside arboriculture have been identified as a result of the Scheme.

10.14 References

Ref 10-1 Town and Country Planning Act 1990. Available at: https://www.legislation.gov.uk/ukpga/1990/8/contents [Accessed 18 August 2025]

Ref 10-2 Department for Energy Security and Net Zero (March 2023; January 2024). Overarching National Policy Statement for Energy (EN-1). Available at: https://assets.publishing.service.gov.uk/media/65 bbfbdc709 fe1000 f637052/overarching-nps-for-energy-en1.pdf [Accessed 18 August 2025]

Ref 10-3 Department for Energy Security and Net Zero (January 2024). National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: https://assets.publishing.service.gov.uk/media/65 a7889996 a5 ec000 d731 aba/nps-renewable-energy-infrastructure-en3.pdf [Accessed 18 August 2025]

Ref 10-4 Department for Energy Security and Net Zero (2023) National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: https://assets.publishing.service.gov.uk/media/65a78a5496a5ec000d731a bb/nps-electricity-networks-infrastructure-en5.pdf [Accessed 18 August 2025]

Ref 10-5 Ministry of Housing, Communities and Local Government (December 2023). National Planning Policy Framework. [Accessed 18 August 2025]

Ref 10-6 Wiltshire Local Development Framework (2015). Wiltshire Core Strategy. Available at: https://chippenhamneighbourhoodplan.org.uk/wp-content/uploads/2018/09/01-Wiltshire-Core-Strategy-Jan-2015.pdf [Accessed 18 August 2025]

Ref 10-7 Draft Wiltshire Local Plan. Available at: Submission and document library - Wiltshire Council and Wiltshire Local Plan Examination [Accessed 18 August 2025]

Ref 10-8 Joint Melksham Neighbourhood Plan Steering Group (2021). Joint Melksham Neighbourhood Plan 1. Available at: https://www.melkshamneighbourhoodplan.org/_files/ugd/da341b_a77fec5 a6e68413d80560425e1368f24.pdf [Accessed 18 August 2025]

Ref 10-9 Joint Melksham Neighbourhood Plan Steering Group (2021). Emerging Joint Melksham Neighbourhood Plan 2. Available at:https://www.melkshamneighbourhoodplan.org/_files/ugd/fcc864_dd939 a21c5ae46cb9b6f06143a146e1d.pdf [Accessed 18 August 2025]

Ref 10-10 Natural England and Forestry Commission. (Published 14 January 2022). Guidance – Ancient woodland, ancient trees and veteran trees: advice for making planning decisions. Available at:

https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions [Accessed 18 August 2025]

Ref 10-11 Ministry of Housing, Communities and Local Government, Ministry of Housing, Communities & Local Government (2018 to 2021) and Department for Levelling Up, Housing and Communities (Published 6 March 2014). Tree Preservation Orders and Trees in Conservation Area. Available at: https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas [Accessed 18 August 2025]

Ref 10-12 BSI Standards Publication (April 2012). BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.

Ref 10-13 BSI Standards Publication (December 2010). BS 3998:2010 Tree work – Recommendations.

Ref 10-14 Quantum Geographic Information System (QGIS) (2024). Open Source Geospatial Foundation Project. Available at: https://www.qgis.org/ [Accessed 18 August 2025]

Ref 10-15 DEFRA. MAGIC Maps. Available at: https://magic.defra.gov.uk/magicmap.aspx [Accessed 18 August 2025]

Ref 10-16 The Tree Council (June 2020). Ash Dieback Disease – A Guide for Tree Owners. Available at: https://treecouncil.org.uk/wp-content/uploads/2020/06/Tree-Council-Ash-dieback-tree-owners-guide-FINAL.pdf [Accessed 18 August 2025]

Ref 10-17 The Woodland Trust - Ancient Tree Inventory. Available at: https://ati.woodlandtrust.org.uk/tree-search/?v=2804451&ml=map&z=13&gad_source=1&gad_campaignid=923099488&gbraid=0AAAAD4spty2AJzAo7YRTFQMjApkW_jJ6&gclid=Cj0KCQjwvajDBhCNARIsAEE29Wq2mzLo9mbml6cAC-sgQ9l_33AXazSQtDXddGrhAXDJd9MU1AMSVvkaAh28EALw_wcB&gclsrc=aw.ds&nwLat=53.52816634231334&nwLng=-2.400255203247184&seLat=53.43377616815948&seLng=-2.0746135711674185 [Accessed 18 August 2025]

Ref 10-18 Historic England – List of Conservation Areas. Available at: https://historicengland.org.uk/listing/the-list/map-search/ [Accessed 18 August 2025]

Ref 10-19 Ancient Tree Guide no.4: What are ancient, veteran and other trees of special interest?. Available at: https://www.ancienttreeforum.org.uk/resources/ancient-tree-guides/what-are-ancient-veteran-and-other-trees-of-special-interest/ [Accessed 18 August 2025]