

8 Archaeology and Cultural Heritage

8.1 Introduction

8.1.1 Pegasus Group have prepared this Archaeology and Cultural Heritage Environmental Statement (ES) Chapter in relation to a proposed solar development with associated infrastructure known as 'Nuneham Solar Farm' (the Proposed Development), located at land west of the A4074, to the northwest of Nuneham Courtenay, South Oxfordshire.

8.1.2 This Assessment and Baseline have been prepared by a Senior Heritage Director at Pegasus, who undertook the site visits and is a Member of the Chartered Institute for Archaeologists.

8.1.3 This chapter of the ES has been prepared to assess the likely effects of the Proposed Development on the significance of identified heritage assets and identify, where applicable, significant effects (in EIA terms) are likely to occur.

8.1.4 This ES Chapter is supported by the following Appendices:

- 8.1 – Heritage Baseline;
- 8.2 – Geophysical Survey; and
- 8.3 – Archaeological Evaluation Report

8.1.5 This ES Chapter is supported by the following Figures:

- Figure 8.1 – Key Heritage Assets;
- Figure 8.2 – Key Heritage Assets and Geophysical Survey Data

8.2 Assessment Approach

8.2.1 This assessment has been carried out using the results of archaeological fieldwork, site visits, desk-based sources, guidance documentation and professional judgement and considers the archaeological resource, built heritage and the historic landscape.

8.2.2 The basis of assessment has been undertaken using elements of the Historic England Good Practice Advice in Planning 3: The Setting of Heritage Assets (2017 2nd Ed), Historic England Good Practice Advice in Planning 2: Managing Significance in Decision-taking in the Historic Environment (2015) and the Historic England Advice Note 12: Statements of Heritage Significance: Analysing Significance in Heritage Assets (2019).

8.2.3 The ES chapter and associated appendices establish the heritage baseline, identifies any effects on this baseline as a result of the Proposed Development and where necessary proposes mitigation measures over and above those embedded into the scheme design. Specifically, the heritage baseline, as fully described in **Appendix 8.1**, sets out the significance of the key heritage resource within the Site and surrounds and sets out any contribution that the Site makes to the heritage significance of the identified heritage assets. In doing this, the assessment of the Proposed Development against this identified significance can be carried out, with the resultant effects recorded and quantified.

Legislative and Policy Context

8.2.4 This chapter has been prepared in accordance with the current legislation, national and local policy and guidance comprising:

- Planning (Listed Buildings and Conservation Areas) Act 1990;
- National Planning Policy Framework Chapter 16 – DCHLG 2023;
- Planning Practice Guidance (various dates); and
- South Oxfordshire Local Plan 2035.

8.2.5 Although the Proposed Development is not a Nationally Significance Infrastructure Project (NSIP) in terms of its scale, it is considered that the guidance documents for NSIP projects relevant to solar developments are relevant and a material consideration in the planning considerations for this Proposed Development. Of relevance for this ES Chapter are:

- National Policy Statement (NPS) EN-1 – Overarching National Policy Statement for Energy (November 2023 – in force on 17th January 2024); and
- NPS EN-3 – Renewable energy infrastructure (November 2023 – in force 17 January 2024).

National Planning Policy

8.2.6 Within the NPPF, the most relevant policies to this ES Chapter are contained within paragraphs 205–206 and 209–209.

Local Policy

8.2.7 Planning applications in the South Oxfordshire Area are currently considered the South Oxfordshire Local plan 2035 adopted December 2020. Policies relevant to this ES Chapter comprise:

- ENV6 – Historic Environment;
- ENV7 – Listed Buildings;
- ENV8 – Conservation Areas;
- ENV9 – Archaeology and Scheduled Monuments; and
- ENV10 – Historic Battlefields, Registered Parks and Gardens and Historic Landscapes.

National Planning Policy Statements

8.2.8 The relevant paragraphs from NPS EN-1 Overarching National Policy Statement for Energy (November 2023) are at section 5.9 paragraphs 5.9.27 – 5.9.36.

8.2.9 An important addition to the NPS EN-1 version of November 2023 was the discussion of the Government commitment to fully decarbonizing the power system by 2035 to underpin net zero ambitions. As part of this and to help achieve these targets, the

Government has concluded that there is a critical national priority ('CNP') for the provision of nationally significant low carbon infrastructure. The implications of this CNP are set out in the paragraphs below:

"4.2.15 Where residual non-HRA or non-MCZ impacts remain after the mitigation hierarchy has been applied, these residual impacts are unlikely to outweigh the urgent need for this type of infrastructure. Therefore, in all but the most exceptional circumstances, it is unlikely that consent will be refused on the basis of these residual impacts. The exception to this presumption of consent are residual impacts onshore and offshore which present an unacceptable risk to, or unacceptable interference with, human health and public safety, defence, irreplaceable habitats or unacceptable risk to the achievement of net zero. Further, the same exception applies to this presumption for residual impacts which present an unacceptable risk to, or unacceptable interference offshore to navigation, or onshore to flood and coastal erosion risk.

4.2.16 As a result, the Secretary of State will take as the starting point for decision-making that such infrastructure is to be treated as if it has met any tests which are set out within the NPSs, or any other planning policy, which requires a clear outweighing of harm, exceptionality or very special circumstances.

4.2.17 This means that the Secretary of State will take as a starting point that CNP Infrastructure will meet the following, non-exhaustive, list of tests:

- where development within a Green Belt requires very special circumstances to justify development;***
- where development within or outside a Site of Special Scientific Interest (SSSI) requires the benefits (including need) of the development in the location proposed to clearly outweigh both the likely impact on features of the site that make it a SSSI, and any broader impacts on the national network of SSSIs.***
- where development in nationally designated landscapes requires exceptional circumstances to be demonstrated; and***
- where substantial harm to or loss of significance to heritage assets should be exceptional or wholly exceptional. "***

8.2.10 The implications of these paragraphs when considering CNP scheme is that when considering any residual harm (or adverse effects) by virtue of the fact the Proposed Development is a CNP, the starting point for decision-making shall be that these harms (or adverse effects) are outweighed and the Proposed Development has met the tests of NPS EN-3 and any other policy requiring a clear outweighing of harm.

8.2.11 Of relevance within NPS EN-3 Renewable energy infrastructure (November 2023) to the Proposed Development, and its temporary nature, the NPS EN-3 sets out at a series of technical considerations for the Secretary of State ('SoS') to take into account in the decision-making process. Paragraphs 2.1.107 ff and 2.10.17 – 2.10.151 are of relevance along with paragraph 2.10.160 which states:

“Solar farms are generally consented on the basis that they will be time-limited in operation. The Secretary of State should therefore consider the length of time for which consent is sought when considering the impacts of any indirect effect on the historic environment, such as effects on the setting of designated heritage assets”.

Assessment Methodology

Study Area

- 8.2.12 The Scoping Request for this Proposed Development set out a study area of 3km from the Site boundary for designated assets (listed buildings, scheduled monuments, world heritage sites, registered parks and gardens, registered battlefields) and a 1km search from the Site boundary of the Oxfordshire Historic Environment Record for non-designated assets.
- 8.2.13 Once these study areas were established, the Screened Zone of Theoretical Visibility (SZTV) produced by the Landscape team was utilised. This SZTV provides a theoretical indication of where the Proposed Development would be visible from. The SZTV uses topography and large blocks of vegetation, such as block of woodland plantation, hedgerows etc to provide a more realistic indication of visibility of the Proposed Development. Vegetation within private gardens and smaller areas or individual trees are not included within the SZTV.
- 8.2.14 The SZTV is indicative and therefore has been used as a tool of assessment. It has been used to identify those assets with the potential for visibility of the Proposed Development and those which fall outside. It is a well-understood principle that the concept of ‘setting’ is not purely visual. Assets which fall outside the SZTV have been considered for changes to setting related to historic association or a functional association which does not depend solely on visibility.
- 8.2.15 Assets which fall outside the SZTV and do not have any other historic or functional connections with the Site have not been considered as having the potential to experience harm from the Proposed Development and were sieved out within the Heritage Baseline (Appendix 8.1).

Sources

- 8.2.16 Information and data utilised in the preparation of this Assessment and the Heritage Baseline comprised:
- The Oxfordshire Historic Environment Record (HER) for information on the recorded heritage resource within the vicinity of the site (including Historic Landscape Characterisation data), and any historic aerial photographs;
 - The National Heritage List for England for information on designated heritage assets;
 - Historic maps available online;
 - Historic aerial photographs held by Historic England Swindon;
 - Aerial photographs available online via Historic England's Aerial Photo Explorer and Britain from Above;

- Portable Antiquities Scheme data, available from their website;
- The Oxfordshire History Centre for relevant cartographic and documentary sources (where available);
- Reports of previous archaeological investigations within and immediately adjacent to the study area, available from the Oxfordshire HER/Archaeological Data Service/South Oxfordshire District Council planning website;
- Publications pertaining to the historic development of the study area (e.g. English Place Name Society volumes);
- Any existing geotechnical data relating to the site; and
- Online sources including geological data from the British Geological Survey and Cranfield University Soils and Agrifood Institute, Portable Antiquities Scheme data, satellite imagery from Google Earth, and LiDAR imagery from the Environment Agency.

Methodology

8.2.17 This ES Chapter considers the following in respect of heritage assets in order to provide an assessment of the effects of the Proposed Development upon an assets heritage significance:

- The heritage significance of an asset;
- The anticipated level of harm to that significance (including the nature of that harm – comparable to magnitude); and
- Whether this level of harm would constitute a ‘significant effect’ for the purposes of EIA.

8.2.18 Determination of each of the above has been undertaken in accordance with a robust methodology, formulated within the context of current best practice, recent case law, the relevant statute and policy provisions, and key professional guidance. The rationale for each is set out within the following three sections, alongside the relevant criteria and terminology used in their articulation.

Determining Heritage Significance

8.2.19 In accordance with the levels of significance articulated in the NPPF 2023, three levels of heritage significance are identified and will be utilised for the purposes of the assessment. These are presented in Table 8.1.

Table 8.1: Heritage Significance

Significance	Qualifying Criteria
Designated heritage assets of the highest significance	Grade I and II* Listed Buildings, Grade I and II* Registered Parks and Gardens, Scheduled Monuments, Protected Wreck Sites, World Heritage Sites and Registered Battlefields. Conservation Areas of special historic interest.

Significance	Qualifying Criteria
	*Also, non-designated archaeological remains of demonstrably equivalent significance to that of Scheduled Monuments (NPPF (2023) footnote 72).
Designated heritage assets of less than the highest significance	Grade II Listed Buildings and Grade II Registered Parks and Gardens. The majority of Conservation Areas.
Non-designated heritage assets	Buildings, monuments, sites, places, areas or landscapes identified as having a degree of significance meriting consideration in planning decisions, but which are not formally designated heritage assets (as defined within the PPG).

8.2.20 Sites, buildings or areas that have no heritage significance would not be considered heritage assets under the provisions of the NPPF (2023) and would not be considered as heritage receptors for the purposes of EIA.

Determining Level of Harm to Heritage Significance

8.2.21 Potential development effects upon the significance of known and potential heritage assets identified within the site will be determined with reference to harm and/or benefit, as defined within the NPPF (2023). The identification of harm would apply where the proposals would be anticipated to reduce an asset's heritage significance. The identification of heritage benefit would apply where the proposals would be anticipated to enhance (increase) heritage significance.

8.2.22 Where harm to the significance of a designated heritage asset is identified, it will be discussed in terms of it being either 'substantial' or 'less than substantial', as per the terms of NPPF (2023) paragraphs 207 and 208. The NPPF does not apply these same harm criteria to non-designated heritage assets.

8.2.23 Harm to the significance of non-designated heritage assets is treated separately under NPPF (2023) paragraph 209, which requires that in weighing applications that directly or indirectly affect non-designated heritage assets, **"a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset"**.

8.2.24 The methodology that will be adopted for the purposes of EIA in identifying levels of development effect upon the significance of designated and non-designated heritage assets will directly reflect the NPPF's position and language in this regard (Table 8.2).

Table 8.2 – Level of Heritage Harm/Benefit

Level of Harm / Benefit	Qualifying Criteria
Heritage Benefit	The asset's significance would be enhanced and/or better revealed. This would weigh in favour of the Proposed Development in the planning balance. It would be a desirable outcome, consistent with all key policy objectives and industry guidance provisions.

Level of Harm / Benefit	Qualifying Criteria
<p>No Harm</p>	<p>The asset's significance would be preserved.</p> <p>This would be consistent with the NPPF's core sustainability objective, as well as all other relevant statute and policy provisions, including the Planning (Listed Buildings & Conservation Areas) Act (1990) s.66(1) and s.72(1), and NPPF (2023) paragraphs 205–214.</p>
<p>Less than Substantial Harm</p>	<p>The designated asset's significance would be reduced, but still, on balance, substantively preserved.</p> <p>Where 'less than substantial' harm has been identified, an attempt is made to qualify more precisely that level of harm, with reference to the heritage interests defined within the PPG and Statements of Heritage Significance: Analysing Significance in Heritage Assets (Historic England 2019).</p> <p>NPPF (2023) paragraph 208 provides that such less than substantial harm should be <i>'weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use'</i>.</p>
<p>Substantial Harm</p>	<p>The designated asset's significance would be subject to such a serious impact (reduction) that its significance would be <i>"either vitiated altogether or very much reduced"</i> (2013 High Court Ruling).</p> <p>Substantial public benefit or satisfaction of the four criteria provided within NPPF (2023) paragraph 207 would be required to outweigh this level of harm. Without this, the NPPF directs that consent should be refused.</p>
<p>Harm to Non-Designated Heritage Assets</p>	<p>Harm to the significance of a non-designated heritage asset would comprise a material consideration for the decision-taker. As per NPPF (2023) paragraph 209, a balanced judgement would be required having regard to the scale of any harm or loss and the significance of the heritage asset.</p> <p>Professional judgment is used in defining the anticipated level of harm to the significance of non-designated heritage assets for the purposes of the present chapter; all determinations are fully qualified within the text.</p>

Assessment of Effects – Significant or not in EIA terms

8.2.25 In determining whether any identified harm to heritage significance would translate into a significant effect for purposes of EIA, a quantitative matrix-led approach will be avoided as this would over-simplify the assessment findings. Instead, determinations will be based upon professional judgement and will be presented qualitatively and with full

justification. This approach directly reflects key concepts in current planning policy and heritage guidance and is advocated by Historic England.

8.2.26 Ultimately, a statement of whether any identified harm does or does not represent a significant effect will be provided in respect of each cultural heritage receptor using the following terminology: ‘Significant’ or ‘Not Significant’.

Scheme Evolution

8.2.27 As discussed within the Baseline, the initial redline boundary for this scheme included a larger area in the northeastern portion. Following the results of the geophysical survey (Appendix 8.2), this area was removed to create the redline boundary as it appears at submission. This area was removed as the survey identified a dense area of potential archaeology which was likely related to the Roman activity to the north. As such, given the density of the archaeology, it was considered that the most appropriate course of action to ensure this archaeology was preserved in-situ, this area was removed from the redline boundary.

Consultation

8.2.28 Table 8.3 provides a summary of consultation responses to date and the response to those.

8.2.29 In addition to the consultation set out in the table below, consultation was undertaken throughout the preparation of documentation for the geophysical survey (Appendix 6.2) and the trial trench evaluation (Appendix 6.3). This included acquiring briefs for the scope of the work from the Oxfordshire Planning Archaeologist and agreeing the scope of the trenching.

Table 8.3 – Consultation Summary

Consultee & Date	Summary of Comment	Response
Historic England – 25/10/2022	Set out a list of assets with the potential to be affected by the Scheme: Carfax Conduit • Nuneham Courtenay (registered park and garden) • Nuneham Courtenay house • Listed buildings within the RPG including temple of flora and church of All Saints • Scheduled monument 1471867 Romano-British pottery site, prehistoric ring-ditches and enclosures, including medieval ridge and furrow, Lower Farm, Nuneham Courtenay • Listed buildings within Nuneham Courtenay Village • Listed buildings at Lower Farm and at Lower Radley Suggested study area was of appropriate size to	Assets considered within Appendix 6.1 and assessed using the SZTV, desk-based research, site analysis and professional judgment Study area utilised was 3km with assets beyond

Consultee & Date	Summary of Comment	Response
	<p>sufficiently understand the impacts</p> <p>Suggested use of photomontages and section drawings to help understand impacts including from key viewpoints within the Nuneham RPG</p> <p>Assessment should consider associated impacts such as construction, servicing, maintenance and the likelihood, where appropriate of alterations to drainage patterns</p> <p>The assessment should make use of the findings of the LVIA</p>	<p>within SZTV also assessed – this is sufficient to understand impacts</p> <p>Photomontages included from key locations – site analysis and the SZTV has guided the location of these</p> <p>All relevant impacts arising from the Scheme are considered with the ES chapter</p> <p>Photomontages have been cross-referenced within the report</p>
Oxford Preservation Trust – 31/10/2022	No particular comments other than to draw attention to the fact the scoping did not expressly state there would be assessment of views from the RPG of Nuneham	The ROG of Nuneham has been given particular consideration, within the assessment including through photomontages
South Oxfordshire District Council – Conservation	<p>This response was replicated in the Scoping Response issued by SODC on 16th November 2022</p> <p>A viewpoint map was included showing potential</p>	Where possible

Consultee & Date	Summary of Comment	Response
Officer – 04/11/2022	heritage viewpoint locations	these views are included in the text of Appendix 6.1 as heritage photographs
South Oxfordshire District Council Scoping Response 16/11/2022	<p>Response from County Archaeologist provided outline indication of assets that may be affected by the scheme</p> <p>Offered no objection to main methodology but requested a setting assessment be undertaken as DBA and site analysis. Also suggested crossover with LVIA</p> <p>Agreed 3km study area was acceptable as this included Radley</p>	<p>Assets will be considered as appropriate – using SZTV to remove those assets with no visibility of the Scheme</p> <p>Assets were identified through desk-based analysis then visited during the site visit to verify visibility and setting – see Appendix 6.1 for full assessment. Cross-working was undertaken with LVIA team (including co-joined site visits) to ensure viewpoints were identified and accurately located</p> <p>Assets within Radley were assessed in appendix 6.1 – SZTV indicates no visibility of</p>

Consultee & Date	Summary of Comment	Response
	<p>Photomontages should be prepared to demonstrate likely impacts – multiple points within Nuneham RPG should be considered</p>	<p>majority of settlement</p> <p>Photomontages included from certain heritage assets – SZTV indicates that visibility of the Scheme from the majority of the RPG is nil.</p>

Limitations and Assumptions

8.2.30 No limitations have been identified in the preparation of this Chapter. No assumptions have been made to inform this Chapter.

8.3 Baseline Conditions

Overview

8.3.1 The 3km study area for designated assets identified:

- One grade I listed building;
- 14 grade II* listed buildings;
- Five Scheduled Monuments (including Carfax Conduit which is also a GI listed building);
- Four Conservation Areas;
- One grade I listed Registered Park and Garden; and
- 149 grade II listed buildings.

8.3.2 There are no registered battlefields or world heritage sites within the study area.

8.3.3 Once the SZTV was applied, this reduced the amount of assets. This Site is particularly well-contained within the landscape with the only real visibility of the Proposed Development being within a 1km buffer around the Site boundary, given the surrounding topography, vegetation and existing built form.

8.3.4 When the SZTV was applied this reduced the number of assets to:

- Three Scheduled Monuments
 - Romano-British pottery site, prehistoric ring-ditches and enclosures, including medieval ridge and furrow, Lower Farm, Nuneham Courtenay (1471867);
 - Settlement site E of Goose Acre Farm (1006298); and
 - Carfax Conduit, 540m south west of Nuneham House (1020965).
- One grade I listed Registered Park and Garden – Nuneham (1000122);
- One Conservation Area – Nuneham Courtenay;
- Five Grade II listed buildings:
 - Lower Farmhouse Barn Range Approx. 20 Meters to East (1048032);
 - 82 and 84 (1048286);
 - Lower Farmhouse (1368709);
 - Park End and Attached Cottage and Outhouses (1048325); and
 - Barn Approximately 20 Meters South East of Park End (1284590).

8.3.5 All of the heritage assets are shown on Figures 1 – 2 within the Heritage Baseline (Appendix 8.1).

8.3.6 Within the Heritage Baseline, assets have been sieved for further assessment with those assets lying outside the SZTV discounted from further assessment, unless it has been demonstrated that they have an historic, functional or associative relationship with the Site which could form part of the setting of that asset.

8.3.7 In addition, assets beyond the 3km search area that lie within the SZTV have been analysed to understand if there was potential for these assets to experience any effects from the Proposed Development.

8.3.8 Assets within the SZTV and sieved out from further assessment were Nuneham Courtenay Conservation Area and the scheduled monument of Settlement site E of Goose Acre Farm (1006298). The Conservation Area was removed due to the fact that it spans a huge area and the elements that fall within the SZTV are contiguous with the area of the Registered Park and Garden of Nuneham, greater areas of which fall within the SZTV. As it is considered that the elements of the RPG which contribute to the special interest of the Conservation Area will be assessed via the RPG assessment, it is not considered necessary to consider them both.

8.3.9 For the scheduled monument, whilst the SZTV suggest visibility it is the case that this is limited to two strips through one very small part of the scheduled monument. It is the case that this is the monument of a possible Iron Age enclosed settlement whose significance is held within the buried archaeological remains. The setting of this asset is likely the relationship with the river Thames to the east. It is not considered that the

proposed Site forms part of the asset, nor do long-distance views from the asset contribute to the understand, appreciation and experience of its interests. It is also the case that the settlement of Radley and Lower Radley lie between this asset and the Site and given the proposed mitigation, topography and existing mitigation, and the lack of clear views of the proposed Site from this asset, it will not experience harm from the Proposed Development.

- 8.3.10 For assets beyond the 3km, the conservation Area of Garsington, located over 4km to the northeast of the Site has potential visibility of the Proposed Development from certain areas within the boundary. However, it is the case that the consented solar scheme of South Oxfordshire Solar Park (Planning ref: P20/S4360/FUL) is located between the Conservation Area and the Proposed Site, in closer proximity – being only 2km away. A review of the documentation prepared to support that application has shown that no adverse effect was identified to the significance of the Garsington Conservation Area arising from that scheme. The ES acknowledged that the solar farm would be visible but that this would not cause harm to the significance and thus no effect or harm was allocated. This conclusion was deemed to be acceptable as the scheme was granted permission. As the Proposed Development is further from the asset, it is not considered that the Proposed Development will cause any additional level of harm within this view and thus, similarly, no harm.

Archaeological Fieldwork

- 8.3.11 To support the application for this Proposed Development, a staged programme of archaeological fieldwork was undertaken in accordance with WSIs produced and agreed with the LPA Archaeologist.
- 8.3.12 The first phase of archaeological fieldwork was geophysical survey undertaken by Sumo Geophysics (Appendix 8.2) in 2023.
- 8.3.13 Following on from the geophysical survey, a programme of archaeological trial trench evaluation was undertaken by Cotswolds Archaeology in 2024 (Appendix 8.3).
- 8.3.14 The geophysical survey identified an extensive complex of archaeological responses within the north of the site which represent a continuation of the Scheduled Romano-British site (NHLE ref. 1471867) which lies beyond the boundaries of the proposed development site. Former ridge and furrow was also recorded across much of the wider site, along with drainage features, services and areas of magnetic disturbance associated with nearby ferrous objects.
- 8.3.15 The trial trench evaluation identified a series of ditches forming enclosures, trackways, and fields, which were largely focussed in the north of the site, likely representing outlying enclosures associated with the pottery production centre to the north, potentially for grazing or cultivation. Some limited evidence of Late Iron Age activity, comprising a single pit with possible hearth waste was recorded in the south of the site, however the evaluation demonstrated that the geophysical survey results, which showed that archaeological activity was focussed in the northern portion of the Site, fading away to almost nothing moving south through the Site was an accurate reflection of the archaeological potential of the Site.

Heritage Baseline

- 8.3.16 This section is intended to provide a brief overview of the historic background of the Site. A full baseline is provided at section 5 of Appendix 6.1.

Prehistoric and Roman (10,000 BC – 410AD)

- 8.3.17 The 2024 evaluation (Appendix 8.3) within the Site identified a single Late Iron Age feature within the southern extent of the site, comprising a pit infilled with possible hearth waste.
- 8.3.18 There is evidence for prehistoric activity within the wider study area including within the scheduled monument to the north, where a number of ring ditches were located within the geophysical surveys across the area.
- 8.3.19 There is clear evidence of Roman activity within the Site, as demonstrated by the trial trench evaluation which identified focussed Roman activity within the northern portion of the Site. The archaeology within the northern portion of the Site comprised evidence of agricultural activity and was likely linked with the Roman activity located within the scheduled monument boundary to the north. The Site is located to the south of the scheduled monument of a Roman pottery production site and settlement. Extensive geophysical survey and some excavation in this area has identified possibly 60 kilns which were used as part of the Oxford Roman pottery production industry. The pottery production site was likely situated in this location due to the proximity to the River Thames which provided a route to transport the finished goods and to import the raw materials.
- 8.3.20 The archaeology within the northern portion of the Site, as suggested above, indicates that the area to the south was utilised for agricultural purposes to provide the food for the settlement to the north. The Site is not included within the scheduled boundary, however the initial surveys in the 1990s did include the northwestern portion of the Site and which indicated that there were some archaeological anomalies within this area, but far fewer in number and density that within the area to the north (a result which corresponds with the trial trench results). When the area was being considered for scheduling in 2020, the results of the various surveys were taken into consideration, including the survey that took place within the Site boundary. Upon consideration of all of these survey results, the boundary of the scheduled monument was designated in the area shown on the NHLE mapping – an area which does not include the Site.
- 8.3.21 There is Roman archaeology present within the northern portion of the Site, but this is focussed in this area only.

Early Medieval and Medieval (410 – 1540)

- 8.3.22 There is limited evidence of early medieval and medieval activity within the Site. In the medieval period, the Site lay across two fields, the northern field being Lower Field and the southern part in a field labelled Wheat Land Field.
- 8.3.23 The geophysical survey recorded evidence of ridge and furrow across the Site suggesting it formed part of the agricultural hinterland to nearby settlements.

Post-medieval and Modern (1540 – present)

- 8.3.24 No significant archaeology is recorded within the Site during these periods. Analysis of aerial photographs and mapping shows that there has been extensive alteration of internal field boundaries from the late 19th century onwards.
- 8.3.25 The land within the Site formed part of the wider Nuneham estate, with the Nuneham registered park and garden located to the south and the relocated Nuneham Courtenay

village located to the southeast. A Sales Catalogue of 2016 for the Nuneham Estate demonstrated that the entire Site forms part of the lands farmed by Upper Farm, which is located to the south of the Site.

Archaeological Potential

8.3.26 It is considered that the archaeological potential of the Site is varied. The northern part of the Site demonstrably contains archaeological features that are likely to relate to the Roman archaeology to the north. The southern portion of the Site contains very limited archaeology, as shown through the trial trenching.

Assets Considered within the ES

8.3.27 In order for this ES Chapter to be succinct and focussed on those assets either identified by consultees or with the potential to experience effects arising from the Proposed Development an earlier stage of assessment was carried out within Appendix 8.1 – Heritage Baseline. This Baseline carried out the initial Step 1 and Step 2 stages of the Historic England Setting guidance and also carried out elements of Step 3. Assets which had no potential to experience effects were discarded within the Baseline and not taken forward into this ES.

8.3.28 Following the sieving process, examination of the SZTV and initial assessment carried out within the baseline, only those assets with the potential to experience significant effects are considered within this ES. The assets considered within the ES are discussed in the sections below.

8.4 Assessment of Likely Effects

Construction Phase

8.4.1 The details of the works to be undertaken during the Construction Phase are summarised below with a detailed description set out in chapter 3 – Site and Proposed Development.

- Site preparation (e.g. marking out the site);
- Movement of construction vehicles
- Erection of security fencing and any internal fencing to protect trees, hedges, and other sensitive areas;
- Track construction;
- Piling the mounting frames into the ground;
- Affixing the panels to the mounting frames;
- Trenching for the cable runs, and laying cables;
- Pouring the concrete bases for the cabinets and substation;
- Installation of the inverters, transformers,
- Connecting all the cables up and backfilling the cable trenches; and

- Removal of temporary surfaces.
- 8.4.2 Construction phase effects have the potential to cause direct, physical impacts to assets through excavation and other development works. There is also the potential for indirect effects upon the significance of assets through changes to their setting arising from an increase in noise, movement or other factors.
- 8.4.3 The construction phase is anticipated to be 8–12 months.
- 8.4.4 The construction phase will not result in any direct impacts to designated heritage assets.
- 8.4.5 The Scheme is in proximity to the scheduled monument of Romano–British pottery site, prehistoric ring–ditches and enclosures, including medieval ridge and furrow, Lower Farm, Nuneham Courtenay (hereafter known as Romano–British pottery site) (NHLE Ref: 1470853), an **asset of the highest significance**. This asset is formed by the archaeological remains of a Roman pottery production site consisting of over 50 kilns, with a settlement to the north. The monument also contains evidence of Iron Age ring ditches and there are areas of medieval ridge and furrow, providing evidence of multi–period use of the site. The significance of the asset is formed through its archaeological and historic interest, through its rarity as a large–scale Roman pottery production site which survives well and in the potential the site contains to uncover further archaeological evidence within the boundary. The setting of this asset is formed by the proximity to the river Thames which provided the trade route for the goods and supply of raw materials, and the immediate surrounding landscape which formed the hinterland of the pottery site. The northern portion of the Site is considered to contribute to the significance of this asset through the archaeological features which provide evidence of the agricultural hinterland.
- 8.4.6 It is the case that this scheduled monument was a major centre of pottery production in the Roman period. It was not an isolated asset, set within an open landscape, with important views but rather would have been a busy and noisy site, with the settlement to the north meaning this was not a standalone area of activity. Whilst the construction activity related to the Proposed Development will obviously be of a different nature than that of the pottery production site, it is still the case that this asset does not rely on tranquillity or stillness as a part of its significance. Therefore, whilst the construction would bring noise and movement into proximity of this asset for a temporary 8–12 month period, it is not considered that this would cause harm to the significance of this asset. There would be no change in the ability to understand the archaeological interest and the sites’ importance in the Oxford pottery production industry and, as stated, this is an asset whose significance is not formed by a lack of noise or disturbance.
- 8.4.7 There is another consideration to take into account with this scheduled monument in that the construction phase will remove some elements of non–designated archaeology within the Site that are likely contemporary in nature and contribute to the significance of this asset by providing evidence of the agricultural hinterland surrounding the pottery production site and supporting the settlement. The construction will impact upon these archaeological features and slightly reduce the significance of the asset by removing a small portion of an element which contributes. However, although the archaeological deposits will be harmed, the archaeological information which will be gathered from the mitigation proposals will provide further evidence to help to better understand the scheduled monument. The level of harm is, therefore, **less than substantial harm at the low end of the scale, not significant**.
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- 8.4.8 It is considered that the construction noise and activity generated by the Proposed Development for a period of 8-12 months has the potential to cause harm to the significance of the Grade II listed Lower Farmhouse – **an asset of less than the highest significance**. The asset is an 18th century farmhouse with some possibly earlier elements. The Site was once held by the same landowner as the asset with the northern portion of the Site farmed by the tenant, however this association is no longer extant and the asset no longer has any agricultural associations. The significance of this asset lies primarily in its built fabric, and in its historic interest as one of a number of large farmhouses of the 18th century, indicating the success of the agrarian economy of this area. The asset also has architectural interest in the possible survival of earlier fabric within the building and in the farm layout which shows this was the principal building within the grouping which includes the listed barns at Lower Farm. The setting of the asset is formed by the listed barn range to southeast which forms the farmyard buildings – though now all converted to domestic use, the farmyard and garden plot within which the building sits and from within which the asset can be best appreciated; and the land which was once associated with this asset which includes the northern portion of the Site.
- 8.4.9 The construction of the Proposed Development will bring construction noise and activity within proximity of this asset for a temporary period. It is considered that the asset has adequate screening already in place around its boundary edges and views of construction activity will be limited. However, it is the case that taller elements of construction equipment will be visible, and the noise generated will be audible from the garden plot – though not from within the building. This will create a slight detraction from the ability to enjoy the asset from within its boundary plot for a restricted period and the increased movement and noise will cause a temporary reduction in the significance of this asset. The harm is considered to be **Less than substantial harm at the lowest end of the scale, not significant**.
- 8.4.10 For the archaeological deposits identified within the trial trenching carried out, asset considered at this stage to have a significance commensurate with a **non-designated heritage asset**. These archaeological deposits are not considered to have a demonstrably equivalent significance to the archaeological deposits within the scheduled monument to the north. There is a detailed discussion of how this conclusion was reached is contained in Appendix 8.1 at paragraphs 5.57 – 5.69. It is still the case that there are archaeological deposits which relate and form part of the setting of the scheduled monument to the north and which have value in their own right as non-designated heritage assets. It is considered that this area of non-designated archaeology is located in the northern third of the Site – as evidenced by the results of the trial trenching.
- 8.4.11 The construction of the Proposed Development includes elements which will physically impact upon and remove archaeology. Whilst it is considered that the construction of the solar panels themselves will result in a very low level of impact, given that they consist of pile-driven frames which have a very small footprint – meaning features such as linear features will not see large-scale effects, there are other elements such as the access tracks sub-station etc which do require a greater level of excavation. As such, the Proposed Development will result in the partial loss of archaeological deposits associated with the scheduled monument to the north. This is considered to result in a **moderate to high level of harm, not significant**.

Operational Phase

- 8.4.12 Once operational, the Proposed Development is anticipated to require approximately two visits per month for maintenance which will be undertaken by maintenance staff in a 7.5 tonne van. It is not anticipated that this would cause any harm to any heritage assets, given the agricultural activity already taking place within the Site utilising much larger vehicles than that proposed for maintenance.
- 8.4.13 The completed Scheme will include:
- The installation of fixed-tilt, bi-facial, ground mounted solar arrays running from east to west across the site – panels are 3.6m at their maximum height with 0.7m ground clearance to allow for the grazing of sheep;
 - Invertors/transformer units which will convert the Direct Current (DC) into an Alternating Current (AC) which is compatible with the National Grid;
 - Independent Distribution Network Operator (iDNO) substation;
 - Internal access tracks, to allow for the construction and maintenance of the solar panels;
 - an unobtrusive deer fence will be installed around the perimeter of the site.
 - CCTV cameras with infra-red lighting will be installed, where required, on the perimeter fence;
 - Additional landscaping including hedgerow planting and improved biodiversity management.
- 8.4.14 The grade I registered park and garden (RPG) of Nuneham is **an asset of the highest significance**. It is an 18th century designed landscape designed around an 18th century house (grade II* listed Nuneham House) and was laid out in three main phases. The 1st Earl Harcourt's classically inspired, formal landscape created around his 'temple' (Church of All Saints), the second more picturesque era of the 2nd Earl, commenced with the work of William Mason who laid out a landscape in 1777, followed by the final phase of Lancelot Brown in 1779–82 whose work was supervised by Mason and the 2nd Earl. Later 19th century alterations and additions were carried out by W. S Gilpin. The asset contains a large number of listed buildings, including the Grade I listed Carfax Conduit (assessed within Appendix 8.1 – not within the SZTV). The significance of this asset lies in the elements within the registered boundary, the built fabric of the listed monuments and the designed landscape features which demonstrate the architectural, archaeological, artistic and historic interest of this asset. This asset has clear historic interest in the association with a number of well-known historic figures from royalty, with the frequent visits by George III and Queen Charlotte, as well as with the Harcourt family, who all held prominent positions at the Royal court. The estate has associations with leading artists, literary figures, architects and landscape designers including Lancelot Brown, John Stuart and the guests, including Rousseau, invited to the estate by the 2nd Earl Harcourt.
- 8.4.15 The historic and archaeological interest is also provided by the remains of the deserted medieval settlement of Nuneham located within the park boundary and the information this provides for the practice of wealthy landowners displacing entire villages in order to create an aesthetic ideal. The architectural interest is clearly demonstrated by the number of listed structures within the registered boundary. This includes the grade I

listed Carfax Conduit, the grade II* Nuneham House, the grade II* Church of All Saints and a large number of grade II listed buildings. The artistic interest of the asset is demonstrated by the number of engravings of assets within the parkland.

- 8.4.16 The setting of this asset which contributes to significance is limited due to the scale and the fact the majority of the elements contributing to significance are found within the boundary of the park itself. The elements of the setting which contribute to significance are longer distance views over the river Thames Valley and towards the centre of Oxford and the settlement of Nuneham Courtenay, established in the late 18th century to house the residents of the medieval settlement demolished by the 1st Earl and the wider Nuneham Estate – much diminished after the 2016 sale.
- 8.4.17 The SZTV indicates that there are small areas of visibility within the northern extent of the RPG, however it is the case as demonstrated during the site visit that views are actually limited by existing vegetation both within the parkland and in the surrounding landscape. It is also the case that it is only where the Proposed Scheme can be seen within key views, views which contribute to the significance of the asset where harm may arise. Therefore, as is discussed in more detail below, it is demonstrated by VP15 of Appendix 6.3 of the LVIA, there is a glimpsed view of the Proposed Development from a key viewing point within the RPG, in front of the Church of All Saint – which was located deliberately to have long-distance views cross towards the city of Oxford. It is the case that such views contribute to the overall significance of the RPG, however it is also considered that this is one view from one specific part of the RPG and harm must be considered to the asset as a whole. It is the case that there will be no views whatsoever of the Proposed Development from the majority of the estate. This includes from the principal building within the estate, Nuneham House and from the land to the west of this which is laid out as a plateau of land to appreciate views across the Thames Valley. When considered as a whole, with the level of harm upon the entire area of the registered park and garden it can be said that the harm is at a level of **less than substantial harm at the lower end of the scale, not significant**.
- 8.4.18 The scheduled monument of Romano-British pottery site, **an asset of the highest significance**, is located directly north of the Site. The significance and setting of this asset is set out in the Construction section above and not repeated here. The operation of the Proposed Development will bring built form and energy-generating equipment in proximity to this asset, though it is noted that there are a number of pylons which cross within the scheduled boundary and which do not have a detrimental effect on the ability to appreciate the significance of this asset. The Proposed Development will introduce a temporary change in character to the fields of the Site, from agricultural to energy generation and it is the case that the northern portion of the Site contains evidence relating to the agricultural hinterland of the Roman pottery site.
- 8.4.19 It is the case that, as state above, this asset is an industrial site, one which would have been full of noise and movement and arose because of advancements in technology. It is considered that it is not the proximity of the panels and infrastructure and potential views of the Proposed Development where the harm that is identified arises, but from the change in character of the northern portion of the Site which was the agricultural hinterland of the pottery site and settlement, for a temporary period. This will change the character of an element of the Site which contributes to the significance of the asset through setting. It is the case that the panels will sit 'on top' of the current landform and thus the topography of the Site will still be legible and the frame-mounted position of the solar panels means they are visually permeable and the ground beneath the panels will be visible and will be retained as grassland, potentially for pasture. As such, the ability to

appreciate the agricultural character of the Site will not be entirely or permanently eradicated. It is because of this that the level of harm to the significance of the scheduled monument is considered to be **less than substantial at the low-medium level of the scale, not significant.**

- 8.4.20 The Grade II* Church of All Saints is **an asset of the highest significance**. It was designed as a collaboration between James 'Athenian' Stuart and the 1st Earl Harcourt (owner of the Nuneham Estate) who was a lover of the classical architectural tradition and who wanted to create a 'temple' within his estate. The church is a visually striking building, replacing the original church within the estate. The design is obviously classically inspired, with the primary elevation facing north.
- 8.4.21 The significance of this asset is derived primarily from its built fabric which illustrates its architectural historic and artistic interest. The asset has clear architectural interest and this adds to the historic and artistic interest. The asset also has historic interest as part of the significant changes made to the Nuneham estate by Simon, Lord Harcourt in the late 18th century and in the information it provides for the fashions of the day including the rise in the interest in classical architectural styles. There is also historic interest in the fact this church was located in the footprint of the original church which was demolished by Lord Harcourt in order to indulge his desires to create a classical landscape within his estate.
- 8.4.22 The setting of this asset also contributes to its significance, though the contribution made by this is clearly less than that made by the physical fabric. The elements of the setting which contribute positively to the significance are the designed parkland of the Nuneham Estate as created in the 1770s by Lord Harcourt – this asset was commissioned specifically for this location and to be a considered part of the wider design – it is also from this parkland that the architectural interest of the asset can be appreciated; The small graveyard located to the south of the church which provides historic interest; and views from the elevated position across and along the valley of the river Thames. The elevated position of this asset on the shoulder of the sloping ground towards the river Thames and the location of the northern elevation indicates that this asset was deliberately placed here to enjoy this panorama.
- 8.4.23 The northern elevation of the asset looks over the valley towards the location of the Proposed Site. Due to the sensitive nature of this view, the fact it contributes to significance and because this asset was situated deliberately to include these views within the wider panorama. A photomontage has been created to provide an indication of if the Proposed Scheme would be visible from this asset and if so, how would this appear at year 1 and then year 10 of the Scheme once landscaping proposals have matured. This is located within Appendix 6.3 of the LVIA with the reference being Viewpoint 15. This photomontage shows that there will be distant visibility of the Proposed Development from the high plateau area to the north of the Church, directly in front of the Ionic portico. This view will change by Year 10 as planting matures. It is the case that the northern elevation of the Church is the principal elevation with its imposing classical appearance. This is emphasised by the benches located here to allow visitors to enjoy the views afforded from this location. Recent tree removal has also opened up a greater angle of view from this location – as can be seen in the photomontage images.
- 8.4.24 It is the case that the view that is currently available to the north is not a pristine, unaltered view across an undeveloped rural landscape. There are a number of pylons and overhead lines, with modern development, roads and traffic also forming part of the view. Whilst VP15 shows that the Scheme will appear within the view, it will be at a distance, at

a much lower level and, most importantly, does not block, impede or in any interrupt views across to Oxford city. The low-level height of the panel within the development means that although it appears on the valley floor, the elements of this view which contribute to significance – the views towards the city centre will not be affected by the proposed Development. The ability to appreciate the wider valley landscape will experience a slight reduction and change from the Proposed Development and as such, this will cause a slight, temporary, reduction in what this view, which demonstrate the topography of the area, contributes to significance. The level of harm to the significance of the Grade II* Church of All Saints is therefore considered to be **less than substantial at the low end of the scale, not significant.**

- 8.4.25 The Grade II listed Lower Farmhouse – **an asset of less than the highest significance**, is described above. Despite this asset being in proximity to the Scheme, it is considered that the hedgerows that are already extant, combined with the mitigation proposed for native hedgerow planting along the northern edge of the Scheme and the set back of the asset itself within its farmyard plot will result in this asset having no views of the proposed scheme, or such limited views that this will not cause a level of change to the setting that would give rise to a level of harm. It is the case that the existing vegetation will provide sufficient screening from day 1 of operation and this screening will only develop and provide more and better screening as it matures. At year 10 of operation there would be no views of the Proposed Development. It is the case that the Site did once from part of the same landholding and the northern portion of the Site was farmed by the tenant of Lower Farmhouse, at least in the mid-19th century. This historic link is no longer extant and the asset has no connection with the land within the Site. It is the case that the only ability to understand the historic connection is through the historic record and mapping evidence – as aspect which the Proposed Scheme will not alter, nor will the Proposed Scheme remove the ability to understand the historic connection.
- 8.4.26 The change in character of the Site from agricultural to energy generation will cause a slight reduction in the agricultural character of the wider surroundings of the assets, however the Site has no current association with the Site – it is entirely domestic. The nearest built form within the scheme is located over 280m southeast of the asset with an open, agricultural field in between (the location of the scheduled monument of the Romano-British pottery site). If moving along the PRoW into or away from the Site, there is a clear stretch of open, agricultural land and the height of the existing vegetation, coupled with the proposed landscaping mitigation means that there are unlikely to be clear views of the scheme when moving towards the Site on the PRoW which runs past Lower Farmhouse. Further, when exiting the Site on the PRoW moving north towards the asset area, the Site will be behind the user with no locations where the asset and Site are co-visible.
- 8.4.27 There is though as stated above, the panels are visually permeable in that the grassland underneath is preserved and the topography of the landscape is also preserved – thus the agricultural character the land can still be appreciated. The slight change in land historically associated with the asset will result in **Less than substantial harm at the lowest end of the scale, not significant.**

Decommissioning Phase

- 8.4.28 Following an operational lifespan of 40-years, the Proposed Development will be dismantled and infrastructure removed. This will reverse any identified harm arising from a change to the setting which arose during the operational stage.

- 8.4.29 There is not considered to be any below-ground, physical impacts resulting from the decommissioning phase. Further works to record archaeological deposits within the Site will be secured via condition and carried out prior to or during the construction works (depending on the methodology) as such, these will cover the areas of archaeological potential and, as is the nature of archaeological fieldwork, permanently remove those archaeological deposits investigated. This will ensure that there will be no further harm to heritage assets within the Site.
- 8.4.30 The removal of panels will not cause any additional below-ground impacts to those created during the construction phase of the scheme and therefore no additional impacts or resultant effects would occur to below-ground archaeological deposits. The methodology for the decommissioning can be secured via condition to ensure that panels are removed in a manner which does not cause harm.
- 8.4.31 For the Grade I registered park and garden of Nuneham Courtenay, **as asset of the highest significance**, the decommissioning will result in a removal of the majority of the elements of the built form of the Proposed Development and certainly the removal of all elements visible from the Church of All Saints within the RPG. Whilst this is beneficial, it will return the view from this asset to as it was prior to the Proposed Development and thus restore the baseline. Overall, this result in **no harm**.
- 8.4.32 For the Grade II* Church of All Saints, **an asset of the highest significance**, the decommissioning phase represents the removal of the majority of the elements of the built form of the Proposed Development and certainly the removal of all elements visible within VP15 from the asset. Whilst this is beneficial, it will return the view from this asset to as it was prior to the Proposed Development and thus restore the baseline. Overall, this result in **no harm**.
- 8.4.33 As with during the construction phase, **no harm** is considered to arise from the decommissioning stage to the scheduled monument of Romano-British pottery site, prehistoric ring-ditches and enclosures, including medieval ridge and furrow, Lower Farm, Nuneham Courtenay (hereafter known as Romano-British pottery site) (NHLE Ref: 1470853), **an asset of the highest significance**. This is for the same reasons as set out in the Construction phase section above.
- 8.4.34 During the decommissioning phase, it is considered that the effects upon the Grade II listed Lower Farmhouse **an asset of less than the highest significance** will be the same as reported during the Construction phase due to the temporary increase in construction noise and activity. The harm is considered to be **Less than substantial harm at the lowest end of the scale, not significant**.

8.5 Additional EIA Assessment Area – Grid Connection

- 8.5.1 As has been set out in Chapter 3 – paragraphs 3.3.13 – 3.3.23 of this ES, the proposed Grid Connection does not form part of the planning application for this Scheme however this does form part of associated works and therefore requires consideration within this ES. It is noted that the new tower construction for the grid connection would be permanent. It is considered, therefore, that there is no decommissioning phase.
- 8.5.2 The scheduling description for Romano-British pottery site notes: *EXCLUSIONS: all fences and fence posts, gates and gateposts, electricity pylons and their bases and subterranean pipelines and drainage pipes are excluded from the scheduling. However, the ground beneath all these features is included.* It is the case, therefore that all construction works which require the disturbance of the ground surface in area outside

of these specific points are works within the Scheduled Monument boundary and it is considered that Scheduled Monument Consent would be required for these works. As it is the case that these works would be carried out by the DNO, it would be within their scope to obtain this Consent prior to undertaking any groundworks in the Scheduled boundary.

8.5.3 Works associated with the grid connection which lie within the Scheduled boundary are:

- Decommissioning of existing tower;
- Erection of two temporary towers next to existing tower (exact location unknown);
- Creation of 2x temporary working areas around base of existing and new towers 50m x 50m each
- Temporary access track; and
- Construction of new tower.

8.5.4 The proposed new grid connection tower and a length of 3m of access track will extend into the boundary of the Scheduled monument of Romano-British pottery site (1471867) **an asset of the highest significance**. It is considered that the access track could be formed in such a way that no below-ground disturbance would be required for its temporary formation. This element would, therefore, not result in any harm to the significance of the scheduled monument.

8.5.5 The construction of two temporary towers required to decommissioning the existing towers would result in would result in direct, physical effects to the scheduled monument of Romano-British pottery site (1471867) **an asset of the highest significance**. Although this would cause physical harm to the monument (and require scheduled monument consent to be secured) it is considered that this would only affect a very small portion of the asset in an area north of the Site which would also have been subject to archaeological mitigation as part of the Proposed Development works. As such, it is considered that this could form a coherent programme of archaeological works and help to better reveal and understand this hinterland area and transitional space between the scheduled monument and the area of the south, which has always been acknowledged as containing archaeology which is not of the same rarity or significance as that within the scheduled boundary. The works would not remove large areas of the scheduled monument and any works undertaken would be subject to detailed archaeological mitigation. It is therefore considered that this construction activity would result in **less than substantial at the moderate end of the scale, not a significant effect**.

8.5.6 The decommissioning of the existing tower is not considered likely to cause any harm to the fabric of the scheduled monument.

8.5.7 The construction of the new tower and decommissioning of the existing will likely require a temporary working area of 50mx50m around the base of each tower. This area may be formed of an area of temporary matting placed on to the ground, however it could also require 300-500mm of stone to be temporarily placed onto the ground and potentially also a scrape of the topsoil of up to 300mm. This would be to ensure the ground conditions could accommodate the necessary loading pressures of the plant that may be required to operate in the area. This plant and equipment could include mobiles cranes, mobile elevating work platforms (MEWPS), HGVs, tracked telehandler / excavator and

LGVs. It is the case that the existing tower will have required a similar level of temporary working area whilst it was being erected and still has an area of hardstanding around the base. As such, it the area around this base will not impact to the same extent as the area around the new tower base. Whilst this working area requires a 100sqm area to be stripped, the depth of the strip is at or around deep ploughing depth and it has been demonstrated by the trial trenching that the archaeology in this northern area is set at depths of around 0.7mbgl. As such it is possible that no archaeological features would be encountered during the works. However, given the works required the below-ground surface excavation of an area this is considered to result in harm – though it is clear this would only affect a small portion of the entire scheduled area and the results can be used to provide further information on this asset. The harm is considered to be **less than substantial at the moderate end of the scale, not a significant effect.**

- 8.5.8 The proposed sub-compound lies outside the Scheduled Area, however it is still within an area of known archaeology – **a non-designated asset** as evidenced by the results of the trial trenching undertaken to support the application for the Proposed Development. For the construction of the sub-compound, it has been assumed that an area of 10m x 18m would be required. The construction methodology is not known but it is considered that the ground preparation for this sub-compounds would be similar in formation as the working area set out above. This would result in a **moderate level of harm, not significant.**
- 8.5.9 A cable trench would be required to run from the sub-compound to the to the sub-station within the Proposed Development to link these. This could be a trench 1.5m dep and 1m wide.
- 8.5.10 It is considered that the construction noise and activity generated by the construction of the grid connection for a period of 1 month has the potential to cause harm to the significance of the Grade II listed Lower Farm – **an asset of less than the highest significance.** This is due to the proximity of these works and them being in a field more directly connected, visually, with the building Lower Farm. There are no extant hedgerows between the asset and the grid connection site and thus the works and the noise generated will be more present within the surroundings. The harm is considered to be **Less than substantial harm at the low end of the scale, not significant.**

Operation

- 8.5.11 The operational scheme would consist of a tower with a visual appearance similar to that already present and across the wider landscape and the sub-compound which would remain in -situ following completion of construction.
- 8.5.12 For the Scheduled monument of Romano-British pottery site **an asset of the highest significance**, whilst these elements would be in the boundary of the asset, the new tower would be a like-for-like replacement of existing. Whilst this does not result in a beneficial effect, it is no more harmful than what is present in terms of visual appearance and as such, the new tower would preserve the current situation. The new tower would, therefore, result in **no harm** to the significance of the scheduled monument.
- 8.5.13 It is uncertain at present how the sub-compound will look in terms of materials, height, etc. It is considered that every effort will be made to ensure this building has an agricultural appearance, similar to a small barn or modern agricultural outbuilding which would assist in reducing the visual impact. It is the case that this compound would be in an area heavily influenced by the pylons, three of which are located within the boundary of the Scheduled Monument. As the compound is located within the boundary of the

asset, there cannot be an effect on the setting but the visual appearance of the compound can still be judged as having an effect upon the significance of the asset. The compound is located at the southern edge of the monument and is likely to be of an agrarian appearance. It would represent the only built form within the boundary of the monument, however its scale, mass and appearance would not be of such an industrial character that it would appear out of place within this landscape. The addition of the sub-compound will change the character of this area of monument slightly and introduce built form, however it is considered that the reason for the designation, the understanding of the importance of this Roman pottery site will not experience change from this sub-compound. As such, the harm is considered to be **less than substantial at the low end of the scale, not significant**.

- 8.5.14 Whilst it is the case that there will be views of the new tower from the **Grade II listed Lower Farm – an asset of less than the highest significance**, it is the case that this will be a replacement to an existing tower. The view will change in terms of the shift of the tower to the east slightly, but as the existing tower will be decommissioned, this will likely be imperceptible – replacement of the status quo. It is acknowledged that to facilitate the construction of a new tower, for a time, two temporary towers would need to be erected either side of the exiting tower to allow the wires to be transferred from the old to the new tower, however given the very short timeframe of 1 month it is considered that this slight increase in the number of towers would have no discernible effect upon the significance of this asset. As such, it is considered that the operation of the grid connection would result in **no harm, not significant** to the significance of this asset.

8.6 Mitigation and Enhancement

- 8.6.1 Embedded mitigation is mitigation which has been included within the design and layout to be considered in the initial assessment of effects. Embedded mitigation for the Proposed Development has included the removal of the redline from the northeastern portion of the Site.
- 8.6.2 Embedded mitigation has also included the use of an area of ‘no-dig’ foundations in an area within the northern portion of the Site with a dense concentration of archaeology.
- 8.6.3 Additional mitigation is proposed in the form of further archaeological works in the northern portion of the Site, in the area of archaeological activity identified within the evaluation.
- 8.6.4 It is proposed that a scheme of interpretation be installed within the Site which will discuss the archaeology within the Site, and link to the scheduled monument to the north.

8.7 Residual Effects

Construction Phase

Assets of the highest heritage significance

- 8.7.1 The residual effect on the scheduled monument of Romano-British pottery site will be **less than substantial harm at the low end of the scale, not significant**.

Assets of less than the highest heritage significance

- 8.7.2 The residual effect to the Lower Farmhouse grade II listed building will be **less than substantial harm at the lowest end of the scale, not significant.**

Non-designated Assets

- 8.7.3 Additional mitigation in the form of a programme of archaeological works has been proposed for the non-designated asset of the archaeological deposits within the Site (concentrated in the northern portion) to record archaeological deposits and create a written record. Whilst this does not alter the level of harm in terms of removal of archaeological deposits, it can be taken into account in the overall consideration of harm to the heritage asset. As such, the level of residual harm has been reduced to **Moderate harm** as the archaeological fieldwork will help to better reveal and enhance the understanding of this area of agricultural hinterland to the scheduled monument and help to characterise this transitional space between the pottery production area and the more prosaic, agricultural area but an area which was important for providing subsistence to the workers and their families within the settlement to the north.

Operational Phase

- 8.7.4 The effects arising from changes to setting will be apparent for a period of 40 years only, after which the baseline position will be resumed.

Assets of the highest heritage significance

- 8.7.5 The residual effect to the grade I RPG of Nuneham will be **less than substantial harm at the lower end of the scale, not significant.**
- 8.7.6 The residual effect to the grade II* Church of All Saints will be **less than substantial harm at the low end of the scale, not significant.**
- 8.7.7 The residual effect on the scheduled monument of Romano-British pottery site will be **less than substantial harm at the low-medium end of the scale, not significant.**

Assets of less than the highest heritage significance

- 8.7.8 The residual effect on the grade II Lower Farmhouse will be **less than substantial harm at the lowest end of the scale, not significant.**

Decommissioning Phase

- 8.7.9 The decommissioning phase will result in the restoration of the Site to its appearance and function as at the baseline of this assessment. Any effects and harm caused during the operational phase of the scheme from changes to setting will therefore be removed.

Assets of the highest heritage significance

- 8.7.10 The residual effect to the grade I RPG of Nuneham will be **No Harm, not significant.**
- 8.7.11 The residual effect to the grade II* Church of All Saints will be **No Harm, not significant.**
- 8.7.12 The residual effect on the scheduled monument of Romano-British pottery site will be **No Harm, not significant.**
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Assets of less than the highest heritage significance

- 8.7.13 The residual effect on the grade II Lower Farmhouse will be **less than substantial harm at the lowest end of the scale, not significant.**

Non-designated Assets

- 8.7.14 It has been assessed above that there will not be any effects arising from decommissioning on the non-designated assets of archaeological deposits within the Site.

8.8 Cumulative Effects

- 8.8.1 A review has been undertaken of other solar energy developments in the vicinity of the development site which are currently in planning, or consented but yet to be constructed to establish any which might have the potential to give rise to cumulative effects – that is would the Proposed Scheme, in –combination with another scheme give rise to additional or increased effects to heritage assets identified within this ES.
- 8.8.2 The only scheme considered as part of this is the solar scheme to the east of the Site, South Oxfordshire Solar Farm (Ref: P20/S4360/FUL) recently consented but not yet built out.
- 8.8.3 The proximity of this scheme to the Proposed Scheme means that a number of the same assets were under consideration. A small number of assets were identified which had the potential to experienced adverse effects from the scheme. This included assets which are not identified within this assessment as experiencing harm. Therefore, there van be no cumulative effects on those assets.
- 8.8.4 The assets considered here are the assets upon which the South Oxfordshire scheme identified some residual adverse effect and which this assessment has also identified a level of harm. These assets are:
- Grade II* Church of All Saints;
 - Grade I RPG – Nuneham; and
 - Scheduled monument of Romano-British pottery site.
- 8.8.5 For the Church of All Saints, a grade II* asset of the highest significance, the South Oxfordshire Solar Farm identified a negligible adverse effect arising from the scheme being slightly visible in the view north from the Church and the reduction this has in the significance of the church as a vantage point. It is the case that the Proposed Scheme will add further panels into the view, further to the west within the view. This has been assessed here as resulting in less than substantial harm at the low end of the scale. It is not considered that the two scheme would cumulatively result in a greater level of harm than has been assessed within this Chapter. The South Oxfordshire scheme occupies a very small portion of the view and will not increase the view of panels to such a degree that it will form a much greater level of impact/harm. Whilst the schemes are both visible within the view, they are both at the valley floor, and views oversail the panels with the elements of the city of Oxford that are visible in this view, equally visible with the Schemes in place. As such, the cumulative effect would remain as reported within this ES – **less than substantial harm at the low end of the scale, not significant.**
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- 8.8.6 For the grade I RPG of Nuneham, an asset of the highest significance, the South Oxfordshire scheme identified a Minor adverse residual effect due to changes in one specific designed view. This assessment has identified less than substantial harm at the lower end of the scale from the views of the Scheme from one particular viewpoint, with the harm seen upon the asset as a whole. It is not considered that the very limited view of the South Oxfordshire scheme from one view and the limited view of the Proposed Development from outside the grade II* Church of All Saints would cumulatively raise the level of harm already reported within this assessment. The glimpses of the South Oxfordshire scheme would not materially expand the amount of solar panels visible. In addition, the panels are in the same views as the Proposed Scheme. That means that the panels are confined within the same view and not spread around, being visible from a multitude of views outwards from the parkland. It is the case therefore that the level of cumulative harm would remain at less than substantial harm at the lower end of the scale, not significant.
- 8.8.7 For the Scheduled Roman-British pottery site, an asset of the highest significance, the South Oxfordshire assessed an effect of Minor adverse through changes to setting. This assessment found less than substantial harm at the low-medium harm end of the scale due to the change in character of the Site from agricultural to energy production. Whilst the South Oxfordshire scheme is located to the east of the Scheduled monument, it is on the other side of the A1074 with a buffer along the road meaning the solar panels of that scheme will not be readily appreciable. There are few places where the Oxfordshire Scheme, the Proposed Scheme and the scheduled monument would be experienced together. As such, and considering the primary contributions to the significance of the asset would not be harmed by either Scheme, the cumulative effect is considered to be the same as reported within the ES – Less than substantial harm at the low-medium harm end of the scale, not significant.

8.9 Summary

- 8.9.1 The ES Chapter has considered the potential effects upon the significance of heritage assets arising from the Scheme. Effects have been identified and additional mitigation put forward, such as archaeological fieldwork, to reduce adverse effects.
- 8.9.2 Residual construction effects have been identified to the following assets:
- Scheduled Monument Romano-British pottery site, prehistoric ring-ditches and enclosures, including medieval ridge and furrow, Lower Farm, Nuneham Courtenay 1470853 – Less than substantial harm at the low end of the scale, not significant.
 - Grade II Lower Farmhouse 1368709 – Less than substantial harm at the lowest end of the scale, not significant; and
 - Non-designated archaeological deposits within northern portion of the Site – Moderate harm, not significant.
- 8.9.3 Residual operational effects have been identified to the following assets:
- Grade I RPG Nuneham Courtenay 1000122 – Less than substantial harm at the lower end of the scale;
 - Grade II* Church of All Saints 1286134 – Less than substantial harm at the low end of the scale no harm;

- Scheduled Monument Romano-British pottery site, prehistoric ring-ditches and enclosures, including medieval ridge and furrow, Lower Farm, Nuneham Courtenay 1470853 – Less than substantial harm at the low-medium harm end of the scale; and
- Grade II Lower Farmhouse 1368709 – Less than substantial harm at the lowest end of the scale, not significant.

8.9.4 Residual decommissioning effects have been identified to the following heritage assets:

- Grade I RPG Nuneham Courtenay 1000122 – no harm;
- Grade II* Church of All Saints 1286134 – no harm;
- Scheduled Monument Romano-British pottery site, prehistoric ring-ditches and enclosures, including medieval ridge and furrow, Lower Farm, Nuneham Courtenay 1470853 – no harm; and
- Grade II Lower Farmhouse 1368709 – Less than substantial harm at the lowest end of the scale.

8.9.5 No cumulative effects have been identified on the significance of heritage assets with this Scheme in conjunction with any other scheme in the vicinity.

8.9.6 All identified operation effects are reversible following the commissioning of the Proposed Development after a period of 40 years. As set out paragraph 2.10.160 in NPS EN-3: *'Solar farms are generally consented on the basis that they will be time-limited in operation. The Secretary of State should therefore consider the length of time for which consent is sought when considering the impacts of any indirect effect on the historic environment, such as effects on the setting of designated heritage assets'*

8.9.7 None of the identified effects are considered to be significant in EIA terms.

Table 8.5 – Summary of Effects

Asset Ref & Name	Nature of Effect	Heritage Significance	Magnitude of Impact/Level of Harm	Effect (Significant Y/N)	Mitigation/Enhancement	Residual Effect (significant Y/N)
Construction						
Lower Farmhouse - 1368709	Temporary construction noise and activity	Grade II listed building – asset of less than the highest significance	Less than substantial harm at the lowest end	N	None proposed	Less than substantial harm at the lowest end (N)
Romano-British pottery site, prehistoric ring-ditches and enclosures, including medieval ridge and furrow, Lower Farm, Nuneham Courtenay - 1470853	Temporary construction noise and activity – removal of archaeological deposits within the Site which form part of the significance of the asset	Scheduled Monument – asset of the highest significance	Less than substantial harm at the low end	N	Archaeological mitigation and recording to better reveal and enhance the significance of the archaeology	Less than substantial harm at the low end (N)
Archaeological deposits within the northern portion of the Site	Physical removal due to construction activity	Non-designated asset	High level of harm	N	Archaeological mitigation and recording to better reveal and enhance the significance of	Moderate level of harm (N)

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the archaeology						
Operation						
Church of All Saints - 1286134	Temporary change to setting during lifetime of scheme	Grade II* listed building – asset of the highest significance	Less than substantial harm at the low end	N	None proposed	Less than substantial harm at the low end (N)
Nuneham Registered Park and Garden	Temporary change to setting during lifetime of scheme	Grade II* listed building – asset of the highest significance	Less than substantial harm at the lower end	N	None proposed	Less than substantial harm at the lower end (N)
Romano-British pottery site, prehistoric ring-ditches and enclosures, including medieval ridge and furrow, Lower Farm, Nuneham Courtenay - 1470853	Temporary change to setting during lifetime of scheme	Scheduled Monument – asset of the highest significance	Less than substantial harm at the low - medium end	N	Scheme of archaeological interpretation to help to better understand and reveal the significance	Less than substantial harm at the low - medium end (N)
Lower Farmhouse - 1368709	Temporary change to setting during	Grade II listed building – asset of less than the highest significance	Less than substantial harm at the	N	None proposed	Less than substantial harm at the lowest end

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	lifetime of scheme		lowest end			
Decommissioning						
Church of All Saints - 1286134	Removal of built form of Scheme following 40-year time limit	Grade II* listed building – asset of the highest significance	No harm	N	None proposed	No harm (N) (restoration of the baseline following removal of the Scheme)
Nuneham Registered Park and Garden	Removal of built form of Scheme following 40-year time limit	Grade II* listed building – asset of the highest significance	No harm	N	None proposed	No harm (N) (restoration of the baseline following removal of the Scheme)
Romano-British pottery site, prehistoric ring-ditches and enclosures, including medieval ridge and furrow, Lower Farm, Nuneham Courtenay - 1470853	Removal of built form of Scheme following 40-year time limit	Scheduled Monument – asset of the highest significance	No harm	N	None proposed	No harm (N) (restoration of the baseline following removal of the Scheme)
Lower Farmhouse - 1368709	Temporary construction noise and	Grade II listed building – asset of less than the highest significance	Less than substantial harm at the	N	None proposed	Less than substantial harm at the lowest end (N)

	activity		lowest end			
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Table 8.6 – Grid Connection Summary of Effects

Asset Ref & Name	Nature of Effect	Heritage Significance	Magnitude of Impact/Level of Harm	Effect (Significant Y/N)	Mitigation/Enhancement	Residual Effect (significant Y/N)
Construction						
Romano-British pottery site, prehistoric ring-ditches and enclosures, including medieval ridge and furrow, Lower Farm, Nuneham Courtenay - 1470853	Physical impacts from construction of elements required for grid connection	Scheduled Monument – asset of the highest significance	Less than substantial harm at the moderate level of the scale	N	SMC consent required – programme of archaeological mitigation	Less than substantial harm at the moderate level of the scale (N)
Archaeological deposits within the northern portion of the Site	Physical impacts from construction of elements required for grid connection	Non-designated asset	Moderate level of harm	N	Archaeological mitigation and recording to better reveal and enhance the significance of the archaeology	Moderate level of harm (N)

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Operation						
Romano-British pottery site, prehistoric ring-ditches and enclosures, including medieval ridge and furrow, Lower Farm, Nuneham Courtenay - 1470853	Change to ability to understand due to new tower location	Scheduled Monument – asset of the highest significance	No harm	N	None proposed	No harm (N)