

**ENVIRONMENTAL STATEMENT –
Non-Technical Summary.**

**NUNEHAM SOLAR FARM – LAND WEST OF A4074, TO THE
NORTH-WEST OF NUNEHAM COURTENAY, SOUTH
OXFORDSHIRE.**

On behalf of RES Ltd.

Date: 11/04/2024 | Pegasus Ref: P21-2947



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INTRODUCTION

- 1.1. This document provides a Non-Technical Summary of the Environmental Statement (ES) which has been prepared to accompany a planning application by RES Ltd (the “Applicant”) on Land west of the A4074, to the north-west of Nuneham Courtenay, South Oxfordshire (the “Application Site”), as follows:

Full planning application comprising:

CONSTRUCTION AND OPERATION OF A SOLAR FARM WITH ALL ASSOCIATED WORKS, EQUIPMENT, NECESSARY INFRASTRUCTURE AND BIODIVERSITY NET GAINS – KNOWN AS “NUNEHAM SOLAR FARM”

- 1.2. The Application Site is situated within the administrative area of South Oxfordshire District Council. The location and extent of the Application Site is shown on **NTS Figure 1**.

THE APPLICATION SITE

- 1.3. The Application Site is situated within the administrative area of South Oxfordshire District Council. The grid connection does not form part of the planning application, but it is recognised that this would form a wider extent of associated development which it is relevant to consider in the Environmental Statement. It is understood that the grid connection would be made utilising the existing 132kV overhead transmission line which runs to the north of the site, where RES have a confirmed grid connection offer. Further details of this are set out in Chapter 3: The Site and the Proposed Development. The site boundary for the purpose of the Environmental Statement therefore encompasses the likely area required for the grid connection as shown on **NTS Figure 2**.
- 1.4. The site is located approximately 550m to the north of Nuneham Courtenay. The river Thames is located approximately 400m to the west of the site. The Application Site has an overall area of approximately 57ha. The slightly larger Environmental Statement boundary has an area of approximately 58ha. The centre of the site has an approximate grid reference of 454474, 199982.
- 1.5. A Public Footpath passes through the site, passing centrally from the north.
- 1.6. Existing access to the site for farm vehicles is taken from the A4074. Access arrangements for the proposed development are currently subject of ongoing liaison with the Highways Authority, with the intention that a point of access will be secured direct from the A4074.
- 1.7. Land to the west of the site is located in Flood Zone 3, an area at highest risk of flooding owing to the close proximity of the River Thames. The site is however, located in Flood Zone 1 in its entirety and is therefore at lowest risk of flooding.
- 1.8. There are no designated assets located within the proposed site boundary, however the northern boundary of the proposed development site lies close to the southern boundary of the Scheduled Monument of Romano-British pottery site, prehistoric ring-ditches and enclosures, including medieval ridge and furrow.
- 1.9. Located approx. 220m northwest of the site boundary are two grade II listed Lower Farmhouse and Lower Farmhouse Barn Range approximately 20 metres to the east of the



Farmhouse. Located 400m to the south of the site boundary is the Conservation Area of Nuneham Courtenay, a Conservation Area which contains 25 grade II listed buildings and 700m south of the southern boundary of the proposed development is the grade I Registered Park and Garden of Nuneham Courtenay which contains a large number of listed buildings including the grade I and scheduled Carfax Conduit, the grade I Nuneham Courtenay and the grade II* Church of All Saints.

- 1.10. The land is currently in agricultural use and comprises of areas of Grade agricultural land. Further details are provided in Chapter 9 Agricultural Land.
- 1.11. The site is located in the Green Belt. Whilst this is a planning matter, not an environmental designation, it is noted that the findings of the Environmental Statement will also be helpful in informing the test regarding whether there are the Very Special Circumstances which would justify the granting of planning permission.

THE PROPOSED DEVELOPMENT

- 1.12. The proposed development is for a full planning application, comprising:

CONSTRUCTION AND OPERATION OF A SOLAR FARM WITH ALL ASSOCIATED WORKS, EQUIPMENT, NECESSARY INFRASTRUCTURE AND BIODIVERSITY NET GAINS – KNOWN AS “NUNEHAM SOLAR FARM”

- 1.13. The proposed development includes the following:

- The installation of fixed-tilt, bi-facial, ground mounted solar arrays running from east to west across the site;
- 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 (DNO) 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.

- 1.14. The solar farm proposals are shown in the enclosed **NTS Figure 3**, Environmental Statement Infrastructure Layout. Further details of the individual components which make up the scheme, including their proposed size and scale are set out in ES Appendix 3.1.

- 1.15. Access is proposed to be taken in the location of the existing agricultural access to the site along the A4074 which is to be upgraded to a simple priority T-junction and widened at the entrance to the site in order to accommodate two-way HGV traffic.

- 1.16. Hedgerows around the Site would be maintained to screen the development from external views, and also provide biodiversity benefit. Where there are existing gaps in the hedgerow, additional infill planting with native hedgerow species would be considered to improve screening and enhance biodiversity benefit. New trees are also proposed as illustrated on the Landscape Masterplan, included as part of Chapter 6 Landscape and Visual Effects. A Biodiversity Net Gain Assessment has also been carried out and further details are provided in Chapter 7 Ecology

ASSESSMENTS PRESENTED IN THE ENVIRONMENTAL STATEMENT

- 1.17. The ES comprises studies on each of the aspects of the environment identified as likely to be significantly affected by the Proposed Development (the 'technical chapters'), which are supported with figures and technical appendices where appropriate.
- 1.18. The ES includes Chapters considering the following topics:
- Chapter 6 – Landscape and Visual Effects
 - Chapter 7 – Archaeology & Cultural Heritage
 - Chapter 8 – Ecology (Biodiversity)
 - Chapter 9 – Agricultural Land
- 1.19. The findings of the ES in relation to each of these topics are summarised in the following sections.

Landscape and Visual

- 1.20. Chapter 6 of the ES provides an assessment of the predicted landscape and visual effects arising from the proposed development. The Chapter has been prepared by Chartered Landscape Architects at Pegasus Group and considers the potential likely significant effects of the proposed solar farm upon individual landscape features and elements, landscape character and visual amenity of the people who view the landscape.

Baseline Conditions

- 1.21. The site is located on agricultural land, comprising arable land, between Sandford –on-Thames and Nuneham Courtenay within the South Oxfordshire Greenbelt. The A4074 road passes along the eastern edge of the site, while the River Thames is situated close to the western boundary of the site. The site itself comprises a number of arable fields with native hedgerow boundaries and a small area of woodland in the southern part of the site. The site is crossed by two 132 kV overhead lines and a public footpath passes through the northern part of the site, connecting with the wider public rights of way network to the north and east of the site.
- 1.22. The site is not located within a statutorily designated landscape nor is it located within a non-statutorily locally designated landscape. The site is located within National Character Area 64 Midvale Ridge. At the local level, the South Oxfordshire Landscape Character Assessment

defines the site, being situated within LCA 2 Nuneham Courtenay Ridge and more specifically within LCT 13 Open farmed hills and valleys.

Landscape Mitigation

- 1.23. Landscape mitigation forms an integral part of the proposals. Landscape mitigation includes the retention, protection and enhancement of existing trees, hedgerows and woodland, the provision of new trees and hedgerows throughout the site, provision of meadow grassland underneath solar panels for ecological benefits and for light grazing and ongoing landscape management of planting during the lifetime of the solar farm.

Effects on Landscape Features

- 1.24. During construction, although some additional temporary effects are envisaged, over and above those during the operational phase, no significant effects are predicted to occur upon topography and landform, watercourses and drainage features or upon vegetation. However, the Proposed Development would represent a change to the current land use, buildings and infrastructure within the site and therefore, a significant temporary adverse effect is predicted in the short-term.
- 1.25. Upon completion of the Proposed Development, the effects upon land use, buildings and infrastructure would reduce to Not Significant. Some minor benefits would occur to the vegetation in the longer-term due to the introduction of new planting, however, these would be Not Significant.

Effects on Landscape Character

- 1.26. Within the site, the Proposed Development would introduce a new man-made feature into the landscape, which although of only limited height, it would incorporate most of the site area and therefore adversely alter the physical and perceptual attributes of the site. It is acknowledged however, that the layout would allow retention of all valuable features within and surrounding the site. During construction and upon completion, a significant effect is predicted to the Open farmed hills and valleys LCT within which the Proposed Development is located and limited parts of the LCT beyond the boundary of the site extending to elevated areas to the east and south and to the immediate part of the LCT to the west of the site.
- 1.27. There would also be a significant effect at Year 1 to LCT 5 Flat floodplain to the west of the site. However, as mitigation planting matures and screens the site this would result in no significant effects in the longer-term.
- 1.28. There would be no significant effects upon other surrounding landscape character types as defined by the local character assessments.

Effects on Visual Amenity

- 1.29. During construction and on completion of the Proposed Development, some inevitable significant visual effects would be experienced by users of the public rights of way which cross the site and in the immediate vicinity of the site, comprising ON|317|5/20 and ON|317|7/10 where its elevation relative to the site would allow views over the site. People travelling along the section of the A4074 to the south of Lower Farm Lane would experience significant effects but as mitigation planting along the eastern boundary matures over time these effects would become not significant.

- 1.30. The Proposed Development would not be visible from the nearest settlements of Nuneham Courtenay, Marsh Baldon or Toot Baldon. None of the nearest residential properties, users of the other public rights of way, the Oxford Greenbelt Way, the Thames Path National Trail or National Cycle Route 5 would experience significant visual effects.

Conclusion

- 1.31. Overall, the total extent of the landscape and visual effects would be localised and limited in nature and on balance, the Proposed Development can be accommodated without undue harm to the character and visual amenity of the landscape.

Archaeology and Cultural Heritage

- 1.32. Chapter 7 of the ES assesses the likely significant impacts of the Proposed Development on archaeology and cultural heritage. Effects have been identified and additional mitigation put forward, such as archaeological fieldwork, to reduce adverse effects.

- 1.33. 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.

- 1.34. 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.

- 1.35. 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.
- 1.36. No cumulative effects have been identified on the significance of heritage assets with this Scheme in conjunction with any other scheme in the vicinity.
- 1.37. 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'*
- 1.38. None of the identified effects are considered to be significant in EIA terms.

Ecology

- 1.39. Chapter 8 of the ES provides an assessment of the predicted ecology effects arising from the proposed development.
- 1.40. The chapter describes the methods used to assess the likely significant effects; the baseline conditions currently existing at the Site and surroundings; the potential direct and indirect effects of the Proposed Development arising from impacts on designated sites, sensitive habitats and species; the mitigation measures required to prevent, reduce, or offset the identified significant effects; and the likely the residual effects after these measures have been employed.

Embedded Ecological Mitigation

- 1.41. Embedded mitigation measures inherent within the Scheme design comprise:
- The scheme design has carefully integrated the hedgerows, line of trees, woodland ditches and field boundaries into the final layout. The Proposed Development will avoid and minimise direct impacts to these features by using existing gateways, access tracks and gaps in hedgerows. Where possible, these have been prioritised for access, routing construction and maintenance tracks and for the perimeter deer fencing. Gaps are expected to be created or widened for access in 6 places, with each requiring no more than 5m of hedgerow removal. No access gaps will be wider than 8m.
 - An undeveloped, retained buffer zone of at least 4m has been integrated into the design of the scheme, from the edge of all field boundaries.
 - When constraints presented by badger setts were identified, the scheme was redesigned so to ensure the avoidance of these feature.
 - A total of circa 2.7km of new, native, species-rich hedgerow planting will be provided at the Site in several places These hedgerows will increase connectivity and foraging opportunities for a range of species including, birds, bats, and small mammals, as well as helping to screen the proposals from Public Rights of Way (PRoWs)
 - Following construction, the land beneath the solar array will be sown grassland and either grazed by sheep or managed via a mowing regime.

Enhancements

- 1.42. The scheme will deliver a range of ecological enhancements intended to benefit a variety of features important for nature conservation. These enhancements will be designed to deliver additional ecological benefits beyond those expected to occur as a result of the mitigation measures and scheme design described above.
- 1.43. 10 long lasting bat roosting features will be installed on suitably mature trees within and adjacent to the site to increase the roosting opportunities available for birds. A variety of boxes are commercially available and will be adopted in order to attract the different species of bats recorded using the site. These will be maintained for at least the duration of the array.
- 1.44. 12 long-lasting bird boxes designed to attract a range of bird species of conservation concern will be installed on suitably mature trees within and adjacent to the site. This will enhance the sites' value for breeding birds which occupy boxes and holes in trees. These will be maintained for at least the duration of the array.
- 1.45. 5 dormouse nesting boxes will be installed on suitably mature trees within the hedgerow and woodland network on site. This will boost opportunities for dormice to successfully breed at the site (if present). Dormouse boxes are known to be used by other wildlife species, including nesting birds (such as blue tits) and roosting bats, so may also enhance the site for birds and bats if dormice are not currently present.
- 1.46. At least 5 hibernacula / log piles to provide refuges for reptiles, small mammals and invertebrates will be constructed within buffer zones between the site perimeter fencing and the nearest field boundary.

Conclusion

- 1.47. With the successful implementation of the mitigation measures described above, any adverse effects upon the important ecological features identified will be reduced to a non-significant level.
- 1.48. The creation of new habitats of greater biodiversity value than the current habitats within the site and the implementation of a Landscape and Ecological Management Plan (LEMP) present the opportunity to enhance the biodiversity value of the area. As such, it is anticipated that during the operational phase the development will result in a moderate beneficial enhancement due to the change of use from agricultural land to a more biodiverse grassland with enhanced hedgerow network.

Agricultural Land

- 1.49. Chapter 9 of the ES provides an assessment of the potential effects of the Proposed Development on the agricultural land use of the site. In particular the Chapter considers the agricultural land quality of the site and the extent to which the Proposed Development will result in the temporary loss of "Best and Most Versatile" agricultural land for the operational lifetime of the Proposed Development.
- 1.50. An ALC survey of the site was undertaken by Soil Environment Services Limited in October 2022. The ALC survey identified the presence of Grade 2, 3a and 3b land across the earlier site boundary. This information was used to help inform the current planning application site boundary of approximately 57ha, which is made up of approximately 1 hectare of Grade 2, 1



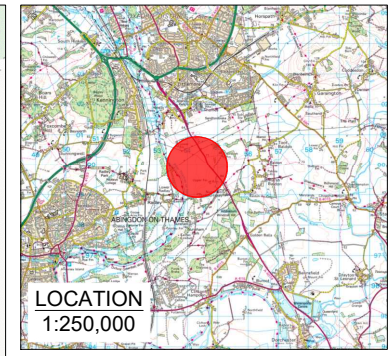
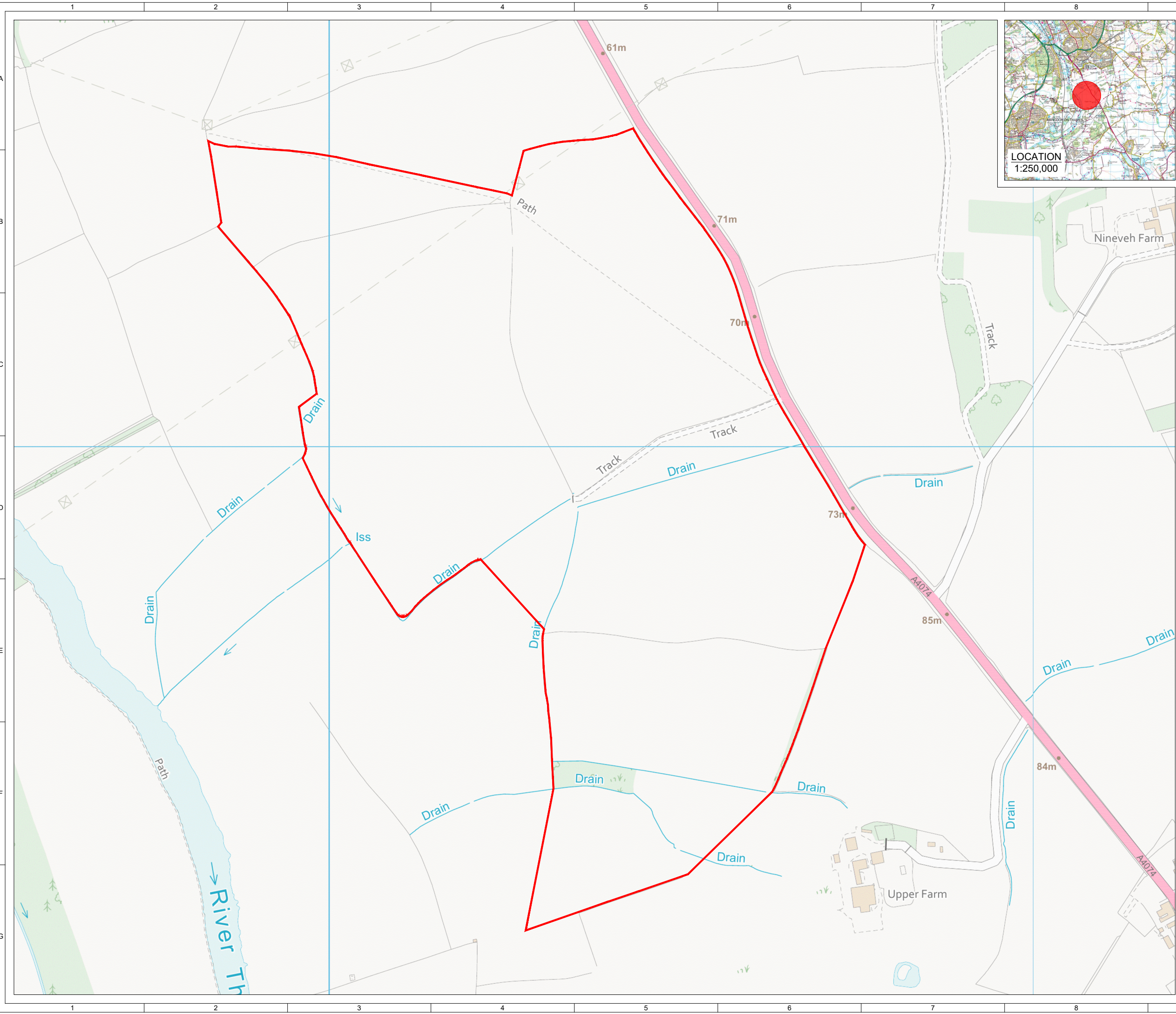
hectare of Grade 3a and the remaining 55 hectares of Grade 3b. This mitigation prevented any loss of Grade 2 or 3a land that might otherwise have resulted in significant impacts.

SUMMARY AND CONCLUSIONS

- 1.51. This Environmental Statement has considered the potential for significant environmental effects to arise as a result of the proposed development, both during the construction phase and following completion of the development. A series of effects have been identified for the topics considered. Where practicable, mitigation measures have been included as part of the development in order to minimise any of the negative effects. The identified effects should be taken forward for consideration as part of the appraisal of the planning application which has been submitted for determination.



NTS Figure 1 Application Site Boundary Plan



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2024 LICENCE NUMBER 0100031673.

KEY:
 PLANNING BOUNDARY
 (OUTSIDE EDGE OF LINE DENOTES BOUNDARY)

2	FG	BD	EB	2024-03-11	Minor amendment
1	FG	BD	BD	2024-01-24	First Issue
ISSUE	DRAWN	CHKD	APPD	DATE	REVISION NOTES
PURPOSE				COORDINATES	
PERMITTING				OSGB 1936	
SCALE				DATUM	
1:5,000 @A3				N/A	
LAYOUT DRAWING				T-LAYOUT NO	
N/A				N/A	

PROJECT TITLE
NUNEHAM SOLAR FARM

DRAWING TITLE
**FIGURE 2
SITE LOCATION MAP**

RES DRAWING NUMBER	REV
04531-RES-LAY-DR-PT-002	2

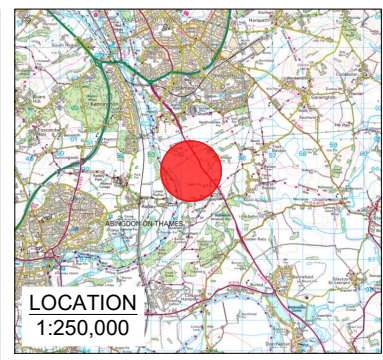
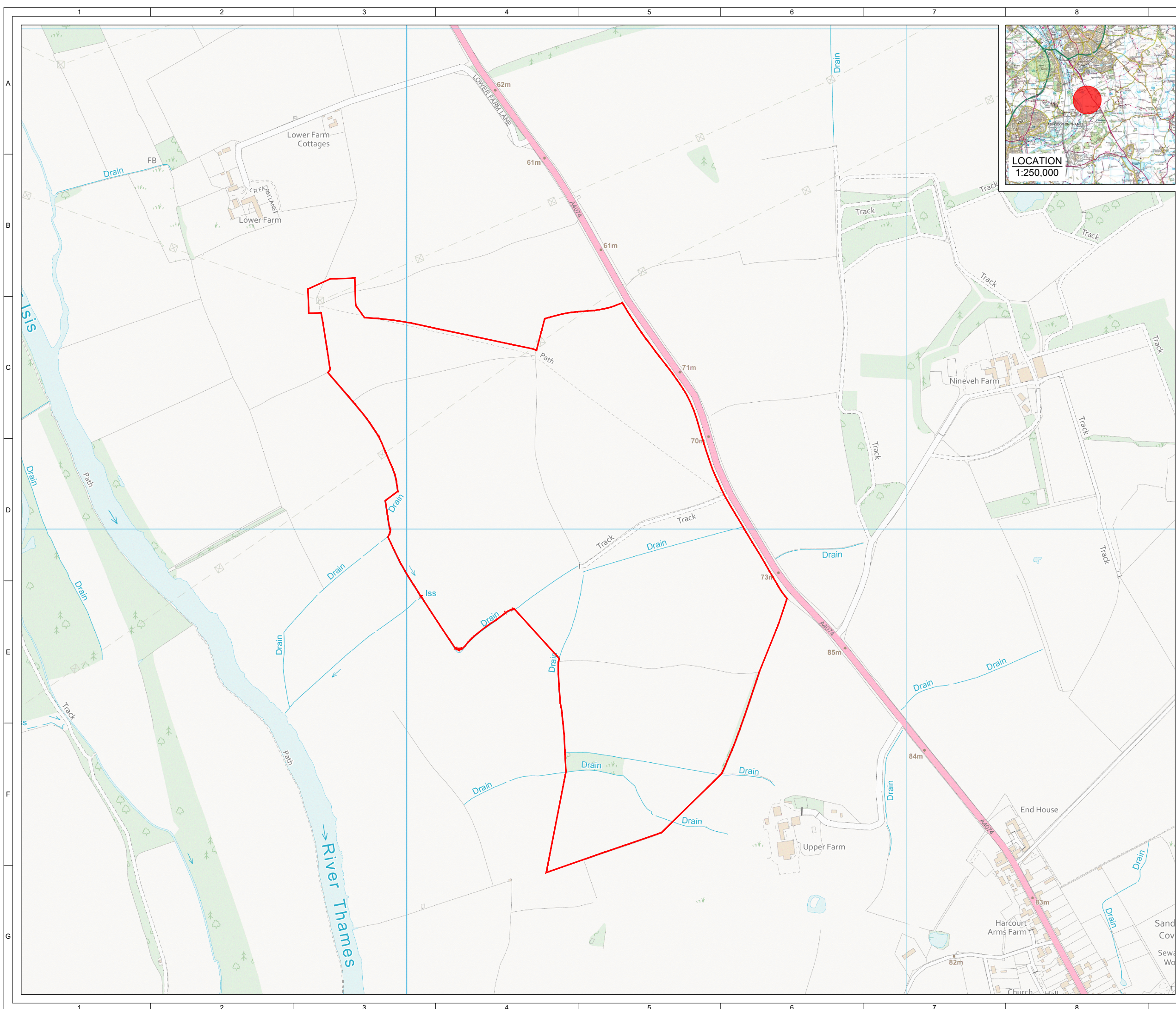
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**NTS Figure 2 Environmental Statement Site Boundary
Plan**



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KEY:
 ENVIRONMENTAL STATEMENT BOUNDARY
 (OUTSIDE EDGE OF LINE DENOTES BOUNDARY)

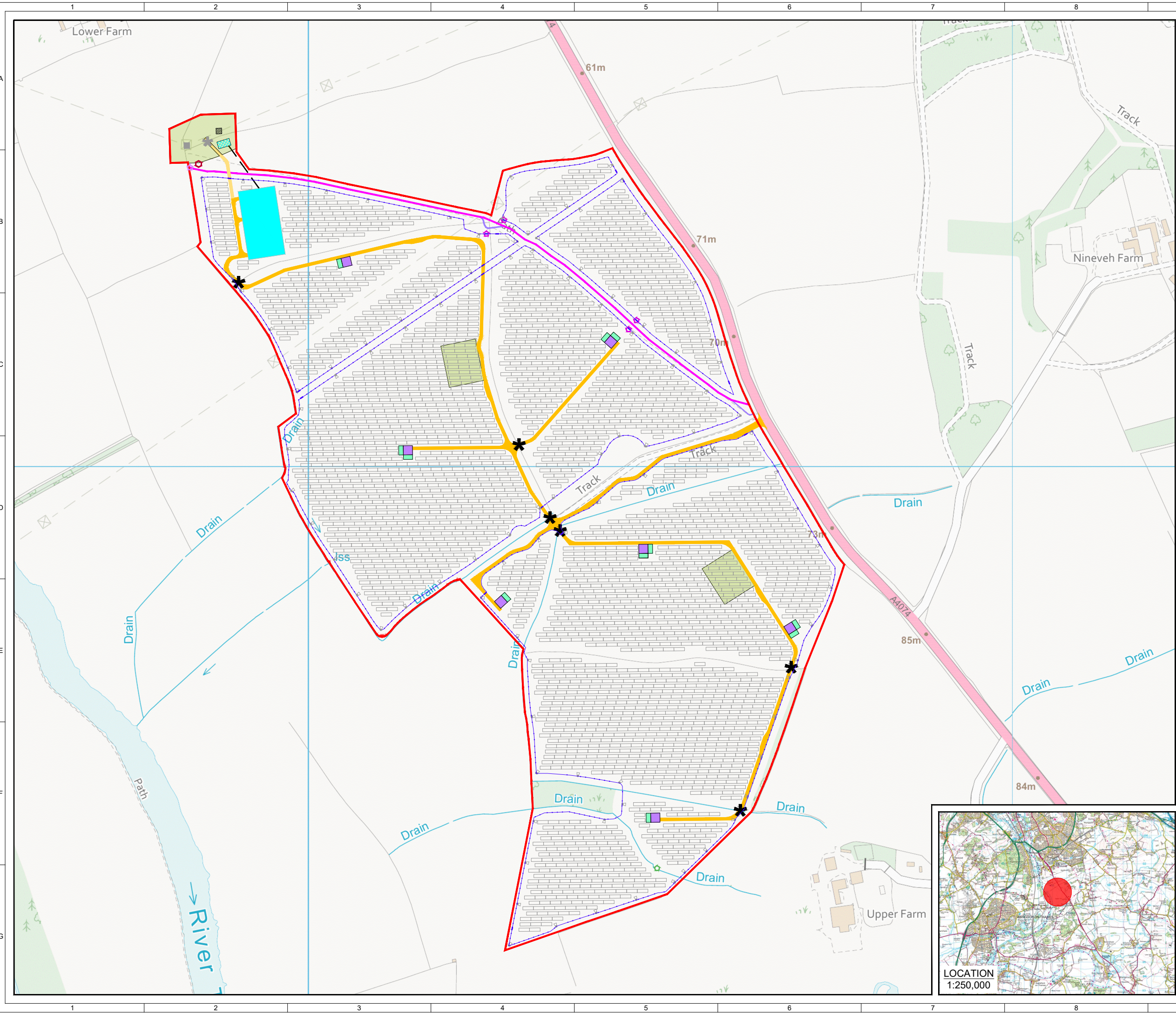


1	FG	BD	EB	2024-03-11	First Issue
ISSUE	DRAWN	CHKD	APPD	DATE	REVISION NOTES
PURPOSE		COORDINATES			
PERMITTING		OSGB 1936			
SCALE		DATUM		N/A	
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LAYOUT DRAWING		T-LAYOUT NO			
N/A		N/A			
PROJECT TITLE					
NUNEHAM SOLAR FARM					
DRAWING TITLE					
FIGURE 17 ENVIRONMENTAL STATEMENT BOUNDARY					
RES DRAWING NUMBER					REV
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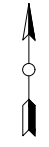


NTS Figure 3 Environmental Statement Infrastructure Layout



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- KEY:**
- ENVIRONMENTAL STATEMENT BOUNDARY
(OUTSIDE EDGE OF LINE DENOTES BOUNDARY)
 - PROPOSED ACCESS TRACK
 - TEMPORARY ACCESS TRACK
 - PUBLIC RIGHT OF WAY DEFINITIVE MAP (PRoW)
 - PERMISSIVE PATH
 - INDICATIVE SOLAR PV ARRAY
 - INVERTER
 - INVERTER HARDSTAND
 - SUBSTATION COMPOUND
 - TEMPORARY CONSTRUCTION COMPOUND
 - FENCE LINE
 - GATE (FENCE)
 - WATERCOURSE CROSSING
 - TEMPORARY WATERCOURSE CROSSING
 - EXISTING HEDGEROW GAP TO BE ENLARGED
 - PRoW CROSSING POINT
 - UPDATE PRoW ACCESS
 - INDICATIVE HERITAGE INTERPRETATION BOARD
 - CCTV
 - INDICATIVE CABLE ROUTE TO SUB COMPOUND
 - INDICATIVE SUB-COMPONENT (SSE)
 - EXISTING TOWER TO BE DECOMMISSIONED
 - INDICATIVE REPLACEMENT TOWER



3	FG	BD	EB	2024-03-11	Minor amendments (Indicative heritage added, key update)
2	FG	JM	BD	2024-03-04	Minor amendments (OHL constraint buffer update)
1	FG	JM	BD	2024-01-18	First Issue
ISSUE	DRAWN	CHKD	APPD	DATE	REVISION NOTES
PURPOSE				COORDINATES	
PERMITTING				OSGB 1936	
SCALE			DATUM		
1:5,000 @A3			N/A		
LAYOUT DRAWING				T-LAYOUT NO	
N/A				N/A	
PROJECT TITLE					

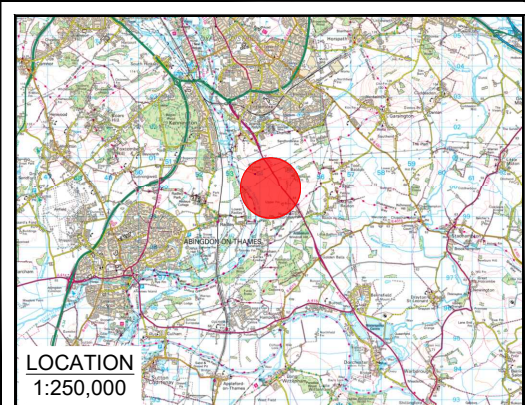
NUNEHAM SOLAR FARM

DRAWING TITLE

**FIGURE 15
ENVIRONMENTAL STATEMENT
INFRASTRUCTURE LAYOUT**

RES DRAWING NUMBER	REV
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