



Third
Revolution
Projects

Chapter 6: Agricultural Circumstances

Tydd Solar: Proposed Solar Farm, Land at
Treading Field, Treading Drain, Tydd St. Giles,
Cambridgeshire PE13 4PL



Applicant: Pathfinder Clean Energy UKDev Ltd

May 2026

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1.0 Agricultural Circumstances

1.1 Introduction

- 1.1.1 This Chapter of the ES provides an assessment of the potential effects on agricultural circumstances. The chapter assesses three principal resources: agricultural land (as measured under the system of Agricultural Land Classification (ALC)); soils as a resource distinct from ALC grade; and farm businesses that utilise the soils and involve economic and other considerations.
- 1.1.2 The Chapter is drafted in response to the letter from the Planning Inspectorate (PINS) dated 27 January 2026 that sets out that it is the potential cumulative effect of the proposed development in combination with other nearby solar schemes that gives rise to the potential for a cumulative effect as a result of the loss of land of Best and Most Versatile (BMV) quality.
- 1.1.3 This chapter is supported by the following technical appendix:
- **Appendix 13:** Agricultural Land Classification by Bateman Rural Associates Ltd.
- 1.1.4 This chapter is supported by figures which are embedded in this Chapter. The ALC plan is contained within **Appendix 13**.

1.2 Assessment Approach

Legislative and Policy Framework

- 1.2.1 There is no legislation of direct relevant to the assessment of agricultural land and soils, or of farm businesses.

National Planning Policy

- 1.2.2 The National Planning Policy Framework (NPPF) (December 2024) sets out at paragraph 187 (b) that the economic and other benefits of the best and most versatile agricultural land should be recognised. It does not set any prohibition on the use, or loss, of such land.
- 1.2.3 Paragraph 187 and the related footnote 65 are set in the context of plan making. They are therefore aimed at local planning authorities and are not directly relevant for decision making. They require plans to allocate land with the least environmental effect, where consistent with other policies in the Framework. Footnote 65 states that “**where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality**”.
- 1.2.4 Paragraph 168 makes clear that applicants should not be required to demonstrate the overall need for renewable or low-carbon energy, and that significant weight should be given to the benefits.

Local Planning Policy

- 1.2.5 South Holland District Council (SHDC) policy is set out in the South East Lincolnshire Local Plan (2011 – 2036) (adopted March 2019) Policy 31B covers “Renewable Energy”. This is a positively worded policy. It states that renewable energy facilities “**will be permitted provided,**

individually or cumulatively, there would be no significant harm to ... [inter alia] 4. agricultural land take”.

- 1.2.6 Fenland District Council (FDC) policy is set out in the Fenland Local Plan 2014 (adopted May 2014). Policy LP14 Part A starts by recording the **“urgent need to combat the causes of, and adaptation to, climate change”**. Part B sets out that renewable energy proposals will be supported. Proposals will be assessed **“both individually and cumulatively”** taking account of, inter alia, **“high quality agricultural land”**.

Guidance

- 1.2.7 The following guidance has been considered:

- Institute of Sustainability and Environmental Professionals (ISEP, formerly the Institute of Environmental Management & Assessment) Guide ‘A New Perspective on Land and Soil in Environmental Impact Assessment’ (February 2022)¹;
- Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, Defra, 2009²;
- Good Practice Guide for Handling Soils, The Institute of Quarrying, 2021³;
- ISEP “Solar PV on Agricultural Land: essential components of Environmental and Agricultural Reports” 2025⁴

Methodology

- 1.2.8 The Agricultural Circumstances chapter considers the following key issues:

- the potential loss or downgrading of agricultural land, as measured under the ALC;
- the potential for structural damage to soils as a resource distinct from ALC grade;
- the potential effects at a local level on farm businesses; and
- the wider potential effects on the rural, land-based economy.

Study Area

- 1.2.9 The study area for this Chapter is the Site. No soils or land quality will be affected beyond the Site. For the cumulative assessment a wider area is included and discussed in section 1.6.

¹ Institute of Sustainability and Environmental Professionals (ISEP, formerly the Institute of Environmental Management & Assessment) Guide ‘A New Perspective on Land and Soil in Environmental Impact Assessment’ (February 2022)

² Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, Defra, 2009

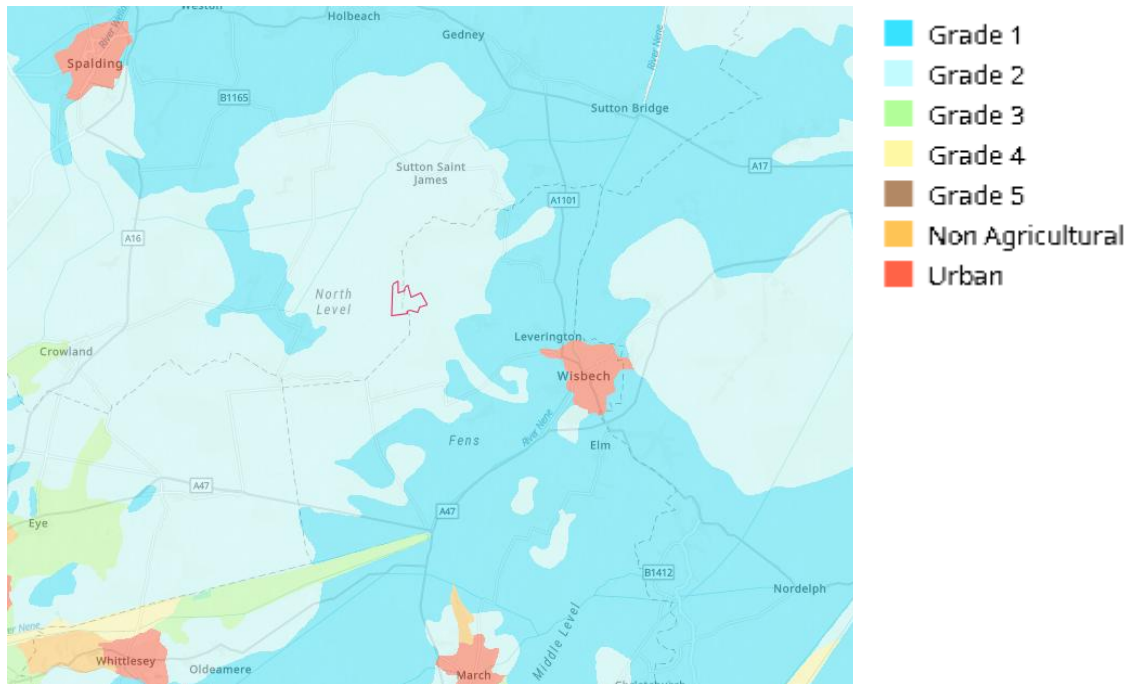
³ Good Practice Guide for Handling Soils, The Institute of Quarrying, 2021

⁴ The Institute of Sustainability and Environmental Professionals (2025), Solar PV on Agricultural Land – essential components for Environmental Assets and Reports

Desk Study

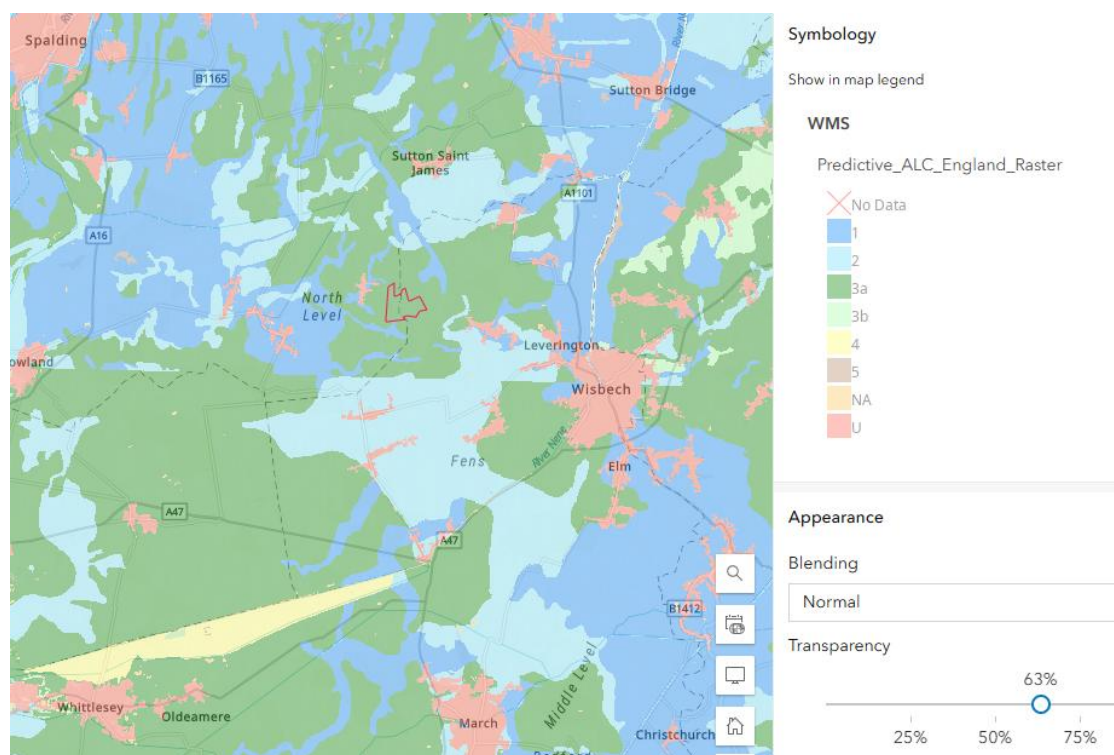
- 1.2.10 On the “provisional” ALC maps produced by MAFF in the 1970s, now digitised, the Site is shown as lying in an area of Grade 2, as shown on the insert below. As can be seen on Figure 1.1, this is generally the lowest quality land in the wider area, where almost all the land is shown as provisional Grades 1 or 2.

Figure 1.1: Provisional ALC (site edged red)



- 1.2.11 In April 2026 the Department for the Environment, Food and Rural Affairs (Defra) published on-line a new “Predictive Agricultural Land Classification Map for England”. This attempts to predict land quality based on the 1988 ALC methodology (as updated), including the subgrades of Grade 3. It is still a predictive map, and therefore still not suitable for individual sites. The Appeal is now shown as falling into ALC subgrade 3a, which (as shown below) is, with a few small exceptions, the lowest quality land in the wider area.

Figure 1.2: Predictive ALC Map for England (site edged red)



1.2.12 The new Predictive ALC Map for England estimates that 50.7% of all agricultural land is of BMV quality, as per the following breakdown. In the eastern counties of England the map shows the proportion to be much higher, but no country-wide statistical breakdown is available.

Table 1: Breakdown of Predictive ALC of England

ALC Grade	Percentage of all land (%)	Percentage of agricultural land (%)
1	3.5	4.4
2	15.2	19.0
3a	21.9	27.3
3b	24.5	30.5
4	7.6	9.5
5	7.5	9.3
Non-ag	8.4	-
Urban	11.4	-
Total	100.0	100.0

Surveys

- 1.2.13 A detailed ALC survey has been carried out. This considers the long-term physical limitations of land for agricultural use. Factors affecting the quality of agricultural land are climate (temperature, rainfall, aspects, exposure, etc.), site considerations (slope, micro-relief, flood risk) and soil (texture, structure, depth, stoniness, etc.) and the important interactions between them. These factors affect soil wetness and droughtiness and influence the choice of crops that can be grown and the level of consistency of yields.
- 1.2.14 The methodology uses a soil auger and a spade. Soil is augered down to 1.2m (or wherever stopped by stones or rocks) and the soil texture and colour is identified, together with the presence of mottles. Occasional pits are dug to better describe soil profiles and to enable a measurement of stone size and proportions.
- 1.2.15 **Soils.** The ALC assessment assesses the soils on a regular 100 metre grid. This information is used to determine the distribution and type of soil found across the Site.
- 1.2.16 **Farming Considerations.** The effect on the farm business involved was assessed by way of an interview with the farm business owners and operators, and a walk-over of the land within the Site.

Modelling

- 1.2.17 No modelling was undertaken for the Agricultural Circumstances Chapter.

Cumulative Effects Assessment Methodology

- 1.2.18 The assessment of potential cumulative effects focusses on agricultural land quality, on the basis that information about soils and farming circumstances is generally not available for most applications.
- 1.2.19 For each application, the planning application documentation has been reviewed, in particular the availability of any ALC reports. In the absence of ALC information (by way of a technical report, reference in the Planning Statement or reference in the officer's report), we have reviewed the published provisional ALC and BMV Likelihood maps, and now the Predictive ALC Map for England.

Assessment of Significance

- 1.2.20 The significance of an effect is determined based on the sensitivity of a receptor and the magnitude of an impact. This section describes the criteria applied in this chapter to characterise the sensitivity of receptors and magnitude of potential impacts.
- 1.2.21 The approach to determining the significance of effects is a three-stage process that involves defining the sensitivity of the receptor and the magnitude of the impact, and then referencing the matrix (Table 1.3) to determine significance of effect.

Sensitivity Receptor

Criteria for Receptor Sensitivity

- 1.2.22 The assessment methodology identifies the sensitivity of the various receptors in terms of their importance (e.g. BMV land quality) and their susceptibility to damage when being trafficked (e.g. sensitive soil type), as described in Table 1.3 Sensitivity Criteria of Identified Receptor.
- 1.2.23 Agricultural land quality in England and Wales is measured under a system of ALC. This determines the quality of land based on the long-term physical limitations of agricultural land for agricultural use, particularly climate, site and soil characteristics. The best quality land is Grade 1, the poorest Grade 5, with Grade 3 split into two subgrades (Grades 3a and 3b). The ALC survey was mostly carried out under the ALC revised guidelines 1988. These were revised in December 2025⁵, but the climate data and methodology has not changed and the survey remains valid in accordance with the updated guidelines.
- 1.2.24 National Policy Statement EN-3⁶ and the NPPF identifies that Grades 1, 2 and 3a are the “best and most versatile”. Under the new Predictive ALC Map for England, Grades 1 and 2 account for 23.4% of agricultural land in England, and BMV land accounts in total for 50.7% of all agricultural land. The resource is considered to be of national importance. The ISEP Guide considers land of ALC Grades 1 and 2 to be of “very high” sensitivity, subgrade 3a to be of “high” sensitivity, and land of Subgrade 3b to be of “medium” sensitivity. Land of Grades 4 and 5 is “low” sensitivity. Therefore, Grades 1, 2 and 3a have all been placed in the highest sensitivity category. The result is that the loss of 20 ha or more of land of BMV quality is classified as a significant adverse effect. This tallies with the threshold for consultation with Natural England. The loss of less than 20 ha of BMV is not identified as a significant adverse impact.
- 1.2.25 Soils, as a resource, can be affected by construction activities and by land use, both negatively and positively. The potential for adverse effects on soils is highest when they are wet (in a plastic state), and soils with small particles (e.g. clays) are more susceptible to damage. The ISEP Guide places clay soils in wetter climate areas in a higher sensitivity to damage category, with sandy soils in drier regions least susceptible. Wetness of soils is measured by hand, but the ISEP Guide also references the Field Capacity Days (FCD) measure from the ALC methodology as a guide to when soils are saturated. As identified in the Agricultural Land Classification Report, the FCD for the Site is under 100 days per year, and as a result no soil types are within the High Sensitivity category in Table 1.2. All soil is sensitive to damage, and consequently no soils are placed in the negligible category.
- 1.2.26 Farm businesses are continually subject to change, as noted earlier, as a result of internal and external forces and changes. Consequently, these businesses are resilient to changes. Some farms are, however, more susceptible to changes than others. Dairy farms reliant upon access to grazing land within walking distance of the farm buildings, for example, may be more sensitive to changes close to the farmyards than arable farms where, whilst there may be cost and time

⁵ Department for the Environment, Food and Rural Affairs “ALC of England and Wales: Guide for assessing the quality of agricultural land” (updated 2025).

⁶ Department for Energy Security and Net Zero ‘National Policy Statement for Renewable Energy (EN-3)’, December 2025.

implications, the particular land for fields may be less important. No farms are placed in the high sensitivity category as a result.

1.2.27 The wider rural economy is also resilient to change, including the production of food, production of non-food crops, biodiversity, and the wider rural economic implications. These factors are consequently of low sensitivity.

1.2.28 The sensitivity of likely impacted receptors defined depending on the vulnerability, recoverability and value/importance of the receptor, to potential effects arising from the Scheme is assessed in line with Table 1.2. Sensitivity Criteria of Identified Receptor. These criteria draw from the ISEP Guide and professional judgement.

Table 1.2 Sensitivity Criteria of Identified Receptor

Sensitivity	ALC Grade	Sensitivity of topsoil and subsoil	Agricultural businesses and related effects
High	Land of ALC Grades 1, 2 and subgrade 3a.	There are no soils of high sensitivity in this climatic area.	No farm businesses are considered to be of high sensitivity.
Medium	Land of ALC Subgrade 3b.	High clay soils where the FCD is <150, or medium textured soils where the FCD is <225.	Full-time businesses, and farm businesses where the location of land is particularly important such as dairy farms.
Low	Land of ALC Grades 4 and 5.	Soils with a high sand fraction where the FCD is <225.	Part-time farms or farms with low sensitivity to change, e.g. arable land held on short-term arrangements. Wider effects on production and the rural economy
Negligible	Land of ALC Grades 4 and 5 with only indirect links.	No soils are considered to be of negligible sensitivity.	Agricultural land that is not farmed or does not form part of a farm business.
*Field Capacity Days: days when the soil is replete with water			

Magnitude of Impact

1.2.29 The categorisation of the magnitude of impact takes into account the following factors:

1.1.1

-
- Extent;
 - Duration;
 - Frequency; and
 - Reversibility.

- 1.2.30 The magnitudes for impacts on Agriculture are based on the thresholds set out in Table 1.3. A medium magnitude impact occurs when 20 hectares (ha) or more of land of BMV quality is lost, by permanent sealing or downgrading. This equates with the threshold for consultation with Natural England.
- 1.2.31 The ISEP Guide defines a **“temporary, reversible loss of soil-related features”** as a low magnitude impact and this has been adopted for this assessment. The ISEP Guide does not distinguish between short-term and long-term temporary or reversible loss. ISEP Guide footnote to 1.3 notes that **“temporary developments can result in a permanent impact if disturbance of land use change causes permanent damage to soils”**. Therefore, provided that the works are reversible, all temporary development forming part of the Proposed Development is categorised as “low magnitude”.
- 1.2.32 The ISEP Guide does not provide magnitude definitions for farm businesses, although effects are described in paragraph 8.3.3 of the ISEP Guide. The criteria in Table 1.3 are based on professional judgement. The methodology considers farm businesses to be more resilient to change. Farm businesses are continually adapting to change, caused by external factors (weather, disease, government policy), internal factors (management, finances, personal wishes) and economic factors (crop prices, input costs). Some businesses are less resilient to change because of their relationship with land (e.g. a dairy herd needing access for cows to walk to grassland), others are more resilient (e.g. arable farms and access to arable fields). Full-time businesses that would be terminated by the Proposed Development are identified as a high magnitude of impact, with farm businesses less affected being identified as medium or low magnitude impacts.
- 1.2.33 The magnitude of impact is the level of change caused by the Proposed Development and is defined in Table 1.3. For soils and agricultural land, the same magnitude thresholds are used.

Table 1.3 Criteria for Determining Magnitude of Impact

Magnitude of Impact	Definition	
	Effects on Soils and Agricultural Land	Effects on Agricultural Businesses
High	The Scheme would directly lead to the loss (including permanent sealing or land quality downgrading) of over 50ha of soil-related features; or potential for improvement in one or more soil functions over an area of more than 50ha.	The impact of the Scheme would render a full-time agricultural business non-viable.
Medium	The Scheme would directly lead to the loss (including permanent sealing or land quality downgrading) over an area of between 20 and 50ha of soil-related features; or potential for improvement in one or more soil functions over an area of between 20ha and 50ha.	The impact of the Scheme would require substantial changes in the day-to-day management of a full-time agricultural business, or closure of a part-time agricultural business. Loss of buildings or impacts on drainage or water supplies affecting the potential for at least 5ha of adjacent land to be farmed fully.
Low	The Scheme would directly lead to the loss (including permanent sealing or land quality downgrading) of less than 20ha of soil-related functions; or potential for improvement in one or more soil functions over an area of less than 20ha; or temporary, reversible loss of soil-related features.	Land take would require only minor changes in the day-to-day management / structure of a full-time agricultural business or land take would have a significant effect on a part-time business. Minor effects, direct or indirect, on surrounding land beyond the boundaries of the Site.
Negligible	No discernible loss or reduction or improvement of soil functions or volumes.	Land take would require only negligible changes in the day-to-day management of a full-time agricultural business or land take would require only minor changes to a part-time farm business.

Categorising Scale of Effect

- 1.2.34 The predicted significance of the effect is determined through a standard method of assessment and based on professional judgement, considering both the sensitivity of the receptor and the magnitude of the impact, as shown in Table 1.4.

Table 1.4 Scale of Effect

	Sensitivity
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Magnitude of Impact	High	Medium	Low	Negligible
High	Major	Moderate	Minor	Negligible
Medium	Moderate	Minor	Minor	Negligible
Low	Minor	Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

1.2.35 The nature of effects will be defined as either beneficial or adverse.

1.2.36 For the purpose of this assessment, any effects with a significance level of major or moderate are considered to be “significant” in terms of the EIA Regulations. Any effects which are minor or negligible are considered to be “not significant” in terms of the EIA Regulations.

Scoping Criteria

1.2.37 This chapter considers the following scoping criteria:

Table 1.5: Issues considered within this assessment

Activity	Impacts scoped into the assessment
Construction	
Construction activity including installation of solar PV modules, trenching and fixed equipment, and related trafficking with vehicles.	• Short-term, long-term or permanent effects on agricultural land quality, especially land of BMV quality. • Short-term, long-term or permanent effects on soils as a resource, including effects of compaction or soil mixing. • Disruption of farming activities during the construction period.
Operation and maintenance	
Management and maintenance of the solar farm.	• Potential effects on land quality, especially land of BMV, from ongoing maintenance activities over the duration of the operational period.
Maintenance activities and long-term use of land as grassland under and around the solar PV modules.	• Any effects, negative or beneficial, from long-term grassland use in combination with solar PV arrays.
Operation of the solar farm.	• Effects on farm business from the management of the solar farm and reduced agricultural activity.

	• Effects on the wider rural economy and on food production from limitations to agricultural use during the operational phase.
Decommissioning	
Physical removal of the solar PV modules, removal of fixed equipment and restoration of land under fixed equipment.	• Potential for loss or downgrading of agricultural land, especially that of BMV quality, from the decommissioning activities. • Potential effects on soils from the physical activities.
Decommissioning works	• Disruption to farming activities during the decommissioning works.

- 1.2.38 Effects which are not considered likely to be significant have been scoped out of the assessment. A summary of the effects scoped out is presented in Table 1.6.

Table 1.6: Issues scoped out of the assessment

Issue	Justification
Construction and decommissioning effects on local agriculture out with the Site.	It is assumed that other farms in the area will not be affected by construction activity such as traffic or dust, at construction and decommissioning phases.

Limitations to the Assessment

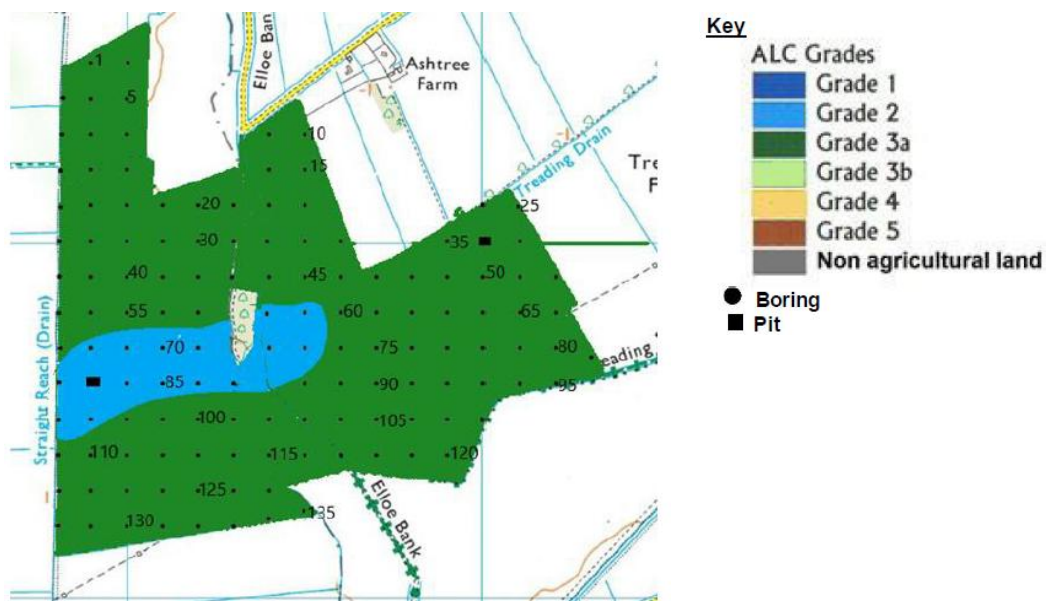
- 1.2.39 There are no significant limitations to the assessment.
- 1.2.40 It is assumed that the land quality and soils will not change over the duration of the Site in the absence of the Proposed Development.

1.3 Baseline Conditions

Site Description and Context

- 1.3.1 **Agricultural Land Quality.** The ALC results are reported in the ALC report, at **Appendix 1.1**. The results are shown on Figure 1.3 below.

Figure 1.3: ALC Results



1.3.2 The results for the Site are as follows:

Table 1.7: ALC Results

ALC Grade	Area (ha)	Proportion (%)
2 Very good quality	15	11
3a Good quality	117	89
Total	132	100

1.3.3 **Soils.** The soils are described in the ALC report as medium and heavy silty clay loam, silty clay, or clay. The ALC field notes record clay topsoil in places. The topsoil depth is mostly 25cm, but 30cm in places.

1.3.4 Two small pits dug in August 2025 illustrate the soils. Grade 2 soil is shown in Photos 1 – 2 below.

Photos 1 – 2: Grade 2 Soils



1.3.5 Subgrade 3a soil is illustrated below.

Photos 3 and 4: Subgrade 3a Soil



1.3.6 Farming Circumstances. The land is farmed as part of Ashtree Farm, Sutton St Edmund. This farm extends in total to approximately 350 hectares. This includes:

- 40 ha at Ashtree Farm, Luttongate;
- 172 ha near Thorney;
- 6 ha in Sutton St Edmund; and
- 130 ha at the Proposed Development.

1.3.7 The land is farmed by contractors, with different contractors running the Appeal Site and the Thorney unit. There are farm buildings at Ashtree Farm, including grain storage, but this is insufficient storage for all the crops.

1.3.8 The cropping of the land is determined each year depending upon a number of factors. Usually, the land is used for growing autumn sown wheat and barley, with break crops of oilseed rape or winter beans. Blackgrass is a problem on the land, and sowing of crops is usually delayed to allow for the land to be sprayed-off pre-sowing, but that can result in missing an autumn sowing, forcing the farmers to plant a spring crop, depending upon the rainfall in the autumn.

Future Baseline

1.3.9 The baseline is not expected to change in the future. There will inevitably be changes in cropping and stocking, and potentially the introduction of greater amounts of agri-environmental management, but overall the land quality and soils will not change, and ongoing farming enterprises of some type will continue.

1.4 [Assessment of Likely Significant Effects](#)

1.4.1 The impacts of the construction, operation and maintenance, and decommissioning phases of the Proposed Development have been assessed. The potential impacts arising from the construction, operation and maintenance and decommissioning phases of the Proposed Development are listed in Table 1.5. A description of the potential effects on receptors caused by each identified impact is described in the following sections and then identified for each key phase.

1.4.2 The assessment draws a distinction between land loss and land use change. Land loss is the irreversible loss or permanent damaging of a resource, and is a permanent impact. Land use change is where the land resource is not irreversibly developed, but its use or intensity of use may change, of which the impact is only temporary. Land loss usually occurs at construction, and is assessed accordingly. The effects of land use change are considered under the operation and maintenance phase, and are reversible changes. As identified in the ISEP Guide, temporary and reversible impacts are all considered to be low magnitude impacts.

Effects During Construction

Sensitivity of the receptors

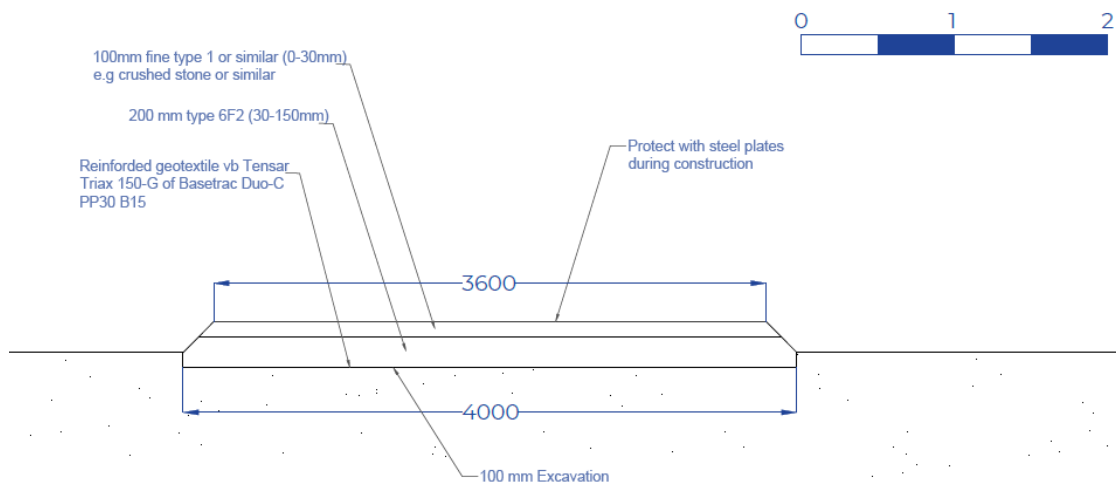
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- 1.4.3 The sensitivity of the receptors is assessed as follows:
- (i) **Agricultural land quality.** The Site is a mixture of Grades 2 and 3a. The whole of the land quality therefore comprises land of high sensitivity based on Table 1.2;
 - (ii) **Soils.** The ALC has identified the Field Capacity Days for the area as 97 days and of high clay content, therefore the soils are of medium sensitivity.
 - (iii) **Farm businesses and agricultural production.** Parts of some fields have the benefit of installed under-field drainage. The dykes are all controlled by the North Level Internal Drainage Board, and The Lady Nun main drain runs north through the Site. The land is arable and the loss of the land would not result in a full time business becoming unviable, therefore the farm business would be classified as low sensitivity.
- 1.4.4 The magnitude and significance of the construction phase impacts are assessed in the following sections. This reviews the various stages in the construction process and the potential impacts are identified. This section considers the following construction stages:
- (i) temporary construction compounds;
 - (ii) access tracks;
 - (iii) installation of the PV modules;
 - (iv) installation of fixed equipment (inverters and transformer station); and
 - (v) fencing and cabling.
- 1.4.5 Temporary construction compounds and access. Construction compounds are temporary areas, and will be fully restored at the end of the construction phase. The works usually involve stripping topsoil in suitable conditions which is stored temporarily in a bund. A membrane is normally then added, and an aggregate surface placed on the matting, typically as shown in Photo 5. On restoration the process is reversed, and the topsoil is replaced. Construction compounds will normally be in place for no more than a year, and soils will not have deteriorated if stored as set out in the outline Soil Management Plan (oSMP).
- 1.4.6 Works will be undertaken under the guidance of the final Soil Management Plan (which will be developed from the oSMP) and will give full attention to Defra's Construction Code of Practice and the soil suitability criteria in the Institute of Quarrying Good Practice Guide.

Photo 5: Newly Installed Construction Compound



- 1.4.7 Tracks are required for access around the Site. The construction of these involves a shallow-depth soil strip of circa 100mm, the placing of a matting layer, and then importation of the track surface. The small volume of topsoil is left adjacent to the track so that it can be used on restoration. A cross-section of the proposed track is shown below. Further information is set out in section 6 of the oSMP.

Figure 1.4: Cross-section of Track



- 1.4.8 Tracks are usually installed early in the construction process, to provide access to the panel areas. A typical track is shown below.

Photo 6: Typical track



- 1.4.9 **Installation of PV modules.** The process involves marking out the grid on the ground, which is done on foot. Teams then lay out the piles. This stage is non-intrusive and should take place when soils are suitably dry. A tractor and trailer will typically be used to transport the piles to the fields, then each pile is lifted off by hand.
- 1.4.10 Construction workers then drive the piles into the ground. This is a swift process and has little impact on the soil because the piles are inserted into the soil with no removal of soil and the soil is simply pushed aside by the pile. An example of this construction activity is shown in Photo 7.

Photo 7: Framework piles being installed



- 1.4.11 The design of PV modules varies from one project to another, and so the design may differ from these photographs, but the framework piles are all similar. The limited impact of installing the piles on the underlying land is illustrated in Photo 8. The purpose of the photograph is to show that the machinery typically used is small, and that there is little disturbance to the soils. The design above ground does not affect soils and the design may therefore vary from the example. The purpose of the photograph is to show the piles as they enter the ground and to show the absence of adverse effects of construction traffic on the soils.

Photo 8: Framework posts being installed (taken at Tiln Farm, Retford, in January 2023)



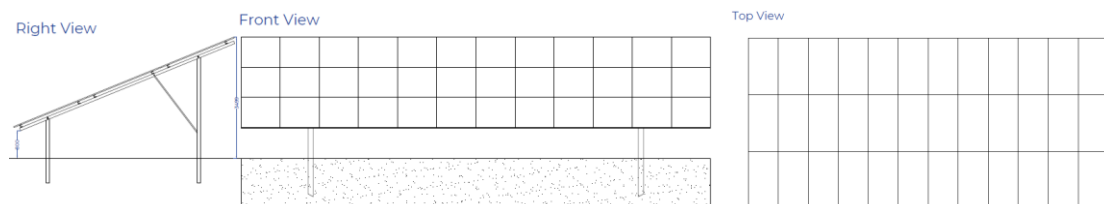
- 1.4.12 There is minimal damage caused by the next stage of the construction process, which is the assembling of the framework and the bolting-on of panels. This stage requires the framework and panels to be transported to site. They are lifted off by hand and assembled by hand. Machinery travels down the lines between the strings of panels being assembled. There is no ground disturbance, so the only risk comes from travelling over the land in typical agricultural-sized machinery.

Photo 9: Part installed panels (Bentham Farm, Purton)



- 1.4.13 The design for this Site is shown below.

Figure 1.5: PV module design



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- 1.4.14 Electrical cables need to be connected between the solar PV modules and the on-site substation. This will involve trenches, dug with a machine. The trench width will depend upon the size of cable. In all cases the work involves removing the topsoil and placing it to one side of the trench. The subsoil is then removed and placed on the other side of the trench. This looks disruptive but the disturbance of the soil is limited to the width of the trench. Once the cable has been inserted the subsoil is then replaced, with the topsoil put back on the top.
- 1.4.15 This approach is used to ensure that soils are restored and settle within days, and return to grass growth rapidly, or are suitable for being sown. This is illustrated in Photographs 10 and 11, which were taken at a solar development site 14 days after the trench was first dug, for a development similar in nature to the Proposed Development but with lower panel heights. The photograph is included to illustrate the short-term limited effects of the activity on the soils.

Photos 10 and 11: Cabling channels during cable installation



- 1.4.16 **Fixed Equipment.** Fixed equipment such as Inverters, Spares Parts Containers and Transformers typically stand on concrete bases or hardstanding. An example is shown below, being the Transformer Station from the application plans. These will generally stand on a permeable clean base and therefore installation will require the removal of topsoil from the area under the building and the construction of a hard base, in a similar manner to the construction of compounds.

Figure 1.6: Example of Transformer Station, Front and Side Elevation

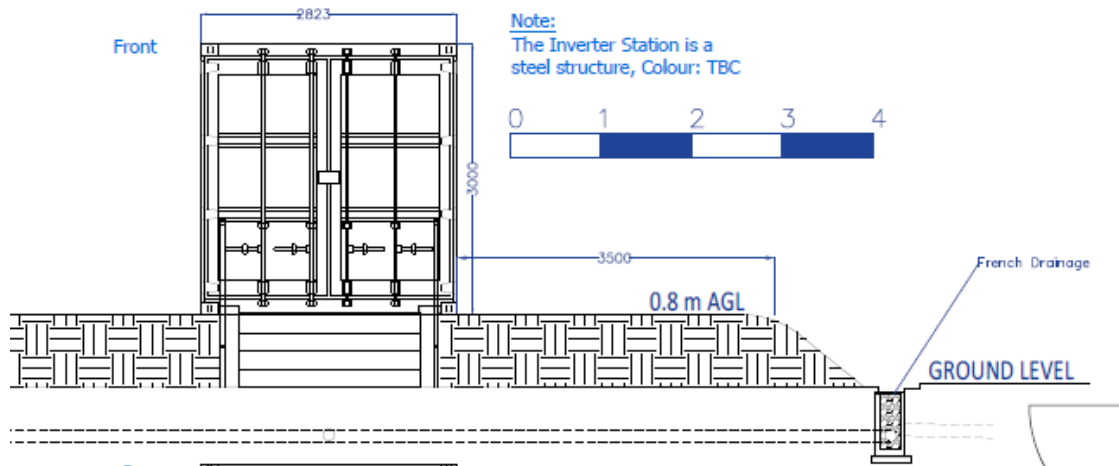


Photo 12: Typical Equipment

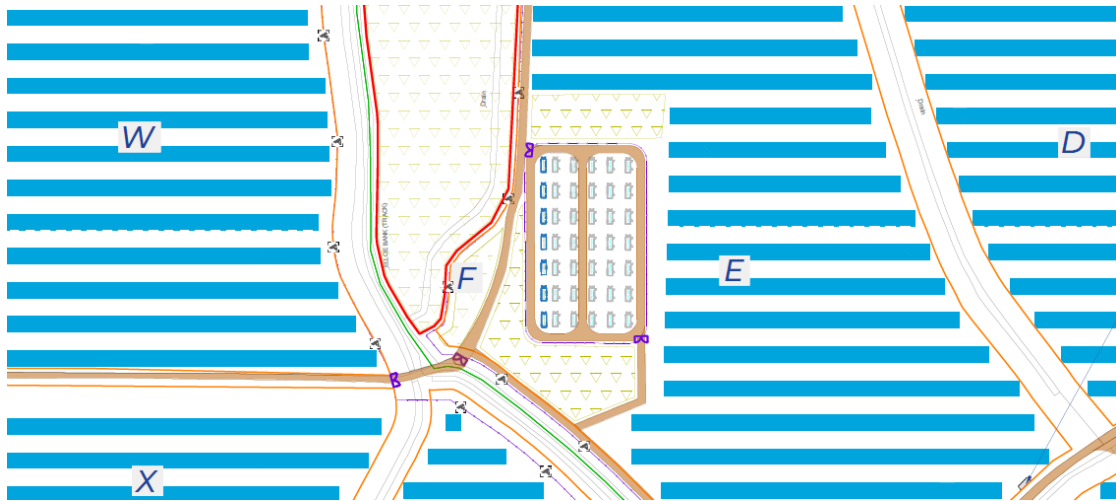


- 1.4.17 These areas are fully reversible back to the same ALC grade on decommissioning. They are temporary and reversible.

BESS

- 1.4.18 A Battery Energy Storage System (BESS) is proposed in the centre of the site, as shown on the plans. An extract is shown below.

Figure 1.7: Proposals for the BESS



- 1.4.19 This area is shown in the photograph below. It is Grade 2 but is adjacent to a small plantation and is currently not cropped being in an agri-environmental cover crop.

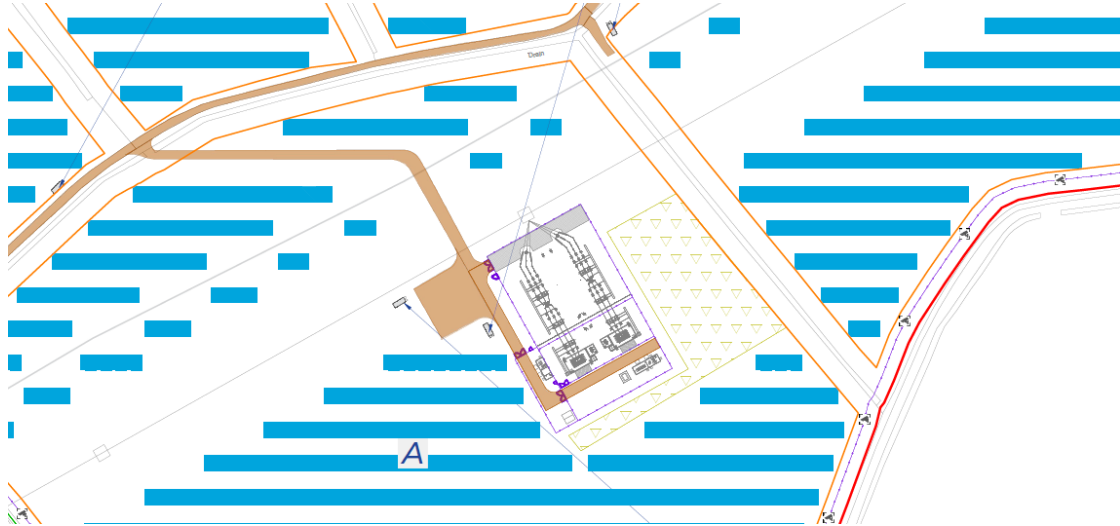
Photo 13: The Proposed BESS Area, Looking North



Substation

- 1.4.20 The substation will connect into existing overhead lines. This is shown on the extract from the proposals below.

Figure 1.8: Proposals for the Substation



- 1.4.21 The works for this area are described in the oSMP section 9. It is intended that this area be fully restored, and back to the original ALC grade, on decommissioning.
- 1.4.22 The substation area is shown in the photograph below, looking southeast by the connecting tower.

Photo 14: The Proposed Substation Area, Looking Southeast



- 1.1.2 **Fencing**
- 1.4.23 Fencing, with periodic security cameras, will be typical deer fencing, as illustrated on the application plans and as indicatively shown in photograph 11.

Photo 15: Typical deer fencing



- 1.4.24 **Collective impact on Agricultural Land.** The effects of the various parts of the construction process have been assessed individually. Collectively the magnitude of the impacts involving moving soils and disturbing agricultural land are summarised in Table 1.8.

Table 1.8: Areas affected rounded to nearest 0.1 ha

Item	Grade 2 (ha)	Subgrade 3a (ha)	Total (ha)
Inverters	<0.1	0.2	0.3
Track (new)	0.3	0.6	0.9
BESS	0.5	0.0	0.5
Substation	0.0	0.5	0.5
Total	0.9	1.3	2.2

- 1.4.25 Therefore 2.2 ha of BMV land will be disturbed to install tracks, BESS and substation around the site, which will all be removed and the land fully restored on decommissioning. On the basis that these works are temporary, they are of **Low** magnitude. A **Low** magnitude impact on a **High** sensitivity resource results in a long-term, temporary but reversible impact of **Minor adverse** significance, which is **not significant**.

Soils

- 1.4.26 The soils across the Site comprise a mixture of medium and heavy silty clay loam. For the purposes of management, all the soils across the Site will be treated similarly.
- 1.4.27 Soils will be managed carefully during the construction phase, with activities controlled through a Soil Management Plan (SMP). An outline SMP (oSMP) accompanies the application.
- 1.4.28 The key to minimising adverse effects on soils is to not move them (eg digging up to install trenches) when the soils are saturated, and to minimise vehicle travel over soils when they are

saturated. Soils are resilient to some disturbances, as occur inevitably in normal farming operations, but this should be minimised and, if any disturbance or compaction occurs, rectified.

1.4.29 The climate in this area is dry, with 97 Field Capacity Days recorded in the ALC. The soils in this climate area are of medium sensitivity (ie medium resilience to structural damage). Any damage will be temporary, and can be rectified.

1.4.30 The impact on soils will be temporary and can be kept to a negligible amount. As such the effects are of **Low** magnitude on resources of **Medium** sensitivity, resulting in a short-term, temporary **Minor adverse** effect, which is **not significant**.

Farm businesses

1.4.31 The long-term effects are considered under the operational phase.

1.4.32 Therefore, the construction impacts on farm businesses are short term, and temporary, and hence low magnitude, on farms of low sensitivity resulting in **Minor** adverse effects, which are **not significant**.

Summary of the Significance of the effects

1.4.33 The significance of the effects on the agricultural and soil resources are summarised collectively as follows.

1.4.34 **Agricultural land.** For the majority of the Site there will be no adverse effects on agricultural land quality. The areas disturbed are limited to approximately 2.2 ha of agricultural land, for the construction of access tracks, BESS and substation.

1.4.35 The effect on agricultural land is therefore a **Low** magnitude impact on **High** (BMV) sensitivity land, resulting in a **Minor adverse** effect, which is **not significant**.

1.4.36 **Soils.** The effects on soils are limited. Soil disturbance will be limited and reversible. The impacts will be temporary and short-term. The soils are medium and high clay soils and susceptible to damage if worked when in unsuitable conditions, but the impacts will be of **Low** magnitude. The resources are of **Medium** sensitivity, so the effect is short-term, temporary and **Minor adverse**, which is **not significant**.

1.4.37 **Farm businesses.** The impacts on the farm business is of **Low** magnitude. The business is of **Low** sensitivity, so the temporary, long-term effect is of **Minor adverse** significance, which is **not significant**.

Additional mitigation and residual effect

1.4.38 No additional mitigation is required. Therefore, the residual effects remain of **Minor** or **Negligible** significance, which is **not significant**.

Effects during Operation

Sensitivity of the receptor

1.4.39 The sensitivity of the receptors remains unchanged for the operational phase in respect of the three resources assessed:

- agricultural land quality will be unchanged;
- the soils will remain unchanged; and
- the farm businesses occupying the solar farm may change, but they will remain low sensitivity farming operations.

Magnitude of impact

1.4.40 The magnitude of the impact on the agricultural resources is assessed as follows:

Agricultural land quality

1.4.41 There will be no requirement for heavy machinery to traffic soils during the operational phase. Accordingly, there will be no significant disturbance of soils affecting land quality.

1.4.42 Maintenance and cleaning machinery will be transported via a van or small tractor, which is generally lighter than most farm machinery. A typical cleaning machine is shown in Photo 13. If the soils are wet when access is taken, there is the potential for slight indentations to be made (such as shown in Photo 14 for a development similar in nature to the Proposed Development), but such effects on soils are not significant and will not alter ALC grade. Typically, the machinery such as illustrated in Photo 13 is used, which is no heavier than a small tractor. Cleaning takes place normally in late spring using distilled water, to clean the panels before the main solar generation period, when soils are normally dry and therefore not susceptible to damage in any event.

Photo 16: Cleaning of solar modules



- 1.4.43 There may occasionally be small rutting caused by agricultural vehicles (for example quads) or vans used by engineers. Typical light impacts are illustrated in Photo 14. These indents will normally be levelled by the feet of grazing sheep, but if there are deeper ruts, they could be repaired by a lightweight roller in the spring.

Photo 17: Example of minor ruts caused by vehicles



- 1.4.44 The ISEP “Solar PV on Agricultural Land” document (2025) advises that the (rare) potential for contamination from broken panels should be included in the assessment. This is likely to be a very rare occurrence in this location. Any contamination from broken glass would need to be removed. This could be done by stripping of the surface vegetation and 1-2 cm of topsoil. This would be akin to turf cutting, which is a common agricultural activity, and does not result in land quality downgrading.
- 1.4.45 Any planned panel replacement would take place when ground conditions are suitably dry and would not adversely affect land quality.

-
- 1.4.46 Therefore, no physical works are required during the operational phase which will adversely affect agricultural land quality. The impacts are therefore of **negligible** magnitude, on resources of **medium** or **high** sensitivity, resulting in an effect of **negligible** adverse effect, which is not significant.

Soils

- 1.4.47 There will be no requirement for heavy machinery to traffic soils during the operational phase. Accordingly, there will be no compacting of soils and a combination of increasing organic matter levels and lack of machinery activity will allow a natural enhancement of the soil. There will be no adverse impacts, therefore.
- 1.4.48 Water run-off from panels will reach all the ground under the panels. Panels come in sections and water drains down between these sections. Soils will not be harmed during the operational phase due to lack of moisture. This can be seen in Photo 15, where gaps between panels can be seen and grass growth below the panels is good. The height of the panels does not result in shading affecting soils.

Photo 18: Panels array showing gaps between panels and between rows of panels



- 1.4.49 The Site is currently in arable use and there will be improvements to the soils as a result of being removed from continuous arable use. For cereal crops, the cultivations are normally a single-pass cultivator, but land is ploughed before spring beans. Fertiliser is granular, not organic matter, but organic matter levels are regularly tested. There is a considerable body of scientific evidence that shows that converting arable land to long-term grassland has multiple benefits in terms of organic matter levels, soil organic carbon levels, earthworm counts, and reduced erosion (wind and water).
- 1.4.50 The beneficial effects are assessed as being of **low** magnitude, on resources of **medium** sensitivity, resulting in short-term, temporary **minor** adverse effect, which is **not significant**.

Farm businesses

- 1.4.51 There are no significant adverse effects on the one full-time farm business.

-
- 1.4.52 The impact on the farm business will be a reduction of approximately 130 ha from a 350 ha farm, a reduction of just over a third. The land is farmed by contractors, on an as-needed, non-secure basis. There will be a substantial change in the farm business, due to the reduced scale, so this will be a **Medium** magnitude impact on a business of **Low** sensitivity, resulting in a long-term, adverse **Minor adverse** effect, which is **not significant**.
- 1.4.53 The grazing of sheep will potentially continue throughout the operational phase, as the panels will be sufficiently tall to enable easy access for sheep and sheep dogs. Photographs of sheep grazing under and around panels are provided below.

Photos 19 and 20: Sheep Grazing Solar Panel Areas



- 1.4.54 Purely in terms of agricultural activity, the temporary medium magnitude impact on the one full-time farm will result in a **minor** adverse effect, which is **not significant**.

Food Production

- 1.4.55 The NPPF requires the economic and other benefits of BMV land to be recognised. Neither planning policy nor Government incentives require or encourage agricultural production. This section of the Chapter considers food production and wider economic effects in that context.
- 1.4.56 The Site extends to 132 ha of BMV. Assuming a worst-case assessment approach, the absolute yield of winter wheat from the Site would be 1,240 tonnes (132 ha x 9.4 tonnes / ha). This would represent an uplift of the order of 158 tonnes / year over average-yielding crops, and this figure represents the benefits of BMV.
- 1.4.57 To assess the significance of this, it is appropriate to consider the local and national context. Key statistics, relating to cereals production, are provided in Table 1.9 below.

Table 1.9: Cropping Areas 2025 (ha)

	England	Lincolnshire	Cambridgeshire
Total area on holdings	8,946,431	480,948	248,148
Cereals	2,483,569	234,257	128,926
Uncropped arable land (agri-env. and fallow)	544,610	47,931	23,527

Structure of the agricultural industry in England at 1 June, gov.uk, April 26

1.4.58 The Site represents a negligible contribution to the country and national production of cereals.

1.4.59 The statistics for the two local planning authorities are set out in table 1.10.

Table 1.10: Cropping Areas (2025)

	Fenland District	South Holland District
Total area on holdings	46,609	66,995
Cereals	22,426	30,539
Arable crops excluding cereals	11,761	16,366

1.4.60 In 2025, the croppable area (including short-term grassland) of England was 4,921,923 ha. In 2025, 443,792 ha, some 9% of the total croppable area, was arable land not in production but used for agri-environmental benefit.

1.4.61 The change from arable cropping to solar production and sheep grazing will have effects on suppliers and the agricultural economy locally, with reduced use of machinery and fertiliser but increased use of veterinary surgeons, feed merchants, etc. Overall, the impact of the Proposed Development will be negligible in the context of wider crop and land use changes locally (eg 9% of arable land not being in production).

1.4.62 Overall there will be a **negligible** magnitude impact on the local rural economy, which is of **medium** sensitivity, resulting in an effect of **negligible** significance, which is **not significant**.

Summary of the Significance of the effect

1.4.63 There will be only **minor** or **negligible** adverse effects during the operational phase on agricultural land, soils, farm businesses and agricultural production, which are **not significant**.

Effects during Decommissioning

Sensitivity of the receptor

1.4.64 The sensitivity of the receptors will be unchanged for the decommissioning phase.

Magnitude of impact

- 1.4.65 The magnitude of the impacts are assessed as follows:

Agricultural land quality

- 1.4.66 Measures to mitigate potential effects on land and soil quality will be secured through good practice in handling soils.
- 1.4.67 Where fixed infrastructure or cables are to be removed, they will be removed in suitable conditions. If cables are being removed, the works will include careful removal of topsoil and subsoil, to be stored in segregated piles, followed by reinstatement. Fixed infrastructure bases will be removed, membranes removed, and the ground loosened and topsoil replaced.
- 1.4.68 The removal of the PV modules will involve the disassembly of the panels and framework, followed by mechanical removal of the piles. The soils across the PV module area will then be loosened with normal agricultural machinery and returned to the farmers in a condition suitable for continued agricultural use.
- 1.4.69 Once the PV modules have been removed, the bases for the infrastructure can be removed. This will involve removing the crushed stone bases and matting, loosening the soil to remove compaction, then returning topsoil to the areas. The topsoil will then be worked with normal agricultural machinery to create a tilth suitable for return to the landowner.
- 1.4.70 Following decommissioning, the land will be returned to the landowners in a condition suitable for agricultural use, and with soils in a better condition.
- 1.4.71 The works will therefore involve a further temporary period of disturbance on agricultural land of high or medium sensitivity. The magnitude of impact will be low on resources of high sensitivity, and the consequent effects will be **minor** adverse, which is **not significant**.

Soils

- 1.4.72 The potential impacts on soils from decommissioning will be similar to the potential effects from construction. The works will involve trafficking of the land with machinery, and physical disturbance of soil for the removal of cables, and the removal of bases and tracks. If these works are undertaken in suitable conditions, the impacts will be short-term, temporary and Low in magnitude. The soils are of medium sensitivity, so the effects will be **minor** adverse, which is **not significant**.

Farm businesses

- 1.4.73 The effects on farm businesses of the decommissioning phase will be short-term and of low magnitude, for periods when agricultural practices are not possible due to decommissioning activities. The impacts will be Low magnitude on Low sensitivity resources, resulting in **negligible** adverse effects, which is **not significant**.

Summary of the Significance of the effect

- 1.4.74 The effects on agricultural land, soils and farm businesses from decommissioning are therefore all assessed to be of **minor** adverse or **negligible** significance, which is **not significant**.

1.5 Mitigation, Enhancement and Residual Effects

Mitigation by Design

- 1.5.1 Both embedded and additional mitigation measures relevant to the assessment of agriculture and soils are summarised in Table 1.11 below. Where relevant, measures have been identified that may result in enhancement of existing environmental conditions.

Table 1.11: Mitigation measures to be adopted as part of the Proposed Development

Mitigation measure	How the measure will be secured
Embedded mitigation	
Soil Management Plan	It is anticipated that this will be controlled by condition.
Further mitigation	
No further mitigation is proposed.	

Additional Mitigation.

- 1.5.2 No additional mitigation is considered to be necessary.

Enhancements

- 1.5.3 No further enhancements are proposed.

1.6 Cumulative Effects

Cumulative Effects

- 1.6.1 Further to the PINS letter of 27th January 2026, the cumulative assessment has considered the potential significant effects of the Proposed Development cumulatively with the following solar PV proposals:
- (i) FDC application YR25/0758/F for a 49.9 MW solar PV development on land at Treading Bank, Tydd, St Giles. This development adjoins the Site to the east, and is a mixture of Grades 2 and 3a, across an area of 86.0 ha.
 - (ii) SHDC application H20-1007-24 for a solar farm and BESS at Fendyke Solar Farm, Old Fendyke, Sutton St James. This is a mixture of mostly 3a and 3b with a small area of Grade 2 across 41.3 ha of agricultural land. The application was allowed on appeal on 27 April 2026 (6001659);
 - (iii) Nationally Significant Infrastructure Project (NSIP) EN010169 Meridian Solar Farm. This project is pre-acceptance. The Scoping Report (31st May 2024) refers in table 4.5 to over 1,000 hectares of mostly subgrade 3a with areas of Grades 1, 2 and 3b. The PEIR, on the

developer's website, has a table showing 967 ha of mainly subgrade 3a or better, and 925 ha of a mix of subgrade 3a and 3b, or mainly subgrade 3b.

- 1.6.2 Not all these applications seek to quantify, or have reached the stage where they have, quantified the amount of land by ALC grade that will be affected, temporarily or permanently, by fixed infrastructure such as tracks or substations.
- 1.6.3 This cumulative assessment proceeds on the assumption that all three proposed developments are largely reversible. The cumulative assessment also considers all three to be temporary developments, and therefore the construction, operation and decommissioning phases are considered together.
- 1.6.4 **Agricultural Land Quality.** It is not possible to be definitive about the land quality of all three, as ALC results for Meridian Solar Farm are not published. In respect of the Treading Bank and Fendyke Solar proposals, they collectively involve 111.7 ha of BMV (Treading Bank 84.1 ha, Fendyke Solar 27.6 ha). Cumulatively with Tydd Solar this amounts to the use of 243.7 ha of BMV. Potentially Meridian Solar Farm could add the use of a further 1,000 ha, but details are not yet published.
- 1.6.5 On the basis that except for small or modest areas, the land will not be lost, and that even in those areas the use is generally temporary, the likely cumulative effect can be assessed. The magnitude of impact is likely to be low because the use is temporary, on resources of high sensitivity. This will result in a temporary **minor adverse** effect, which is **not significant**.
- 1.6.6 **Soils.** The soils are variously described in the ALC reports for Treading Bank and Fendyke Solar, and at a high level in the PEIR for Meridian Solar. Some of the soils are more susceptible to structural damage than others. In all cases, however, it is likely that with good soil management, the soils will only be affected temporarily, if at all. On that basis the impact will be low, on soils of medium sensitivity, resulting in a temporary effect of **minor adverse** significance, which is **not significant**.
- 1.6.7 **Farm Businesses.** There is insufficient information available to assess the cumulative effect. For Fendyke Solar, the effect is described as the use of 18% of the farm, on land badly affected by blackgrass.
- 1.6.8 **Food Production.** The effects on food production of a change of use from an assumed (as data is not fully available) generally arable cropping mix to grazing of sheep, can be estimated. Using the incremental basis used earlier in this Chapter the maximum incremental benefit of 1,196 ha (the figure used in the PINS letter of 27/01/26) of BMV land compared to moving those 1,196 ha to non-BMV land, would be 1,435 tonnes of wheat per annum. The absolute maximum production of 1,196 ha yielding at a high level, would be 11,240 tonnes.
- 1.6.9 The cumulative amount of land (1,196 ha) represents 0.3% of the croppable area of Lincolnshire, and 0.56% of the croppable area of Cambridgeshire. As the proposals are cross-boundary, realistically the assessment should be for both authorities, and in which case the 1,196 ha represents 0.19% of the combined croppable area, or 0.33% of the cereal area of the two counties.

1.6.10 This significance of this is considered negligible. It can be seen in the context of the 76,711 ha of uncropped arable land across the two counties. Overall, the impact is considered to be negligible, and temporary which is **not significant**.

1.6.11 Therefore there are no significant cumulative effects.

1.7 Summary

Introduction

1.7.1 This Chapter considers the potential significant adverse effects on agricultural land quality, soils and farm businesses, plus the wider rural economy.

Baseline Conditions

1.7.2 The Site is of BMV quality, a mixture of Grade 2 and Subgrade 3a. The Site contains 15ha Grade 2 (11%) and 117ha Subgrade 3a (89%).

1.7.3 There is one farm business affected, it is farmed by contractors on an as needed basis. Approximately a third of the farm will be used for the scheme.

Likely Significant Effects

1.7.4 **Land Quality.** The land quality of the Site will not be adversely affected. Modest areas – 2.2ha – will be disturbed temporarily for tracks and bases, but this will be restored on decommissioning.

1.7.5 **Soils** are susceptible to being damaged if moved when wet, but by following industry good practice these impacts can be avoided. Over time the soils will benefit from being rested from intensive agricultural use.

1.7.6 **Farm Businesses** are likely to benefit from the inclusion of land into the Proposed Development. The one full-time farm unit will no longer be able to crop some land for arable purposes, but the effect is minor adverse. The land will be available for sheep farming.

1.7.7 **Food Security.** There will be an impact on local and national food production, but this will be negligible.

Mitigation, Enhancement, Residual Effects

1.7.8 No further mitigation is required.

Cumulative Effects

1.7.9 None of the sites considered will, in combination with the Proposed Development, result in a significant adverse effect.

Conclusion

1.7.10 The Proposed Development is temporary and reversible. It will not result in any significant effects on land quality, soils or farm businesses.

1.7.11 The summary of effects is as provided in Table 1.12.

Table 1.12: Significance of the Effect

Environmental Effect	Sensitivity of Receptor	Impact Magnitude	Nature of Impact (Permanent/ Temporary)	Effect and Significance
CONSTRUCTION				
Loss of BMV land	High	Low	Temporary	Minor (not significant)
Damage to soils	High	Low	Temporary	Minor (not significant)
Disruption to farms	Low	Low	Temporary	Minor (not significant)
OPERATION				
Effect on land quality	High,	Negligible	Temporary	Negligible (not significant)
Effect on soils	Medium	Low	Temporary	Minor (not significant)
Effect on farm businesses and	Low	Negligible	Temporary	Negligible (not significant)
Effects on food production	Low	Negligible	Temporary	Negligible (not significant)
DECOMMISSIONING				
Loss of BMV	High	Low	Temporary	Minor (not significant)
Damage to soils	High	Low	Temporary	Minor (not significant)
Disruption to farms	Low	Low	Temporary	Negligible (not significant)
CUMULATIVE EFFECTS				
Loss of BMV land	High	Low	Temporary	Minor (not significant)
IN-COMBINATION EFFECTS				
None	-	-	-	-