PINS Reference EN010169

October 2026

# Meridian Solar Farm.

## Soils, Agriculture and Land Use Impact – Deadline 3

## Review of Deadline 2 Documents

Report of Reading Agricultural Consultants

**Beechwood Court**
**Long Toll**
**Woodcote**
**RG8 0RR**

**01491 684 233**
**reading-ag.com**

# CONTENTS


1. **INTRODUCTION** **1**

2. **BACKGROUND** **1**

**Socio-economic issues** **2**

**Agriculture and Soils** **3**

3. **REVIEW OF DOCUMENTS** **5**

## Introduction

1. This report has been prepared to inform Lincolnshire County Council's (LCC) comments on the Applicant's submissions at Deadline 2, relating to agriculture, soils, land use and water supply impacts. It draws on expert knowledge and opinion of soils and agriculture, and the evidence submitted by the Applicant.

2. This report assesses the revisions made to the relevant sections of the Environmental Statement (ES) in the context of published guidelines available to the Applicant, the local and national context of the proposed development, and the likely impacts of the Scheme in the light of its own direct and cumulative effects. It specifically addresses:

   - impacts on soil and wider agricultural resources;
   - water supply; and
   - socio-economic and social issues.

3. Earlier comments raised by RAC and used to inform LCC's Relevant Representation are set out in RAC's '*Comments on 6.1 ES Chapter 5 and associated documents for Relevant Representation*' document, dated May 2026 and Appendix ii to Lincolnshire County Council's Local Impact Report of September 2026, submitted at Deadline 1, and Appendix 2 **[RAC Soils-Agri Report Oct 2026]** to Lincolnshire County Council's comments on information or submission received by Deadline 1.

## Background

4. Lincolnshire county covers 592,100ha, of which about 545,000ha, that is about 92% is farmed. The county covers 4.5% of England's land area and accounts for 5.4% of its agricultural land. The proposed Solar Development Area (SDA) would occupy 1,064.1ha of agricultural land, plus 526.2ha of grid and inter-array connection corridors and 3.3ha of non-agricultural, that is a total of 1,593.6ha, in the region of 0.3% of Lincolnshire's farmland.

5. The wider county, as defined by the Greater Lincolnshire Local Enterprise Partnership (LEP), produced about 12% of English agricultural output, by value, in 2019, that is more than £2 billion[1]. The county occupies a key position in food production that extends through food

[redacted] Accessed 11/06/26

processing and distribution, in total the food chain provides 21% of Greater Lincolnshire's economic output and 24% of its jobs[2], compared with only 13% nationally.

6. Agriculture is critical to the well-being of the County and it is clear from these simple statistics that any impact on agricultural land in Lincolnshire is very likely to have an immediate impact on local employment and economic output, and a disproportionate impact on food production nationally, when compared with most of the rest of England.

**Socio-economic issues**

7. It is noted that there is no updated version of the Socio-Economics and Land Use chapter of the ES **[EN010169-000352-6.1 ES Chapter 14]** at Deadline 2.

8. The Chapter has still not been modified to take into account the effects associated with the long-term loss of production from, and employment associated with the land occupied by the proposed development, notwithstanding its ALC Grade. Specifically, the assessment fails to identify how to avoid or otherwise minimise the loss of agri-economic output from land that is up to 23% more productive than the County average, excluding value added locally within the supply chain.

9. The Applicant's response to LCC's and RAC's comments on employment and productivity infer that any economic impacts are limited to the landowners, who will be compensated with a rental income, and loss of employment will be minimal because the areas are farmed by the landowners with little or no reliance on contractors.

10. The assessment fails to set out the background to or justification of these positions and neglects to fully account for any change in labour requirements resulting from the proposed development or loss of trade with agricultural and other local businesses, such as agricultural engineers, seed, fertiliser and fuel suppliers.

11. This failure makes it impossible for the Secretary of State to take into account the economic and other benefits of that land, as required by the Overarching National Policy Statement for Energy (EN-1).

[2] Agriculture alone provides 4% of the region's workforce [redacted] : Accessed 11/06/26

**Agriculture and Soils**

12. Paragraph-by-paragraph commentary on changes to and omissions from the tracked versions of the: Agriculture and Soils Chapter of the ES **[EN010169-000594-6.1 ES Chapter 5 (Rev1)]**; Agricultural Land Classification Report - parcels A & D **[EN010169-000601-ES Appendix 5-2]**; Agricultural Land Classification Report - parcels B & C **[EN010169-000604-ES Appendix 5-3]**; and the Outline Soil Management Plan **[EN010169-000639-7.14 OSMP (Rev1)]**, are set out in table form in the following pages.

13. The Applicant's Water Supply Strategy **[REP2-019]** sets out to identify and quantify the Scheme's potential water demand across constructional and operational phases in order to satisfy interested parties and the Examining Authority that sufficient water from the scheme can be delivered.

14. The Strategy fails to identify any reasonable baseline of water use and resources across the development area, particularly any extant abstraction licences held by landowners that will be affected by the proposed development.

15. An analysis of water demand during the construction and operational phases of the proposed development is set out at Table 2-2 of the Water Supply Strategy. The significant areas of water demand are for dust suppression and irrigation of landscape planting in the construction phase and panel cleaning in the operational phase.

16. The Water Resource Assessment appended to the Strategy fails to identify how non-potable water will be sourced, stored and subsequently treated for panel cleaning. In the absence of a robust resource from the Public Water Supply, the proposed level of cleaning activity is likely to require a volume of storage, such as a tank or reservoir that will require planning permission. The current application fails to identify any such infrastructure or the likelihood of any water resource being available.

17. The Strategy also fails to identify how any extant irrigation resources attached to the area will be restored after decommissioning and return to agricultural production. Whilst the availability of water for irrigation is no longer part of the ALC grading system, Irrigation enables the full versatility of land to be utilised, including the production of high value crops.

18. The development of solar arrays across the area will interrupt the use of any irrigation abstraction licences and is extremely likely to result in the revocation of that licence by the Environment Agency. Any such revocation will be permanent, and it is unlikely that a licence

similar to the original would be granted when the land is returned to agriculture, so limiting the use of the land to crops not requiring irrigation.

19. Thus, any land benefitting from irrigation now will be less productive on decommissioning of the solar array than is currently the case. The revised ES fails to identify any agricultural land that benefits from irrigation and thus cannot accurately assess the temporary or likely permanent impacts of its loss from the farming economy.

## Review of Documents

| EN010169-000683-8.33 Applicant's Comments on Local Impact Reports [REP2-015] | |
|---|---|
| **Para** | **Comment** |
| 9.1 | The Government's Solar Roadmap estimated that up to 0.4% of all UK land would be used to satisfy the required solar deployment; based on a UK land area of 24,438,000ha, that is 97,752ha of land. If all of this capacity were to be met by development across England's 8,900,000ha of agricultural land, that would be about 1.1% of all land. National Policy directs ground-mounted solar farms away from BMV land to protect national food security.<br><br>The Applicant's assessment is that, whilst the proposed Scheme in isolation represents less than 1% of the agricultural land available in Lincolnshire, taken cumulatively with other solar projects in the County approximately 3% of all agricultural land would be occupied by solar.<br><br>The Applicant goes on to estimate that an estimated 1.1% of BMV land in the county would be occupied, temporarily, by ground-mounted solar. The Government's Land Use Framework **[The Land Use Framework for England]** cautions that the area of ground-mounted installations is highly conservative and that these values should be treated as an upper-bound estimate of the potential land impact of new solar installations in 2035.<br><br>Whilst this may be a small proportion of agricultural land in the County, it is clearly disproportionate when taken into context within England as a whole, particularly when, by the Applicant's own assessment, the proportion of BMV land alone occupied by solar developments in the County would equate to the Government's estimate of land take for all solar development. |
| 9.2 | Notwithstanding the disproportionate area of BMV land in the County projected by the Applicant as being used for solar development, LCC does not agree with the Applicant that the assessment of impacts on ALC and soil quality are robust and reliable, thus the measures set out in the OCEMP and OSMP are unlikely to be adequate to protect soil functional capacity within the Order Limits.<br><br>The Socio-Economic and Land Use chapter of the ES **[APP-065]** relies on the assumption that because the land within the proposed SDA it will continue to generate income for landowners and would not result in any loss of jobs. This fails to take |

| | |
|---|---|
| | into account the long-term removal of land from production and any associated reduction in labour requirements and trade associated with the management of that land. |
| 9.3 | The Predictive and Provisional maps are at 1:250,000 scale and so are suitable only for use in reconnaissance work, not detailed interpretation of soil characteristics.<br><br>Whilst field survey evidence is generally accepted to provide high resolution evidence using observations made on a 100m grid, the density of observations used by the Applicant is not consistent across the area of the Scheme and the deviation of findings from strategic and more detailed mapping is significant in that much of the site is identified as non-BMV, in direct conflict with other mapping.<br><br>No robust or otherwise adequate photographic or laboratory evidence has been produced to support the conclusions drawn in the assessment.<br><br>The Applicant highlights lack of maintenance of drainage infrastructure as a possible reason for observations made in the course of its survey. It is acknowledged that this, together with extensive tracking by high axle weight machinery on Low ground pressure tyres can result in impeded drainage, these features however can be relieved with the use of appropriate tillage and drainage machinery.<br><br>Failure to maintain drainage infrastructure during the lifetime of the solar scheme is likely to result in an increased incidence in soil saturation and associated risk of deterioration in soil health. |
| 9.4 | The use of field averages is not recognised in land classification. Whilst the management of land may be affected by in-field variation of soil type, land classification is based on land mapping informed by detailed observations made on a 100m grid. The inclusion of the field average in the assessment cannot inform the grading of land and serves only to confuse issues.<br><br>Moreover, the Boston and Spalding soil map (1:50,000) clearly shows there is little or no correspondence between soil types and field boundaries. The field boundaries are ditches and dykes excavated for use with land drainage to control water levels, and managed by the South Holland Internal Drainage Board. |
| 9.5 | Soil series are mapped according to the physical characteristics of the profiles observed by suitably-qualified and experienced soil surveyors. The physical characteristics observed are highly unlikely to change with time, whereas soil and crop management may have an impact on the performance of those soils.<br><br>The survey data for the Scheme differs significantly from observations made by the Soil Survey of England and Wales on its 1:50,000 Boston and Spalding map and MAFF's Resource Planning Group in its survey of land south of Queens Bank Farm (1:10,000), differences which are not supported by evidence such as images of freshly-exposed faces in specifically excavated soil pits or a significant number of images of material extracted in the course of auger sampling. |

| | |
|---|---|
| 9.6-9.7 | The Applicant has failed to produce any adequate evidence contemporary with the soil surveys to support the conclusions made in the assessment. Engagement on these issues continues. |
| 9.8 | The Council maintains that the deficiencies in the ALC surveys should be addressed by the Applicant and that as a minimum land should be regraded on the precautionary principle. Whilst the significance of the effects as assessed may not change, the weight given to BMV land in the planning balance may be sufficient to affect the ExA's recommendations. The Council will continue to engage with the Applicant and seek a resolution to these matters. |
| 9.9 | The Council continues to engage with the Applicant and seek a resolution to these matters. |
| 9.10 | Given uncertainty regarding the maintenance of the site's agricultural land drainage system **[Reference 1.16 in the Applicant's Comments on LIRs]**, which would normally include periodic mole ploughing to maintain effective lateral and thus vertical movement of water from the field, the Applicant infers that restoration to any BMV grade may be compromised by waterlogging that may occur during the lifetime of the proposed Scheme, not only Grade 3a BMV land. |
| 9.11 | The Council welcomes the updating of Table 5-16. |
| 9.12 | The receptor-based assessment of economic impact used by the Applicant is based on a 'red line' that includes only the land occupied by the proposed Scheme. This assessment fails to consider the economic effects of the proposed development. Table 14-4 of Socio-Economics and Land Use chapter **[EN010169-00352-6.1]** identifies indirect jobs created via the supply chain and induced employment created by increased spending across the study area. The assessment fails to identify any impacts on jobs in the agricultural supply chain or spending associated with employment or purchases necessary for an agricultural business to operate.<br><br>This disproportionate assessment significantly distorts any conclusion on socio-economic impacts made in the ES.<br><br>Any assessment should take into account the productivity of the land occupied by the proposed Scheme and the total income it brings to the area, not simply any loss in gross margin suffered by the farmer, which, in the absence of any detail, may or may not be compensated for by rental income from land occupied by the proposed development.<br><br>The information on cropping provided at Appendix A to the Applicant's comments is welcomed but it is noted that there are significant gaps in the record, which may or may not be significant. The Council believes that the land use statistics generated using the Rural Payment Agency's spatial dataset for agricultural land use is a more accurate means of identifying historical cropping across the proposed development area. |

| | |
|---|---|
| 9.13 | The revenue raised by the crops is the correct value to be used in any assessment of economic activity. Whilst it is accepted that the values do not take into account 160ha of land that will remain in agricultural use, the impact of this is relatively small.<br><br>Whilst the gross margin realised for the farmer represents monies retained on the farm, the total output includes variable costs such as: seed; fertiliser; and sprays, which are more often than not sourced through businesses with local or regional representation, with resources deployed within the area.<br><br>Any rental income from the SDA is simply rental income. Diversification in England is regarded by Defra as any entrepreneurial use of farm resources to generate additional income. An entrepreneurial activity involves the taking of financial or personal risk to create value. The definition specifically excludes the letting of land for agricultural or non-agricultural end-purpose, land let for non-agricultural activity is not diversification as it is not the farmer who is undertaking the activity. Thus, the letting of land for solar is not agricultural diversification. |
| 9.14 | The cropping, fallowing or diversified use of land is the choice of individual landowners. The planning regime concerns itself with the potential or likely use of land. The comparison between the cropping of the proposed development area, fundamentally similar neighbouring land farmed in different ways, and with the land in the County as a whole is valid, relying on data obtained from the Rural Payments Agency's CROME mapping system, not from an incomplete and possibly unrepresentative record of cropping over part of the Scheme area. |
| 9.15 | The Applicant states that "*any loss of agricultural employment is likely to be minimal*", based on a series of assumptions that are unsupported by evidence.<br><br>See 9.12 above. |
| 9.16 | See 9.12 and 9.15. |
| 9.17 | Any income from the scheme is not a product of farm diversification, see 9.13 above. The Applicant has not produced an evidence-based assessment of likely local or regional socio-economic impacts. |
| 9.18 | See 9.3 above. The applicant fails to describe any mitigation of the likely impacts on the agricultural drainage network that are very likely to result in waterlogging of the soil profile and associated ponding of surface water. The impacts of such waterlogging are natural processes that will result in a severe degradation of land and jeopardise its return to BMV quality when the land is to be returned to productive agriculture. |

| | |
|---|---|
| 9.19 | See 9.1. The proportion of agricultural land, and specifically BMV agricultural land, in Lincolnshire is likely to exceed that identified as typical in the Government's Solar Road Map. The Applicant produces no evidence of the lack of available suitable land, in Lincolnshire or England as a whole, to justify the proposed development.<br><br>The proposed development has a disproportionate impact on BMV land. Nationally, about 42% of agricultural land in England is classified as BMV. The proportion of the proposed development area made up of BMV land is unclear but given available evidence it is highly likely that the proportion of land take that is BMV exceeds this proportion.<br><br>It is for the Applicant to demonstrate that the cumulative effects of solar development on soils and agriculture are significant. |
| 9.20 | Suitably-located large-scale ground-mounted solar developments are a critical part of England's solar road map. Developing government policy on land sets out how land can be used more effectively. The Land Use Framework for England seeks to balance demands on land and in its analysis does not suggest that its projections for habitat restoration, renewables and urban expansion do not involve the use of the most productive agricultural, BMV land in England. |
| 9.21 | See 9.1 and 9.19. |
| 9.22 | The OLEMP **[Rep1-070]** outlines working methods to be included in the specification. These methods include outline measures to reduce soil nutrient levels in order to limit competition between arable weeds and the species-rich grass mix.<br><br>The OLEMP contains no details of initial arable weed suppression or likely ongoing measures for weed control. The arable weed spectrum present across the proposed SDA has not been identified and the design of any effective management system is difficult without such intelligence.<br><br>The OLEMP does not contain any details of existing soil nutrient levels across the proposed SDA, target nutrient levels or how nutrient levels will be reduced to meet targets if necessary.<br><br>Details of the measures to be employed to achieve the desired grassland matrix across the solar development should be made available to the ExA in order that the time likely to be required for the establishment of the robust sward necessary for the construction phase to proceed can be established. |
| 9.23 | The OCEMP **[REP1-061]** sets out a series of measures that include the avoidance of underground drainage infrastructure, the location of which is generally unknown, and address damage to drains that is noticed during construction.<br><br>Neither the OCEMP or the OLEMP contain any details of measures necessary to maintain the underground agricultural land drainage infrastructure across the proposed SDA. |

| | |
|---|---|
| | The ODEMP **[REP1-065]** sets out measures that will be implemented during decommissioning, it does not identify measures that will restore any existing underground drainage system to its baseline condition, which is not described in the ES.<br><br>The maintenance of agricultural land drainage, including the incorporation of deep-rooting crops such as brassicas, is necessary to avoid failure in the drainage system that is likely to result in potentially long-term waterlogging of the soils of the area and damage to soil structure that may jeopardise the return of the land to productive agriculture. The soils of the area have been developed from marine alluvial deposits that have been drained over a long period to produce the highly productive fen soils of today. |
| 9.24 | The recent historical cropping of the area is irrelevant, the Applicant should accurately establish a baseline to which the land and its soils are restored, including the provision of irrigation where it exists.<br><br>Cropping with potatoes and sugar beet is carried out on long term rotations in order to mitigate risks of disease and brassicas in the rotation have a beneficial effect on soil drainage.<br><br>Whilst the Applicant's Water Supply Strategy **[Doc Ref 8.37]** identifies abstraction licence trading as a possible option for the provision of a water supply for the scheme, it does not address the maintenance or reestablishment of a water supply for the irrigation of agricultural crops. |
| 9.25 | The findings of the surveys and understanding of the agricultural and soil drainage regime used to inform the oSMP are unsupported by evidence and are thus inadequate to inform a detailed Soil Management Plan.<br><br>The baseline assessment of Soil Wetness Class does not concur with historical mapping of the soils of the area and relies on observations made in adverse, dry conditions from inadequate soil observation pits located and excavated for archaeology.<br><br>The variation of cropping, and land and soil management practices between areas in even recent times is likely to have resulted in differences in soil and drainage characteristics that are in turn very likely to have an effect on the long-term behaviour of soil water and consequently on the state of soils on decommissioning. |
| 9.26 | See 9.25. The absence of detail of the soil wetness regime of the soils of the area and its interaction with ALC grading makes it impossible to guarantee that the proposed SDA will be restored to agricultural use at its original ALC grade. |
| 9.27 | It is welcomed that the appointed contractor will be responsible for developing and delivering an effective soil mass balance for use in the construction and decommissioning phases of the proposed development.<br><br>Section 5.7 of the OSMP **[REP1-068]** assumes that access to land for decommissioning will be available when the topsoil is below the plastic limit. In the absence of detailed knowledge of soil water behaviour now and over the lifetime of the project this cannot be assumed. |

| | |
|---|---|
| | The Applicant's commitment to the provision of specialist advice to the landowners is welcomed but indication is given of the reason that such diverse advice may be required for restoration and aftercare or where the cost of any works that may be necessary will be borne. |
| 9.28 | ES Chapter 5: Agriculture and Soils (Rev 1) **[REP1-014]** refers to the British Society of Soil Science's Note on soil Carbon, which identifies that rapid soil carbon gains can be achieved through land use change, specifically through the conversion of arable land to grassland.<br><br>The chapter goes on to state that "*whilst improvement to soil structure and increase in soil carbon would be site-wide (large magnitude), professional judgement is applied to moderate the scale of the improvement*". The assessment assumes that the increase in soil carbon would be beneficial and that soil structure will be improved.<br><br>The chapter provides no baseline assessment of soil structure, soil carbon content or soil health.<br><br>Whilst soil carbon is key to achieving and stabilising soil structure, it is not necessarily an indicator of good soil health or agricultural capacity. Soil carbon content and soil health can be improved through the use of sustainable soil management practices, that align with soil type and climate, and cropping. It is not clear from the Application that the proposed SDA will be actively cropped, meaning that the active management of the land is very likely to be minimal.<br><br>Combined with the lack of evidence to suggest that the drainage of the proposed SDA will continue o be effective, it is likely that soil waterlogging will play an increased in soil health. Whilst waterlogging in peat areas of the Fens may be welcomed, marine silts, such as those from which the soils of the area are derived, are slowly permeable and without effective under drainage are likely to become waterlogged with standing water during wet periods.<br><br>Such waterlogging reduces plant activity and so limits active soil carbon sequestration, whilst at the same time adversely impacting soil structure.<br><br>In the absence of evidence that the soils of the area can be managed to maintain the existing agricultural land drainage regime and thus the soil climate, it is not possible to conclude that there will be any improvement in soil structure and sequestration or associated insignificant minor beneficial effect. |
| 9.29 | See 9.28. |
| 9.30 | The Council's conclusion that there would be a significant loss of BMV land should the proposed development go ahead stands for the reasons set out above. |
| 9.31 | The Council welcomes continued engagement with the Applicant, Natural England and other stakeholders to resolve outstanding queries on the soil survey and the drainage of the proposed SDA. |

| | |
|---|---|
| 9.32 | The Council's concerns regarding the treatment of BMV land and the absence of a balanced assessment of the likely economic impacts of the proposed SDA remain. |