



Mallard Pass

Solar Farm

Mallard Pass Solar Farm

**Applicant's Responses to
Interested Parties' Deadline 2
Submissions - Land Use and
Soils**

Deadline 3 - June 2023

EN010127

EN010127/APP/9.23

Applicant's Response to Interested Parties' Deadline 2 Submissions on Land Use and Soils

Parties Raised	Sub-Theme	Issues Raised	Applicant's Response
<p>REP2-047, REP2-053, REP2-046, REP2-220, REP2-068, REP2-182, REP2-191, REP2-159, REP2-057, REP2-060, REP2-158, REP2-155, REP2-228, REP2-090, REP2-068, REP2-238, REP2-056, REP2-138, REP2-167, REP2-098, REP2-184, REP2-167, REP2-229, REP2-218, REP2-186, REP2-149, REP2-205, REP2-117, REP2-198, REP2-106, REP2-181, REP2-213, REP2-165, REP2-230, REP2-215, REP2-194, REP2-233, REP2-209, REP2-190, REP2-108, REP2-152, REP2-217, REP2-127, REP2-187, REP2-061, REP2-169, REP2-170, REP2-178, REP2-235, REP2-177, REP2-156, REP2-154, REP2-</p>	<p>Loss of agricultural land and arable land</p>	<p>Concerns on the permanent and negative impacts of the development on the loss of arable agricultural land, the vast majority of which is classed best and most versatile land.</p> <p>The level of BMV land loss is completely unacceptable, particularly when considered alongside the numerous other proposed developments that are also taking large areas of this nationally significant resource out of agricultural production for long (often indeterminate) periods of time.</p> <p>There is currently no proposal or mechanism to secure the large-scale replacement of this agricultural land or mitigate its loss, which increases the significance of this negative impact. Whilst SKDC acknowledges proposals for ongoing alternate agricultural use post installation of the solar arrays, e.g., grazing, clarity is also needed on how this land use would be secured over the long term.</p>	<p>LCC state that “<i>the vast majority of the land proposed for the Solar PV site comprises of Grade 3a which is still classed as BMV.</i>” This statement is factually incorrect. The majority of the site and the Solar PV is in fact poorer quality agricultural land.</p> <p>Within the Order Limits, 42.2% of the site is of BMV quality. In terms of the Solar PV site and field margins, the proportion is 40.7%. [ES Chapter 12 Table 12-1 APP-042]. This does not constitute a "vast majority" of the site. It is less than half and it is less than national and county averages.</p> <p>To put this in context, Natural England estimate that across England 42% of agricultural land is considered to fall into the BMV category. Once large areas of lower quality land, such as all upland areas, are removed from the statistics, the proportion of land in lowland England that is BMV is higher.</p> <p>That is reflected in the "provisional" ALC data from the 1970s. That strategic data indicates that across Lincolnshire of the order of 71.2% is likely to be BMV, whereas for Rutland the proportion is 45.2%. [ES Chapter 12 Table 12-3 APP-042]</p> <p>Therefore, the distribution across the Order limits is below national and local averages.</p> <p>Within the Order limits the majority of land is poorer quality (sub-grade 3b or 4). 53.6% of the area in the Order Limits is poorer quality agricultural land, and within the Solar PV site and field margins area, this increases to 59.3% [ES Chapter 12, Table 12-1, APP-042].</p> <p>The quantum should be considered in context. Under the provisional ALC estimates from the 1970's, some 4.8 million ha were estimated to be of BMV quality. Within Lincolnshire the figure was about 403,000 ha and in Rutland just under 17,000 ha [Table 12-3, APP-042]. The Applicant has, on a precautionary basis, assumed that 4.2ha would be permanently lost as agricultural soils. It has also assumed that 216ha would be within</p>

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<p>164, REP2-183, REP2-166, REP2-133, REP2-211, REP2-054, REP2-126, REP2-128, REP2-193, REP2-107, REP2-188, REP2-143, REP2-090, REP2-164, REP2-113, REP2-231, REP2-176, REP2-216, REP2-066, REP2-150, REP2-160, REP2-207, REP2-208, REP2-161, REP2-096, REP2-098</p>			<p>solar areas and field margins. Whilst with the measures in the oSMP impacts to these areas will be such that they will be able to be utilised for arable production once the Proposed Development is decommissioned, even if this was considered to be a permanent loss, the combined impacts would still be 0.052% of the total BMV resource in the Rutland and Lincolnshire region. Paragraph 12.4.66 to 12.4.98 of the ES set out further context to these calculations.</p> <p>The concern expressed is that the loss is unacceptable because of the effect on food production of this site plus other sites being taken out of production for long periods of time.</p> <p>Food production/security is a land-use issue and not one discussed in national planning policy such as the NPSs or the NPPF. There is no expressed concern by respondents about the land resource (ie the ALC grade or the soils) being affected. As set out in the ES Chapter 12, Table 12-6 identifies the limited areas (4.2 ha of BMV) affected by tracks and solar stations.</p> <p>There is no Government policy that requires agricultural land to be used for food production. There is no Government financial incentive that seeks to encourage agricultural land to be used for food production. Government incentives currently seek to encourage biodiversity enhancement and fund the conversion of arable land to grassland. For example, under the current Countryside Stewardship Scheme farmers can be funded to revert arable land to grassland for a five year agreement. Furthermore, the developing Environmental Land Management Scheme encourages farmers to undertake 'Sustainable Farming' and/or support landscape and nature recovery.</p> <p>In a statement on 6th December 2022, Defra stated that "<i>the UK has a large and highly resilient food supply chain</i>" [Defra press Release, 6 December 2022]. This follows the Government Food Strategy (2022) which set out an objective "<i>to broadly maintain the current level of food we produce domestically</i>" [Policy Paper: Government Food strategy, Defra, 13 June 2022].</p>

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			<p>The UK Food Security Report (2021) identified a high level of self-sufficiency in UK production [UK Food Security Report Theme 2, UK Food Supply Services, Defra, 22 December 2021]. Section 2.1.6 examines domestic grain production and notes that UK grain alone produces more calories than required to sustain the domestic calorie requirements of the UK population if it was consumed directly by humans in a limited choice scenario.</p> <p>Therefore, the concerns expressed by some Interested Parties are not representative of the views of Government. Furthermore, the statements made are not backed up with any evidence to justify claims that the Proposed Development would lead to a reduction in food security for the UK.</p> <p>The concerns are not reflected in the food production statistics, and UK food security is not a relevant concern in respect of the Proposed Development.</p> <p>The effects of climate change on agricultural production are noted by the Mallard Pass Action Group [13.6] and the Solar Campaign Alliance [Section 5], however as noted above, the minimal impacts of the Proposed Development, will not prevent the UK from meeting the challenges posed in the UK Food Security Report 2021. Climate change is a threat to future farm production. If we can get a handle on climate change there is no other reason to assume food production will decrease in the future</p> <p>Indeed, the Examining Authority in the recent Longfield Solar farm decision noted at paragraph 5.7.48 that '<i>Indeed, when considered through the lens of food security, the proposed development would successfully enable the energy needs of today to be met while preserving the land's agricultural value for future generations</i>'. This is equally true for the Proposed Development.</p> <p>Furthermore it is noted that a recent appeal decision in Hambleton (Appendix A) highlighted that:</p> <ul style="list-style-type: none"> resting the land from intensive agriculture would be likely to improve soil health by increasing the organic matter in the soil and improving soil structure and drainage;

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			<ul style="list-style-type: none"> • the specific way agricultural land is used is not a matter that is subject to planning controls. As such, there would be nothing in planning terms to prevent the farmers using the fields that form the appeal site for the grazing of sheep at present or even leaving them fallow. Given this, the fact that the proposal would limit the ability to carry out any arable farming does not, in my opinion, mean that it results in the loss of agricultural land when it can still be used for other agricultural uses. Furthermore, current government schemes actually encourage farmers to take land out of production and put it to grass, meadows, or trees for carbon capture; • there are no national or local policies, guidance or strategies that relate to food security and production...and numerous government documents that state, and statistics that show, that there is no food security problem in the country and that the level of food production is good <p>These are all statements consistent with the Applicant's position – demonstrating that there is precedent to the overall argument that this development, in common with many other solar farms, does not lead to impacts of food security, notwithstanding that the question is not a matter of planning concern.</p>
REP2-053, REP2-046, REP2-130, REP2-109, REP2-193, REP2-057, REP2-169, REP2-142, REP2-226, REP2-151, REP2-227, REP2-144, REP2-186, REP2-223, REP2-205, REP2-146, REP2-131, REP2-185, REP2-230, REP2-	Negative impact on food production	<p>The loss of a significant area of BMV land and all grades of agricultural land represents a significant negative impact on arable food production, the associated food production economy within the district and the farm enterprises.</p> <p>Although it is noted that areas of land within Lincolnshire are identified to be retained as Mitigation and Enhancement areas, and so could remain in arable use and/or the land beneath the solar panels be used to graze sheep, concerns remain about the impact of the development in terms of the loss of productive arable farmland</p>	<p>The areas within the Order limits that are of BMV quality will not be "lost" as a resource. The land resource will be disturbed only in small areas, amounting to just 4.2 ha of BMV quality [Chapter 12 of the ES, Table 12-6 APP-042].</p> <p>The assessment considers the effects on food production in Chapter 12 of the ES [APP-042]. Food production is a land use, and arguably not an environmental, consideration.</p> <p>In terms of food production, the assessment compares the differential effect of production were it to be concluded that the solar development be sited on land wholly of sub-grade 3b or lower. In Lincolnshire and Rutland only limited areas are of Grades 4 and 5, as set out in Table 12-3 [APP-042] (1.3% of</p>

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<p>225, REP2-097, REP2-190, REP2-108, REP2-217, REP2-127, REP2-187, REP2-104, REP2-170, REP2-237, REP2-206, REP2-164, REP2-166, REP2-135, REP2-105, REP2-125, REP2-234, REP2-114, REP2-054, REP2-128, REP2-126, REP2-231, REP2-124, REP2-066, REP2-160, REP2-090, REP2-098</p>		<p>not only from this site but also when considered in combination with other NSIP scale projects that are currently being promoted across Lincolnshire.</p>	<p>Lincolnshire, 1.6% of Rutland). Therefore, sub-grade 3b represents the poorest quality land for most of these counties.</p> <p>Much sub-grade 3b land is typically capable of arable use, for cereals and break crops. Accordingly in the ES, whilst the total production from the 817ha site is set out in Table 12-9, the incremental increased production from using BMV land rather than sub-grade 3b land, is estimated at about 250 tonnes per annum from the Solar PV and field margin areas. This is set out in Table 12-11 [APP-042].</p> <p>This is not a significant loss of food production within the nation, the county or more locally.</p> <p>UK cereal production in 2022 was about 21 million tonnes [ES Chapter 12 paragraph 12.4.76]. Even the total production from the Order limits [Table 12-9] represents a negligible contribution to that total.</p> <p>Defra's county statistics series record that in 2021 across Lincolnshire 382,636 ha was arable and cropped, and across Leicestershire County Council and Rutland (Rutland not being recorded separately) this was 107,875ha. Across Lincolnshire 178,337 ha was planted to wheat, and in Leicestershire/Rutland the area was 49,001ha [source: Statistical data set: structure of the agricultural industry in England and the UK at June]. If these areas averaged 8.6t/ha, production was 1.95 million tonnes.</p> <p>The impact of the Proposed Development on the production of the wider area is therefore small. On the basis that it is accepted that solar development is required, the incremental production between BMV and non-BMV land is therefore of the order of 250 tonnes. Even if all the production was taken as a comparison, compared to production across the wider area [Lincolnshire, Rutland, Leicestershire] of close to 2 million tonnes, production of 6,000 tonnes for this site is modest.</p> <p>In Appendix I is an assessment of the land involved for the other application sites across Lincolnshire and Rutland. In total they involve of the order of 2,100 ha of land of BMV quality. This</p>

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			<p>would represent 0.5% of the BMV of Lincolnshire and Rutland (2,114/419,600).</p> <p>The assessment of the area affected by infrastructure is presumed to be similarly small, of the order of 2% of each proposed development. That would involve of the order of 42ha of land of BMV quality.</p>
<p>REP2-220, REP2-109, REP2-219, REP2-155, REP2-137, REP2-238, REP2-129, REP2-229, REP2-218, REP2-203, REP2-119, REP2-117, REP2-213, REP2-194, REP2-189, REP2-217, REP2-187, REP2-169, REP2-235, REP2-177, REP2-164, REP2-133, REP2-128, REP2-188, REP2-176, REP2-216, REP2-066, REP2-118, REP2-098</p>	<p>Food Security</p>	<p>Concerns around food security within the UK, creating food shortages.</p> <p>The Proposed Development contradicts draft NPS EN-3 March 2023 guidance and does not consider relevant elements of Defra's Food Security Report.</p> <p>The Proposed Development should be rejected as it constitutes a loss of a significant amount of valuable farming land which must be kept in food production to maintain our food security. There are alternatives (lower-grade land areas, brownfield sites and car parks and rooftops, etc) that do not pose such a threat to our food security.</p>	<p>The Government Food Security Report 2021 [22 December 2021] identified high levels of food production in the UK, with UK production accounting for about 60% by value of the food we eat, and 74% of the food we can grow in the UK.</p> <p>The Government Food Strategy [June 2022] set out an aim to "<i>broadly maintain domestic production at current levels as we deliver our climate and environmental goals</i>" [ES Chapter 12, paragraph 12.4.77, APP-042].</p> <p>The Government's position was reiterated in a Press Release of 6 December 2022 where it was stated that "<i>the UK has a large and highly resilient food supply chain.</i>"</p> <p>The Government Food Strategy was based on, inter alia, the Food Security Report, and consequently the ES has considered that analysis.</p> <p>The draft EN-3 requires the Secretary of State to take into account the economic and other benefits of BMV land [3.10.136] and generally requires Applicants to seek to minimise impacts to BMV land. How the Applicant has done this is set out in the Site Selection Report [APP-203], and in its responses to the ExA's FWQs on Alternatives and Land Use matters.</p> <p>As set out in those documents, and in the Statement of Need [APP-202] and its Response to Relevant Representations, the Applicant:</p> <ul style="list-style-type: none"> • has considered lower grade areas and brownfield sites in developing the Scheme and has picked the most appropriate site considering all factors; and

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			<ul style="list-style-type: none"> agrees that solar should be developed on rooftops, but in light of the electrical needs of the UK, and the need to meet Net Zero in the stretch target of 2050, it is vital that large scale greenfield solar is also developed.
<p>REP2-046, REP2-053, REP2-047, REP2-137, REP2-138, REP2-098, REP2-169, REP2-186, REP2-170, REP2-150, REP2-090</p>	<p>Cumulative impacts on the loss of arable agricultural land.</p>	<p>The view that the cumulative negative impacts of the loss of arable agricultural land places pressure on the function of this important part of the local and wider Lincolnshire rural economy as well as raising questions more generally regarding food security and the carbon footprint impacts as a result of the need to import food due to the consequential changes in land-use.</p> <p>This increases the potential cumulative negative impacts of the loss of arable agricultural land placing pressure on the function of this important part of the local and wider Lincolnshire rural economy.</p>	<p>Agriculture is an important part of the economy of Lincolnshire and Rutland.</p> <p>Government has not identified a food security concern.</p> <p>The Government Food Security Report 2021 [22 December 2021] identified high levels of food production in the UK, with UK production acting for about 60% by value of the food we eat, and 74% of the food we can grow in the UK.</p> <p>The Government Food Strategy [June 2022] set out an aim to “<i>broadly maintain domestic production at current levels as we deliver our climate and environmental goals</i>” [ES Chapter 12, paragraph 12.4.77, APP-042].</p> <p>The government’s position was reiterated in a Press Release of 6 December 2022 where it was stated that “<i>the UK has a large and highly resilient food supply chain.</i>”</p> <p>There is no requirement to use agricultural land for arable use. There is no Government incentive to use land for arable use. There are many factors that influence crop choice and production levels [ES Chapter 12 paragraphs 12.4.66 et seq, APP-042].</p> <p>The proposed development involves 817 ha of agricultural land, which is a very small proportion of agricultural in Lincolnshire and Rutland [Table 12-3, APP-042].</p> <p>In Appendix I is an assessment of the land involved for the other application sites across Lincolnshire and Rutland. In total they involve of the order of 2,100 ha of land of BMV quality. This would represent 0.5% of the BMV of Lincolnshire and Rutland (2,114/419,600).</p>

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			<p>The assessment of the area affected by infrastructure is presumed to be similarly small, of the order of 2% of each proposed development. That would involve of the order of 42ha of land of BMV quality. The implications for food production, which is a land use consideration to be assessed in the context of Government's statements that there is no food security issues, is limited.</p>
<p>REP2-047 REP2-138 REP2-169</p>	<p>Inadequate agricultural production assessment</p>	<p>The statement does not appear to assess the overall impact of the loss of agricultural production from the site as a whole. This is a particular concern and needs to be fully assessed, especially in relation to the matter of food security.</p>	<p>The potential agricultural production from the Order limits as a whole is set out in Chapter 12 of the ES at Table 12-9 [APP-042]. The ES also notes that with the Proposed Development in place, the farm businesses in which the scheme will sit, will continue to operate and produce food for the UK.</p> <p>A realistic assessment of the incremental implications of using BMV land within the Solar PV and field margins area rather than using sub-grade 3b land elsewhere, is an annual production reduction of about 250 tonnes [ES Chapter 12, Table 12-11, APP-042].</p> <p>The Government has not identified a food security concern from large scale solar being brought forward to meet the Government's Net Zero challenge.</p> <p>The Government Food Security Report 2021 [22 December 2021] identified high levels of food production in the UK, with UK production acting for about 60% by value of the food we eat, and 74% of the food we can grow in the UK.</p> <p>The Government Food Strategy [June 2022] set out an aim to "<i>broadly maintain domestic production at current levels as we deliver our climate and environmental goals</i>" [ES Chapter 12, paragraph 12.4.77, APP-042].</p> <p>The government's position was reiterated in a Press Release of 6 December 2022 where it was stated that "<i>the UK has a large and highly resilient food supply chain.</i>"</p>

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<p>REP2-171 REP2-111 REP2-211</p>	<p>Restoration of the Site following decommissioning</p>	<p>Further clarification of the commitment to the restoration of the Solar PV site's current ALC grades should be made within the soil management plan.</p>	<p>The outline Soil Management Plan [APP-213] has been amended to provide additional detail about the decommissioning works. The restoration of all of the works, including the tracks, solar stations and substation areas back to comparable quality, is set out in that plan.</p>
<p>REP2-98 REP2-125 REP2-090</p>	<p>ALC Methodology and grading</p>	<p>Concerned with the chosen 1988 ALC Methodology. Commitments to restoring ALC grades should be determined through the approved system for grading agricultural land quality at the time of restoration. Reference to this should be shown in ES and oSMP.</p> <p>Concerns around the grading of the agricultural land in the scheme and the assumptions made by the applicant.</p> <p>SCA is concerned that the Applicant appears to have changed their ALC assessments over the course of the application, which raises some cause for concern as to what the 'true' assessment is.</p> <p>SCA notes how there currently appears to be some confusion more generally regarding how BMV land is defined and sets out comments at a meeting of the Environmental Audit Committee of the House of Commons on 29 June 2022 made by George Eustice, Secretary of State for Defra stating that BMV is classed as Grade 3b and above and so 3b is not acceptable land for solar development. SCA concludes that Mallard Pass should not be developed. Other lower-grade or brownfield sites should be sought if the panels must be installed on land.</p>	<p>The classification of agricultural land in England and Wales is made under the ALC Guidelines [Agricultural Land Classification of England and Wales: revised guidelines and criteria for grading the quality of agricultural land, MAFF [October 1988]].</p> <p>The ALC survey has been assessed by Natural England. A few clarifications were sought, but the methodology has not been questioned.</p> <p>The [then] Secretary of State's comments about sub-grade 3b being BMV was erroneous and has since been corrected by the Secretary of State in September 2022 to confirm that BMV land does not include Grade 3b. The definition of BMV is Grades 1, 2 and 3a as set out in Annex 2 of the NPPF [2021].</p> <p>It is stated that a simple view suggests the land is mostly Grade 2 and 3a. Agricultural Land Classification is a detailed methodology involving sampling soils with a soil auger down to, where physically possible, 1.2m. It is not possible to classify land by a simple walk-over – by contrast the Applicant undertook comprehensive surveys as set out in Appendix 12.4 [APP-091].</p>

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		<p>Disagrees with 2.2.1e of the Non-Technical Summary [APP-106] that the development avoids using large areas of BMV land when it does entirely the opposite, using a vast area of good quality agricultural land.</p> <p>The majority of the land is graded as 3b, but a second opinion should be sought on this grading, as a simple view of these fields suggests 2 or 3a as more appropriate, with little at 3b.</p>	
REP2-219	Impact on soil quality	Concerned about the leaching of chemicals into the soil from the construction.	<p>The construction of a solar farm does not require chemicals. The panels are assembled and cabling installed, but no chemicals are involved in the process. The usual annual cleaning of solar PV arrays involves clean water with no chemicals. This is set out in the updated CEMP submitted at Deadline 3.</p> <p>At Table 3-7 the oCEMP sets out a comprehensive set of pollution control measures to avoid contamination of soils during construction. These measures relate to fuel and chemicals (e.g. hydraulic fluids) associated with construction plant as the installation of the PV arrays and other infrastructure do not involve the use of chemicals that are hazardous to the environment.</p>
REP2-159 REP2-090	Impact of soil Compaction	<p>Soil compaction will reduce the soil's ability to absorb and hold water. The removal of compaction via ploughing will be prevented due to the presence of solar panels across the fields.</p> <p>Removing posts during decommissioning will inevitably lead to soil disturbance and this aspect of soil disturbance has not been addressed in the documents.</p>	<p>The outline Soil Management Plan [APP-213] sets out good practice to avoid creating compaction during the construction process, and to alleviate any compaction if localised areas are affected.</p> <p>There is no reason why compaction should be caused during the operational period, as set out in the oSMP.</p> <p>Decommissioning should not result in disturbance and adverse impacts on the soil. This is addressed in the revised oSMP.</p>
REP2-209 REP2-061 REP2-211	BMV Testing and Quantification	There are concerns over the accuracy of the testing methods used to determine the quality of	The land quality has been assessed using the ALC methodology [MAFF, 1988].

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REP2-126 REP2-090		<p>the land across the site. These tests should be revisited and verified.</p> <p>Identified significant irregularities in the sampling and assessment methodologies for establishing the ALC grades of the soils across the site and the results of the auger and soil sampling tests.</p> <p>Insufficient testing throughout the whole site.</p>	<p>The ALC survey has been assessed by Natural England. A few clarifications have been sought, but the methodology and level of sampling has not been questioned.</p>
REP2-046 REP2-090 REP2-138	Mineral Safeguarding Areas and Assessment	<p>A time-limited DCO is not being sought, so the development's operational life is as yet unknown.</p> <p>Any underlying minerals which could still be worked in the future have the potential to be permanently sterilised.</p>	<p>Although the Applicant is not proposing a time-limited consent, for the reasons explained in paragraphs 5.3.27 to 5.3.33 of the Planning Statement [APP-203], solar is an inherently temporary use of the land and will at some point be decommissioned. It is therefore not permanently sterilised, and the minerals would be able to be worked in the future. If there was a scarcity of minerals in the future, it would be relatively simple to remove the panels and infrastructure and extract the minerals and this would be increasingly likely if it proved environmentally and economically favourable to do so.</p> <p>A Mineral Impact Assessment is included in Appendix 4 of the Planning Statement [APP-203] and concludes no material impacts upon minerals resources.</p>
REP2-046		<p>Whilst LCC does not agree with all the conclusions made in the Minerals Assessment, the impacts of this development on mineral resources are considered to be neutral.</p>	<p>The Applicant notes that LCC are not raising any fundamental concerns with impact on the minerals resource and refers to its response to Row 14.</p>
REP2-199 REP2-089	ExQ1 - Q7.0.6 – The Land Use under and around the Solar Panels	<p>To my knowledge, only one farm, Manor Farm, has previously farmed sheep. This ceased around thirty years ago. All of the land was converted to arable crop production. The buildings used for lambing were converted into dwellings.</p> <p>There is no provision in the Application for the infrastructure required to farm sheep, buildings,</p>	<p>The grazing of sheep under panels is common, feasible and realistic in a variety of scales of solar farm. There are currently no NSIP scale solar farms that have been constructed, but there are many examples of solar farms under the Town and Country Planning Act regime which are utilised by sheep.</p> <p>The panel areas being grazed will require supplies of water. There will be need for handling pens for managing the sheep, but</p>

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		<p>handing pens, water systems, etc. The large blocks of solar panels would also have to be divided and fenced for rotational grazing.</p> <p>There are no examples of sheep being kept on large solar farms. All of the examples are on very small solar installations.</p> <p>Grazing in spring and autumn would impact negatively on wild flowering plants, nectar and seed production and ground-nesting birds. In any event, a commercial sheep flock would need a grass seed mix which could be managed for maximum growth.</p> <p>The Applicant proposes a stocking rate comparable to that for organically raised sheep, but the meat produced would not command the organic price premium, making the proposed stocking rate uneconomic.</p> <p>Producing forage, hay, silage or haylage would be impossible. The Applicant does not give the proposed distance between the arrays but states that at a minimum they will be two metres apart "to minimise effects of shadowing and to ensure optimal efficiency." Although that is the minimum it is highly unlikely that the distance between the arrays will be great enough to accommodate forage harvesters.</p> <p>If MPSF could farm sheep, and all other proposed solar farms were to do likewise, where would the extra sheep meat be marketed? The UK is self-sufficient in sheep meat?</p> <p>There are no further details and whilst it is well recorded that sheep can graze within the PV areas of a solar farm there are no details that suggest this is little more than a possible option</p>	<p>these can be made from hurdles which can be moved to suit the particular handling needs.</p> <p>It is not suggested that hay or haylage or silage will be made from land between the arrays.</p> <p>The stocking rate, and the movement of sheep between panel areas or the overall grazing numbers of sheep, will be a matter for the grazier. Good land management for farming uses is a matter for the farmer. Details of how the grass swards will be created is set out in the outline LEMP.</p> <p>There is no reason to conclude that sheep enterprises would be uneconomic without an organic premium.</p> <p>The UK is largely self-sufficient in terms of sheep meat. The UK also exports sheepmeat, especially to France.</p>

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		<p>In relation to sheep grazing - to be able to properly evaluate whether meaningful farming and food production will continue as suggested requires clearer proposals to be presented and evaluated.</p> <p>There is no detail on the mix of grass species which will be planted on land which will house solar arrays. It is therefore difficult to know the potential for both animal grazing and fodder production, almost certainly hay, as the quality of the grazing and the fodder is entirely dependent on the grass sward and the time of grazing, cutting and baling. With no clear proposals presented it has to be assumed that both sheep grazing, if practical, and 'fodder production' are most likely to be part of the overall management of the grassland across the site rather than for meaningful agricultural output.</p> <p>There is no reference to a proposed stocking density for grazing animals in the DCO application, this will also be critical to maintaining healthy soils during the operational phase, overstocking in wet weather will create poaching. Overstocking could also lead to the close cropping of grass reducing sward height which could potentially allow runoff of water from heavy rainfall event to occur.</p>	
REP2-050	ExQ1 - Q7.0.1 – Minerals Assessment	RCC concurs that the proposed development would not permanently sterilise the site and any mineral resources it contains as the development proposed is reversible in this respect.	Noted.
REP2-045		The Minerals Assessment concludes that (i) the development is reversible and so would not permanently sterilise minerals within the Order limits, and (ii) that there is an overriding need for	The Applicant notes that the vast majority of the Order Limits are within a designated mineral safeguarding area and so would disagree, given the conclusions of the Site Selection Report [APP-203], that the development could have been reasonably

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		<p>the development and that it could not be reasonably sited elsewhere.</p> <p>LCC disagrees that the development could not be reasonably sited elsewhere as the Order limits could be reduced in size so as to remove land falling within the mineral safeguarding area. However, and notwithstanding a time-limited DCO is not being sought and so the operational life of the development is as yet unknown, as the DCO provides for the decommissioning of the site this would ensure any underlying minerals could potentially be worked in the future and so would not be permanently sterilised.</p> <p>Therefore, whilst LCC does not agree with all the conclusions made in the Minerals Assessment we are content that this development does accord with Policy M11 subject to the DCO Requirements being secured.</p>	<p>sited to avoid these areas. Notwithstanding the Applicant welcomes LCC's acknowledgements that there will be no impacts to minerals in any event.</p>
REP2-093	Restoration	<p>We advise that commitment should be made for the restoration, or retention, of the Solar PV site's current ALC grades (to restore the inherent potential of the land and ensure the impacts to BMV land are temporary as described). Page 49 of the Applicant's Response also notes that the SMP will seek to ensure that restoration of tracks and infrastructure areas back to the current ALC grade is achievable. It is acknowledged that within the ES 14.4ha of agricultural land (tracks and infrastructure areas) is assessed as being permanently lost. However, Natural England consider that, as restoration of these areas back to their current ALC grades is achievable, a commitment to also restore these areas (and thus the whole order limits) to their current ALC grades would illustrate best practise and ensure</p>	<p>The restoration of these areas to comparable ALC grade, however so measured at the time of decommissioning, is achievable. The oSMP has been expanded to cover the methodology required.</p> <p>The oSMP sets out how the soils will be retained for restoration, and how they will be managed for the duration of the operational phase so that the topsoil is the same soil that was removed, and is in a similar state to the undisturbed adjacent topsoil, for the decommissioning phase. As such, howsoever the land is graded at the time of decommissioning, the land will be restored to the same grade as the land adjacent to it.</p> <p>Therefore, by ensuring that the soils removed from the surface at the time of construction will be retained close to the point of removal in managed bunds, and will be replaced at the decommissioning phase, the land will be restored to the same ALC grade.</p>

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		<p>any creation of possible problem areas are prevented.</p> <p>It is acknowledged that the current 1988 ALC methodology may no longer be relevant when the site is restored. However, Natural England has concerns that no reference has been made to any land quality assessment methodology. If the 1988 ALC methodology is superseded, its replacement should be adopted to inform the restoration of land to its current ALC grade. As such, we consider that commitments to restore the current ALC grades (or equivalent) should be determined through the approved system for grading agricultural land quality at the time of the restoration; this should be referenced within the ES and oSMP.</p>	
<p>REP2-093 REP2-090</p>	<p>Restoration</p>	<p>Section 4.7 of the updated oSMP has been updated to include the advanced sowing of grass, where appropriate. The measures set out in the SMP should include additional mitigation in the event that establishment of a grass sward is not appropriate or is unsuccessful. For example, the use of track matting to minimise compaction and the provision of an appropriately experienced soil specialist to advise on and supervise soil handling, including identifying when soils are dry enough to be trafficked.</p> <p>Creating compaction during the build phase will adversely affect the soil quality and also drainage and hydrology of the area for the long term. It could also affect the ALC grading when the land is returned to agricultural use when the site is decommissioned as natural soil processes that rely upon the free, unimpeded movement of water and air through the soil profile, will be</p>	<p>The oSMP, which is an outline of the SMP that will be prepared as a condition of consent, sets out the need for a suitably experienced and qualified soil scientist to advise on the suitability of soils for being handled. Reference is also made to the Institute of Quarrying advice on soil suitability, which gives practical advice for assessing soils suitability which would include consideration of water content.</p> <p>Further updates have been made to the oSMP at Deadline 3 to deal with the concerns raised by NE and MPAG in respect of the grass sward.</p> <p>The suggestions of MPAG regarding a system of metrics will be explored further as a possibly supplement to the advice of a soil scientist. This can be developed in the SMP, if appropriate.</p>

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		<p>impeded by compacted layers within the soil profile.</p> <p>The oSMP details when and how soils can be worked, and advises on the periods when soils are suitable for being handled or trafficked. However there are no metrics deployed to control this, other than they will not construct when the soil is wet from early November to end of February. There should be an agreed metric for soil water content across each of the different soil types that have been identified within the ALC soil survey. Soil moisture content needs to be monitored by a suitably qualified expert to determine when trafficking and construction can and can't proceed. This would provide a better protection of the soil during all phases of operation should the DCO be granted.</p>	
<p>REP2-093 REP2-090</p>	<p>ALC Survey</p>	<p>At the pre-application stage, Natural England advised that, following the semi detailed ALC survey carried out by the applicant, additional detailed survey would be required in all areas identified to be Best and Most Versatile land, as well as in adjacent non BMV areas to confirm its extent, substation sites and cable routes. The applicant has carried out additional detailed survey across the majority of the requested areas (as noted in section 2.5 of Appendix 12.4: Land Use and Soils – ALC Survey), however, the auger point plan in the appendix indicates there are some areas of BMV land that have not been subject to detailed survey. Natural England do not consider this to be a major concern, however, it is advised that justification should be provided within the ES for the divergence from the requested survey method.</p>	<p>Preliminary information on land quality was set out in the PEIR. The initial ALC survey was carried out at a semi-detailed level. This is common for large areas and it gives a general distribution pattern across the site. A semi-detailed survey identifies the broad classification across the site and can inform if a more detailed survey is required in particular areas. It was an appropriate level of survey for the PEIR.</p> <p>In consultation with Natural England, areas where BMV was identified were revisited and surveyed to provide a 100m grid spacing. This enables the boundaries between the different grades to be defined more accurately. We selected the areas where the soil was considered most variable.</p> <p>The normal sampling density for ALC is one sample per hectare, but this is not prescribed in the methodology. Sampling densities should be appropriate for the assessment required. In this case there is no disagreement that solar panels can be inserted into the ground, and subsequently removed, without changing the agricultural land quality. Consequently this development is</p>

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			<p>different to a development such as a residential extension to a town, where the land quality is to be permanently affected and lost. The Proposed Development will be decommissioned and removed, and the agricultural land quality of the land will not have been changed.</p> <p>In areas where fixed infrastructure is proposed, such as at the location for the substation, there is the potential for land quality to be adversely affected. This area was surveyed at a detailed level. The outline Soil Management Plan sets out the methodology to resolve these areas to the existing ALC grade at the end, and therefore after decommissioning no agricultural land will have been lost or downgraded.</p> <p>Consequently the development management process is not assisted by knowing the ALC grade to any greater level of detail. If the ALC was completed to a detailed level across the whole Site, and the proportions of land in each grade were amended slightly, the land use decision to be taken would not change.</p> <p>Therefore the methodology followed and the areas surveyed are considered to provide a robust and appropriate level of information for the decision taking process in this case.</p>
REP2-090		<p>An Extract from 1:250,000 East Midlands Region Provisional ALC Map, the analysis shows 42% of agricultural land in England is of BMV quality which would equate to 223Ha of the proposed solar area inc margins. As MPSF has extrapolated from the UK data that Lincolnshire would be 71.2% BMV and Rutland 45.2% BMV, the BMV area could be as high as 337Ha and 239Ha respectively. For MPSF to arrive at a figure of 217Ha seems an underestimation and at the bottom end of the scale.</p>	<p>The figure has been reached following ALC field survey. The predictive Likelihood of BMV maps identify this area to be a low likelihood of BMV (<20% area BMV) (Chapter 12 of the ES Insert 12.4). The ALC provides an accurate figure. Land quality varies across the county and it is not therefore appropriate to apply the county average to all sites.</p>

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REP2-090		<p>MPSF is trying to down grade the ALC grading across the site.</p> <p>When you overlay phase 2 overall results on top of Phase 1 results detailed in the PEIR report, there are inconsistencies. Areas that were never retested at a higher density have still changed from 3a to 3b.</p>	<p>The Applicant does not agree with this suggestion. The assessment has been carried out based on the combined Phase 1 and 2 results.</p>
REP2-090		<p>The application very clearly identifies 419Ha allocated to solar throughout many of the documents, yet the reality is that 531Ha will be taken out of arable production as the field margins need to be taken account of. This is a further 112Ha of land, around 50% of which is probably BMV that should be considered as part of the DCO loss of land consideration.</p>	<p>This is a food production consideration and not an impact on land quality or land use.</p> <p>Defra does not consider that there is a UK food security concern, as set out in their Press Release of 6th December 2022. That drew from the UK Food Security Report 2021 and the Government Food Strategy (June 2021).</p> <p>The analysis in the response assumes a total loss of production of arable crops from across the Order Limits, and calculates that in terms of loaves of bread or pints of beer, plus animal feed. That comparison is inaccurate and unrealistic for a number of reasons:</p> <ul style="list-style-type: none"> (i) it assumes loss of production across the whole of the Order Limits, which is not proposed; (ii) it assumes that the solar panels will be located instead on non-agricultural land. That is not realistic; (iii) it assesses the effect of all land, BMV and non-BMV, which is an argument for not using agricultural land at all, contrary to their analysis in Chapter 12 which focuses on not using BMV land. There is no suggestion in Chapter 12 that land of Subgrade 3b or lower should not be used. <p>To meet our commitments to providing renewable energy from solar, development on agricultural land is inevitable. Policy recognises this.</p>

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			<p>The realistic effects of not placing solar arrays on the BMV land within the Proposed Development, but instead placing those on Subgrade 3b land in the general area, are set out in the ES Chapter 12. The effect is an annual reduction of the order of 250 tonnes of cereals and oilseeds.</p> <p>The PV Arrays and field margins include some BMV land. BMV land is not uncommon, as it involves 42% of all agricultural land in England, Natural England estimate. The MPAG recognise that some Subgrade 3a land is more productive on the mainstream arable crops than BMV land (MPAG paragraph 12.33 notes that last year many farmers reported Subgrade 3b yielding more than Subgrade 3a). Therefore, the estimate may be considered a worst-case estimate.</p>
REP2-090		<p>The point is made at para 12.4.81 that the 239ha of BMV land in the 'mitigation area' will continue in arable farming however nowhere does it categorically state that this land will definitely be farmed for crop production throughout the life of the scheme so on a 'worst case scenario' it is suggested that this should not be assumed. It is not clear, in any case, how that position could realistically be made the subject of an obligation enforceable by interested third parties over any or all of the area the Applicant relies upon for these purposes.</p>	<p>The key point is that the Mitigation Areas are not proposed to be utilised for any form of development, so they are free for the farmers to use as they wish, accounting for skylark considerations (as is the case for many farmers in the area). As such these areas are not 'lost' for food production or agricultural resource purposes.</p>
REP2-090		<p>This application does not appear to have considered the cumulative impact of this scheme alongside other planned infrastructure projects locally, regionally and nationally, all of which have an impact on both land use and local communities.</p>	<p>In Appendix I is an assessment of the land involved for the other application sites across Lincolnshire and Rutland. In total they involve of the order of 2,100 ha of land of BMV quality. This would represent 0.5% of the BMV of Lincolnshire and Rutland (2,114/419,600).</p> <p>The assessment of the area affected by infrastructure is presumed to be similarly small, of the order of 2% of each</p>

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			<p>proposed development. That would involve of the order of 42ha of land of BMV quality.</p>
REP2-090		<p>Chapter 7.12 Outline Soil Management Plan (oSMP)(APP-213) states that the clay and heavy clay soils in the proposed development have a medium resilience to soil damage where the FCD (field capacity days) are <150. It also refers to lighter soils including medium clay loams being of medium resilience where field capacity days are less than 225 are at low risk of structural damage. This is incorrect (as highlighted by Natural England in their consultation response), all of the soil types found throughout the proposed development should be classed in the above table as having medium sensitivity (or resilience) to structural damage. Note: The word sensitivity is not used in the oSMP.</p> <p>The oSMP also defines the soil types (see figure 32) present across the site as being medium clay loam, heavy clay loam or clay. If these broad soil types are cross referenced with the IEMA table 4 table (above) they are all classed as medium sensitivity to structural damage, though if wet they move into the high sensitivity to structural damage section.</p>	<p>The oSMP identifies all the soils to be of medium sensitivity to structural damage. The oSMP has been amended to clarify the point that was being made, which is that the category applies to all medium textured soils where the FCD (ie the period when soils are replete with water) is less than 225 per year.</p> <p>In this area, where the FCD is of the order of 112-118, the soils will be dry for long periods and therefore the risk of structural damage is lower.</p>
REP2-090		<p>There are no details to determine how Soil Organic Carbon (SOC) levels will be maximized in the period prior to construction e.g. straw incorporation, addition of organic matter.</p> <p>A change in land management can increase soil organic carbon but the rate of increase slows over time as the equilibrium is attained. Carbon sequestration is fully reversible and a change back to agricultural practices after decommissioning will render all the gains</p>	<p>SOC levels currently in the soil have not been comprehensively measured. They will reflect the long-term mostly continuous arable use that has taken place for many years, and the generally low levels of organic matter added as part of the existing farming regime and practices.</p> <p>Conversion to grassland will result in a build up over time of SOC levels in the soil. This tends to plateau, as described in the ES.</p>

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		reversed, and at a far faster rate than was accumulated. This needs to be factored into the carbon calculations.	It is correct that some of these benefits could be reversed if the land is subsequently ploughed up for a future intensive arable use following decommissioning. The understanding of soil carbon is developing, and it may be that in the future farming methodologies will have evolved in a manner that minimises these negative effects, for example through minimum disturbance machinery for sowing new crops.