

4 AGRICULTURAL RESOURCES

4.1 INTRODUCTION

4.1.1 This chapter considers and assesses the agricultural and soil resources that have the potential to be significantly affected during the construction and operation of the Proposed Development, particularly the quality of agricultural land, the scale and nature of agricultural land use within the Application Site.

4.1.2 The chapter provides a brief summary of relevant planning policy and guidance, and a description of the methodology adopted for the assessment. This is followed by a description of the relevant baseline conditions of the Site and the surrounding area, and an assessment of the potential effects of the development during both construction and decommissioning, and during operation of the completed Development. Mitigation measures are identified, where appropriate, to avoid, reduce or offset any adverse effects, following which a summary of the likely significant residual effects of the development is provided, having regard to mitigation adopted.

4.2 LEGISLATION, PLANNING POLICY AND GUIDANCE

4.2.1 This section outlines the policy context relating to agricultural land and its development.

National Planning Policy Framework

4.2.2 The National Planning Policy Framework seeks to conserve and enhance the natural environment, paragraph 7 stating: "The purpose of the planning system is to contribute to the achievement of sustainable development." Paragraph 174 lists six means by which planning policies should achieve this, a, b, e, and f being relevant to soils and agricultural land resource

Planning policies and decisions should contribute to and enhance the natural and local environment by:

(a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

(b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

(e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

(f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate

4.2.3 The glossary of the NPPF gives the following definition: "Best and most versatile agricultural land: Land in grades 1, 2 and 3a of the Agricultural Land Classification".

Planning Practice Guidance

4.2.4 Paragraph 001 of the Natural Environment guidance directs that: "Planning policies and decisions should take account of the economic and other benefits of the best and most versatile agricultural land."

4.2.5 Under Renewable and Low Carbon Energy guidance, paragraph 013 states that particular factors a planning decision maker will need to consider include "where a proposal involves greenfield land, whether (i) the proposed use of any agricultural land has been shown to be necessary and poorer quality land has been used in preference to higher quality land; and (ii) the proposal allows for continued agricultural use where applicable and/or encourages biodiversity improvements around arrays."

Local Development Plan

4.2.6 The Newark and Sherwood Local Development Framework amended core strategy Local Plan 2011-2032 contains no policies relevant to agricultural or soil resource.

Guidance

4.2.7 Technical Information Note 049: Agricultural Land Classification (ALC)

4.2.8 Natural England Technical Information Note 049 (TIN049) Agricultural Land Classification: Protecting the Best and Most Versatile Agricultural Land, provides guidance on the application of the Agricultural Land Classification Guidelines, including survey methodology.

4.2.9 Table 4.1: Agricultural Land Classification Grading Definition

Grade	Definition
Grade 1	Land with no or very minor limitations to agricultural use. A wide range of agricultural and horticultural crops can be grown with high yields and less variable than on land of lower quality.
Grade 2	Land with minor limitations which affect crop yield, cultivation or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1
Grade 3	Land with minor limitations which affect crop yield, cultivation or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1
Subgrade 3a	Land capable of consistently producing moderate to high yields of a narrow range of arable crops especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.
Subgrade 3b	Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range

Grade	Definition
	of crops or high yields of grass which can be grazed or harvested over most of the year.
Grade 4	Land with severe limitations which significantly restrict the range of crops and / or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.
Grade 5	Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops

Code of Practice for the Sustainable Use of Soils on Construction Sites

4.2.10 The Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Sites provides guidance on the conservation of soil for beneficial reuse at development sites, safeguarding both the mass of the soil resource and its functional capacity. The application of this code of practice is voluntary, however following the guidance can deliver clear benefits in terms of the sustainable use of a finite resource, minimising the generation of waste and sediment from a construction site, and the cost effective delivery of the development.

4.3 ASSESSMENT METHODOLOGY

Study Area

4.3.1 The study area is confined to the application site.

Assessment of Agricultural land Quality

4.3.2 The application site has been subject of a detailed Agricultural Land Classification (ALC) survey undertaken by Amet Property. This was undertaken in November 2020. The methodology for classifying the quality of agricultural land is set out in 'Agricultural Land Classification of England and Wales, revised guidelines and criteria for grading the quality of agricultural land' issued by MAFF in 1988 and summarised in Natural England's Technical Information Note 049 (TIN 049).

4.3.3 ALC guidelines and criteria require that the following factors be investigated:

- Climate: Average Annual Rainfall (AAR) and Accumulated Temperature above 0°C between January and June (AT0);
- Site: Gradient, Micro Relief and Flooding;
- Soils: Texture, Structure, Depth, Stoniness, and Chemical Toxicity; and
- Interactive Factors: Soil Wetness, Soil Droughtiness and Liability to Erosion.

4.3.4 Climatological data for ALC are provided for 5km intersections of the National Grid by the Meteorological Office, in collaboration with the National Soil Resources Institute. The data from these points is interpolated providing climate data for specific sites.

4.3.5 The interactive factors of soil wetness, soil droughtiness and liability to erosion are assessed according to the ALC criteria from the climate and soil profile data.

4.3.6 The ALC methodology does not assess the fertility or economic value of farmland, or the quality of the current land management. It is deliberately limited to

features of the land and soil that are beyond the practical influence of land management and that can limit the versatility of land to support a range of different agricultural enterprises.

4.3.7 Agricultural Land Classification (ALC) provides a framework for classifying land according to which its physical or chemical characteristics impose long-term limitations on agricultural use. The limitations can operate in one or more of four principle ways: they may affect the range of crops that can be grown, the level of yield, the consistency of yield and the cost of obtaining it. Land is graded from Grade 1 to 5 with Grade 1 land being 'excellent quality' and Grade 5 'very poor quality'. Grade 3 land is subdivided into Grade 3a 'good quality' and Grade 3b 'moderate quality'

4.3.8 An Agricultural Land Classification report has been produced by Amet Property Ltd and is attached as **APPENDIX 4.1**

Assessment of Soil Resources

4.3.9 The Code of Practice for the Sustainable Use of Soils on Construction Sites recommends the use of the soil physical characteristics data, collected as part of an ALC survey, to identify topsoil and subsoil units for separate handling and beneficial reuse. This approach, used in this assessment, continues the practice that was used by the former MAFF ALC survey teams for minerals sites to advise on appropriate land restoration.

4.3.10 The ALC detailed survey data includes information on the depth, clay content and stoniness of topsoil and subsoil horizons, enabling the mapping of the extent of soil units appropriate for separate stripping, storage and beneficial reuse. The survey data is included as Appendix 4.1 of this ES. Mapping of soil units would form part of a Soil Management Plan that would be a condition of planning consent.

4.4 LIMITATIONS AND ASSUMPTIONS

4.4.1 As directed by TIN049, soil characteristics for the detailed ALC survey were gathered at sample points at 100m intervals. This limits the mapping of ALC grades to a scale of 1:10,000 and the calculation of extents to the nearest 0.1ha to avoid presenting spurious accuracy. The soil characteristics examined will however vary continuously between these sample points, and patterns may be present within the site that the one per hectare sampling density is unable to resolve.

4.4.2 There are no defined thresholds for assessing the effects of non-agricultural development on agricultural resources. This assessment has therefore been undertaken utilising best practice guidance as well as published recommended procedures. The scope of the assessment has been defined to identify and predict the likely construction and operational (longer-term) effects of the proposed development on agricultural resources, after the incorporation of mitigation measures.

4.5 SIGNIFICANCE CRITERIA

4.5.1 Best and most versatile agricultural land is a strategic, finite and irreplaceable national resource with longstanding policy to prevent the unnecessary loss of such land to non-agricultural development. Land in ALC Grades 1, 2 and 3a is considered to be the nation's best and most versatile land. Paragraph 174 of the NPPF directs that planning should consider the economic and other benefits of the best and most versatile agricultural land.

4.5.2 For all practical intents and purposes, agricultural land cannot be created or translocated, nor can a compensatory area of land have its ALC grade enhanced. There

is therefore no viable potential for beneficial effect or mitigation with regard to agricultural land quality.

4.5.3 Land has a soil resource associated with it. This soil has a functional capacity that can be degraded or lost (for instance contamination of soil) in addition to the potential for loss of the soil material itself. Some functions of soil, such as the support of biodiverse habitats, is covered elsewhere in the supporting documents.

4.5.4 For this chapter, the capacity of the soil for agricultural production is the primary issue.

4.5.5 Soil is for all practical intents and purposes a non-renewable resource. Therefore the preservation and beneficial reuse of this resource is desirable in its own right.

4.5.6 For the agricultural land resource, the presence of BMV land and the grade of that land determine sensitivity, Grades 1 and 2 land being of higher sensitivity than land in Grade 3a. The magnitude of change criteria is based on the extent of BMV land lost, with the area of 20ha being take from the threshold the former MAFF used for intervening in planning decisions.

4.5.7 The sensitivity of soil material varies in relation to the stress and its physical characteristics, for instance high clay content increases the vulnerability of soil to structural damage while in a wet and plastic consistency. Low clay content can increase the vulnerability of exposed soil material to erosion from rainfall. Topsoil is typically of greater sensitivity than subsoil as it is more limited in extent and the higher organic matter content can fuel a rapid transition to anaerobic conditions.

4.5.8 Table 4.2 and Table 4.3 illustrate magnitude of impact criteria for the agricultural land resource and soil resources, as used in this assessment. These magnitude criteria are not absolute, and can be qualified, for instance looking at the relative areas of land quality grades affected. There is no specific guidance on what areas constitute different degrees of magnitude, the levels used are based on guidance in TIN049 which states that consultation is required where loss of high quality agricultural land will be 20ha or more.

Table 4.2: Magnitude of Change Criteria: Agricultural Land Resource

Magnitude of change	Criteria
High	Loss of 20 hectares or more of BMV land (Adverse).
Medium	Loss of less than 20 hectares BMV land (Adverse).
Low	Loss of agricultural land with no BMV (Adverse).
Negligible	Loss of land in Grades 4 and 5

Table 4.3: Magnitude of Change Criteria: Soil Resources

Magnitude of change	Criteria
High	Disposal of topsoil or loss of productive functional capacity e.g. land contamination (Adverse).
Medium	Loss of topsoil for agricultural production but retained for beneficial reuse, or degradation of productive capacity (Adverse).
Low	Loss of subsoil for agricultural production but retained for beneficial reuse (Adverse).
Negligible	Marginal loss of soil material such as light erosion from construction easement.

4.5.9 Tables 4.4 and 4.5 illustrate the sensitivity scales for assessment of agricultural land and soil resources.

Table 4.4 Sensitivity of Receptor: Agricultural Land Resource

Sensitive / Value of receptor	Example Criteria
Very High	Agricultural land predominantly in Grades 1 and 2
High	Agricultural land predominantly in Grade 3a or containing some Grade 1 and 2
Medium	Agricultural land containing some Grade 3a
Low	Agricultural land all Grade 3b or lower

Table 4.5 Sensitivity of Receptor: Soil Resources

Sensitive / Value of receptor	Example Criteria
Very High	Disturbing heavy textured soil in plastic condition
High	Disturbing medium textured soil in plastic condition
Medium	Disturbing medium textured soil in friable condition.
Low	Disturbing light textured soil in friable condition

Significance Matrix

4.5.10 The significance of effect on the agricultural land and soil resources is then assessed according to table 4.6

Table 4.6 Degrees of Significance

Sensitivity	Magnitude of Change			
	High	Medium	Low	Neutral
High	Major	Major	Moderate	Neutral
Medium	Moderate	Moderate	Minor to moderate	Neutral
Low	Moderate	Minor to moderate	Minor	Neutral
Neutral	Neutral	Neutral	Neutral	Neutral

4.5.11 As can be seen from **Table 4.6** when an environmental effect is assessed as having a major or moderate degree of significance it is deemed to be “significant”. These are the shaded cells in **Table 4.6**. When such a significant effect occurs consideration of mitigation solutions or enhancements to minimise the effect (which can include design alterations) will be considered. Once these mitigations and enhancements have been assessed the degree of significance may decrease to minor/moderate, minor or negligible

4.6 BASELINE CONDITIONS

Agricultural Land Classification

4.6.1 The Agricultural Circumstances Baseline document (Appendix 4.1) provides details of the agricultural assessment work for the agricultural soil survey area. These details are summarised below.

4.6.2 The detailed survey of the site found agricultural land in grade 1, 3a, 3b and 4. a breakdown of the assessment can be found in table 4.6. No area of land was found at the detailed scale that could be mapped out as Grades 2 or 5.

Table 4.7 ALC Grade areas

Grade	Description	Area (Ha)*	Area (% of development area)
1	Excellent Quality Agricultural Land	0	0%
2		0	0%
3a	Good Quality Agricultural Land	0	0%
3b	Moderate Quality Agricultural Land	98	100%
4	Poor Quality Agricultural Land	0	0%
5		0	0%
	Total	98	100.00%

4.6.3 The site is made up of all subgrade 3b land

Soil Resource

4.6.4 The soil resource within the site is predominantly heavy textured topsoils over heavy textured subsoils.

4.7 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

Refused Scheme (Layout L)

Construction Phase

Agricultural Land Resource

4.7.1 The construction phase of the project is likely to last approximately 26 weeks and will involve enabling works, such as temporary access roads, construction compound, plant and machinery etc; construction, installation of the PV arrays and infrastructure; and following completion, removal of temporary structures such as site compound and tidying the site

4.7.2 The land resource below the solar panels is not lost and therefore has negligible magnitude to the proposed development.

4.7.3 The resulting effect of the construction work on the Agricultural Land Resource will therefore be short term, reversible, local and have negligible significance

Soil Resource

4.7.4 Solar panel construction work will involve trafficking the land in a similar manner to the current land use where high axle load vehicles like combine harvesters and grain trailers are regularly used. Heavy plant use will include excavators for digging trenches and cranes for placing substation and associated development.

4.7.5 Although very little movement of soil will take place, compaction may occur from trafficking by construction vehicles, but this compaction will be broadly similar to the business as usual of land management.

4.7.6 The resulting effect of the construction disturbance on the soil resource at the Site will be short term, reversible, local and of negligible significance.

Operational Phase

Agricultural Land Resource

4.7.7 The proposed development involves non-agricultural development on agricultural land. The development site extends to approximately 98 hectares for a temporary period of 40 years with the site able to revert to agriculture following decommissioning of the solar farm.

4.7.8 Much of the development on the site will be solar panels which are relatively unobtrusive and will allow continued use of most of the site for agricultural and ecological purposes. Only the panel mounting frames, fencing and inverter bases will prevent ongoing use of these areas in agriculture. Based on experience of other sites the developer has estimated that approximately 3% of the site will be utilised by these foundations and thus unavailable for use in agriculture or for ecological benefit. For the purposes of this assessment a land take figure of 5% of the land within the outer edges of the solar panels has been assumed as a worst-case scenario for the temporary land loss from agriculture. The total areas of land loss by land grade are shown in table 4.8.

Table 4.8 Temporary Loss of land by land Grade

Grade	Description	Area (Hectares)	Potential Temporary Loss of Land (Hectares)
3b	Moderate Quality Agricultural Land	73.3	3.67
		73.3	3.67

4.7.9 The temporary loss of 3.67ha of agricultural land predominantly in Grade 3b is of low sensitivity and low magnitude resulting in a minor adverse impact that is not significant.

Soil Resource

4.7.10 While operational, the soil resource at the site will remain under a perennial green cover. Benefits to the soil resource of this 40 year period of green cover with no ploughing will include:

- No bare soil surfaces vulnerable to wind and water erosion
- Improved infiltration of rainwater reducing erosive surface water runoff
- Greater exploitation of subsoil by perennial plant roots, improving drainage and loosening compacted subsoils
- Recovery of topsoil organic matter to a higher equilibrium, improving aggregate stability, water holding capacity and plant nutrient availability.

4.7.11 By facilitating a recovery in topsoil organic matter, this enforced fallow period will enhance the functional capacity of the soil. There will be additional benefits from the recovery of soil organic matter including carbon sequestration and hydrology but this assessment centres on the soil's functional capacity for agricultural production.

4.7.12 The small proportion of land occupied by the temporary hard standing, substation and associated development will not experience this soil resource benefit, but the extent of this area is limited in comparison to the land under solar panels.

4.7.13 The benefit of enhancing soil functional capacity for agricultural production is of medium magnitude, with the predominantly heavy textured topsoils having high sensitivity to this change.

4.7.14 The soil resource will therefore experience a medium term, reversible, local effect of moderate beneficial significance.

Decommissioning Phase

Agricultural Land Resource

4.7.15 Decommissioning work will allow the land to be managed for arable production again after an extended fallow period of being grazed by livestock. Solar panels and their mounting frames will be removed for no loss of agricultural land resource quality or extent.

4.7.16 Removal of the switchgear housings, associated hard standing and access tracks will be followed by reinstatement of the stripped and stored topsoil to allow this land to return to its former agricultural function.

4.7.17 As for construction effects, the land resource has a low sensitivity to the proposed decommissioning and the resulting effect of this work on the Agricultural Land Resource will therefore be short term, reversible, local and have negligible significance.

Soil Resource

4.7.18 As for construction, decommissioning will involve trafficking the land in a similar manner to the current arable land use where high axle load vehicles like combine harvesters and grain trailers are regularly used. Heavy plant use will include excavators for digging trenches and cranes for placing substation and associated development.

4.7.19 Although very little movement of soil will take place, compaction may occur from trafficking by the decommissioning plant, but this compaction will be broadly similar to the business as usual of arable land management.

4.7.20 The resulting effect of the decommissioning disturbance on the soil resource at the Site will be short term, reversible, local and of negligible significance.

Alternative Scheme (Layout M)

Construction Phase

Agricultural Land Resource

4.7.21 The construction phase of the project is likely to last approximately 26 weeks and will involve enabling works, such as temporary access roads, construction compound, plant and machinery etc; construction, installation of the PV arrays and infrastructure; and following completion, removal of temporary structures such as site compound and tidying the site

4.7.22 The land resource below the solar panels is not lost and therefore has negligible magnitude to the proposed development.

4.7.23 The resulting effect of the construction work on the Agricultural Land Resource will therefore be short term, reversible, local and have negligible significance

Soil Resource

4.7.24 Solar panel construction work will involve trafficking the land in a similar manner to the current land use where high axle load vehicles like combine harvesters and grain trailers are regularly used. Heavy plant use will include excavators for digging trenches and cranes for placing substation and associated development.

4.7.25 Although very little movement of soil will take place, compaction may occur from trafficking by construction vehicles, but this compaction will be broadly similar to the business as usual of land management.

4.7.26 The resulting effect of the construction disturbance on the soil resource at the Site will be short term, reversible, local and of negligible significance.

Operational Phase

Agricultural Land Resource

4.7.27 The proposed development involves non-agricultural development on agricultural land. The development site extends to approximately 98 hectares for a temporary period of 40 years with the site able to revert to agriculture following decommissioning of the solar farm.

4.7.28 Much of the development on the site will be solar panels which are relatively unobtrusive and will allow continued use of most of the site for agricultural and ecological purposes. Only the panel mounting frames, fencing and inverter bases will prevent ongoing use of these areas in agriculture. Based on experience of other sites the developer has estimated that approximately 3% of the site will be utilised by these foundations and thus unavailable for use in agriculture or for ecological benefit. For the purposes of this assessment a land take figure of 5% of the land within the outer edges of the solar panels has been assumed as a worst-case scenario for the temporary land loss from agriculture. The total areas of land loss by land grade are shown in table 4.8.

Table 4.8 Temporary Loss of land by land Grade

Grade	Description	Area (Hectares)	Potential Temporary Loss of Land (Hectares)
3b	Moderate Quality Agricultural Land	69.05	3.45
		69.05	3.45

4.7.29 The temporary loss of 3.45ha of agricultural land predominantly in Grade 3b is of low sensitivity and low magnitude resulting in a minor adverse impact that is not significant.

Soil Resource

4.7.30 While operational, the soil resource at the site will remain under a perennial green cover. Benefits to the soil resource of this 40 year period of green cover with no ploughing will include:

- No bare soil surfaces vulnerable to wind and water erosion

- Improved infiltration of rainwater reducing erosive surface water runoff
- Greater exploitation of subsoil by perennial plant roots, improving drainage and loosening compacted subsoils
- Recovery of topsoil organic matter to a higher equilibrium, improving aggregate stability, water holding capacity and plant nutrient availability.

4.7.31 By facilitating a recovery in topsoil organic matter, this enforced fallow period will enhance the functional capacity of the soil. There will be additional benefits from the recovery of soil organic matter including carbon sequestration and hydrology but this assessment centres on the soil's functional capacity for agricultural production.

4.7.32 The small proportion of land occupied by the temporary hard standing, substation and associated development will not experience this soil resource benefit, but the extent of this area is limited in comparison to the land under solar panels.

4.7.33 The benefit of enhancing soil functional capacity for agricultural production is of medium magnitude, with the predominantly heavy textured topsoils having high sensitivity to this change.

4.7.34 The soil resource will therefore experience a medium term, reversible, local effect of moderate beneficial significance.

Decommissioning Phase

Agricultural Land Resource

4.7.35 Decommissioning work will allow the land to be managed for arable production again after an extended fallow period of being grazed by livestock. Solar panels and their mounting frames will be removed for no loss of agricultural land resource quality or extent.

4.7.36 Removal of the switchgear housings, associated hard standing and access tracks will be followed by reinstatement of the stripped and stored topsoil to allow this land to return to its former agricultural function.

4.7.37 As for construction effects, the land resource has a low sensitivity to the proposed decommissioning and the resulting effect of this work on the Agricultural Land Resource will therefore be short term, reversible, local and have negligible significance.

Soil Resource

4.7.38 As for construction, decommissioning will involve trafficking the land in a similar manner to the current arable land use where high axle load vehicles like combine harvesters and grain trailers are regularly used. Heavy plant use will include excavators for digging trenches and cranes for placing substation and associated development.

4.7.39 Although very little movement of soil will take place, compaction may occur from trafficking by the decommissioning plant, but this compaction will be broadly similar to the business as usual of arable land management.

4.7.40 The resulting effect of the decommissioning disturbance on the soil resource at the Site will be short term, reversible, local and of negligible significance.

4.8 MITIGATION AND ENHACEMENT**Construction Phase****Agricultural Land Resource**

4.8.1 There is no effective mitigation for the loss of best and most versatile agricultural land, however none of the Site is best and most versatile as all is Grade 3b. There is also no actual loss of agricultural land resource, just a temporary period of 26 weeks when farming cannot take place on the Site. Therefore, the residual effect of the construction of the development will remain short term, reversable, local and have neutral significance.

Soil Resource

4.8.2 By following an appropriate soil management plan the effect of site preparation and construction on the soil resource will remain short term, reversible, local and of negligible adverse significance.

Operational Phase**Agricultural land resource**

4.8.3 As for the potential effects of construction, there is no additional effect upon the agricultural land resource from the operation of the solar panels, and no effective means of mitigation. The residual effect of operation upon the agricultural land resource remains medium term, reversable, local and have neutral significance.

Soil Resource

4.8.4 For the soil resource within the operational development, the effect of the development is beneficial. Therefore no further mitigation is proposed and the residual effect remains medium term, reversable, local and of moderate beneficial significance.

Decommissioning Phase**Agricultural Land Resource**

4.8.5 As for construction effects there is no effective mitigation for the loss of best and most versatile agricultural land, and there is no actual loss of agricultural land resource. Therefore, the residual effect of the decommissioning of the development will remain short term, reversable, local and have negligible significance.

Soil Resource

4.8.6 By following an appropriate soil management plan the effect of site decommissioning and restoration on the soil resource will remain short term, reversible, local and of negligible adverse significance.

Farming Circumstances**4.9 CUMULATIVE AND IN COMBINATION**

4.9.1 There are not considered to the any cumulative or in combination impacts.

4.10 SUMMARY**Introduction**

4.10.1 This section assesses the agricultural and soil resources that may be impacted by the proposed development, specifically the quality of the agricultural land and the impacts on the use of the land

Baseline Conditions

4.10.2 An Agricultural Land Classification report has been produced by Amet Property Ltd and is attached as **APPENDIX 4.1**

4.10.3 The ALC report sets out that 98ha (100% of the site) is land Grade 3b.

Likely Significant Effects

4.10.4 During the construction phase the whole site will be lost to agricultural use for a period of approximately 26 weeks. The temporary nature of this change results in a negligible impact to the agricultural resource and the soil resource.

4.10.5 Based on the nature of the development, during the operational phase less than 5% of the land (3.67ha on the case of layout L and 3.45ha in the case of layout M) will be temporarily unavailable to agriculture resulting in a temporary, fully reversible change and a neutral impact to the agricultural resource. The perennial green cover leading to increased organic matter in the topsoil result in a temporary, reversible, moderate beneficial impact to the soil resource.

4.10.6 During the decommissioning phase the whole site will be lost to agricultural use for a period of approximately 26 weeks. The temporary nature of this change results in a negligible impact to the agricultural resource and the soil resource.

Conclusions

4.10.7 The project results in a temporary, fully reversible, minor adverse impact to the agricultural resource and a temporary, fully reversible moderate beneficial impact to the soil resource.

4.11 GLOSSARY

4.11.1 Agricultural Land Classification (ALC) – Methodology to rate land from Grade 1 – excellent quality agricultural land to Grade 5 – very poor-quality agricultural land

4.11.2 Best and Most Versatile (BMV) agricultural land – Land graded using the ALC methodology as Grade 1, Grade 2, and Grade 3a as set out in Annex 2 of NPPF.

Table 4.8: Summary of Effects, Mitigation and Residual Effects

Receptor/ Receiving Environment	Description of Effect	Nature of Effect *	Sensitivity Value **	Magnitude of Effect **	Geographical Importance ***	Significance of Effects ****	Mitigation/ Enhancement Measures	Residual Effects ****
Construction								
Agricultural Resource	98ha being unavailable for agriculture for 26 weeks	Temporary	Low	Negligible	Local	Neutral	None	Neutral
Soil Resource	Some potential for compaction	Temporary	High	Negligible	Local	Neutral	None	Neutral
Operation								
(Refused Scheme) Layout L								
Agricultural Resource	Loss of 3.67Ha of land from agricultural production for a 40-year period	Temporary	Low	Low	Local	Minor Adverse	None	Minor Adverse
Soil Resource	Perennial green cover and increased soil organic matter	Temporary	High	Medium	Local	Moderate Beneficial	None	Moderate Beneficial
(Alternative Scheme) Layout M								
Agricultural Resource	Loss of 3.45Ha of land from agricultural production for a 40-year period	Temporary	Low	Low	Local	Minor Adverse	None	Minor Adverse

ENVIRONMENTAL STATEMENT

Agricultural Resources

Receptor/ Receiving Environment	Description of Effect	Nature of Effect *	Sensitivity Value **	Magnitude of Effect **	Geographical Importance ***	Significance of Effects ****	Mitigation/ Enhancement Measures	Residual Effects ****
Soil Resource	Perennial green cover and increased soil organic matter	Temporary	High	Medium	Local	Moderate Beneficial	None	Moderate Beneficial
Agricultural Resource	98ha being unavailable for agriculture for 26 weeks	Temporary	Low	Negligible	Local	Neutral	None	Neutral
Soil resource	Some potential for compaction	Temporary	High	Negligible	Local	Neutral	None	Neutral

Notes:

* Enter either: Permanent or Temporary / Direct or Indirect

** Only enter a value where a sensitivity v magnitude effects has been used – otherwise 'Not Applicable'

*** Enter either: International, European, United Kingdom, Regional, County, Borough/District or Local

**** Enter either: Major / Moderate / Minor / Negligible AND state whether Beneficial or Adverse (unless negligible)