CHAPTER 14: AGRICULTURAL LAND

14.1 INTRODUCTION

14.1.1 This chapter of the ES has been produced by Kernon Countryside Consultants Limited to assess the Project in relation to the effects it would have upon Agricultural Land. An Agricultural Land Classification (ALC) Survey report is provided at Technical Appendix 14.1.

14.2 ASSESSMENT CRITERIA & METHODOLOGY

Previous Assessment

14.2.1 No previous agricultural assessment has been undertaken on this land.

Scoping Opinion

14.2.2 The scoping opinion provided by South Gloucestershire Council (SGC) on 30th May 2018 states that "*based on the information provided, it is considered that Soil and Agricultural Land Quality should be scoped into the ES. The Council's landscape officer has provided the following summary of the issues: The land is classified under the DEFRA / NE Agricultural Land Classification, as Grade 2 and part Grade 3 land, classed under the NPPF as "best and most versatile land". According to the EIA Scoping Report (April 2018) submitted ALC has been 'scoped out' but a detailed ALC report will be submitted with the forthcoming planning application.*

Our MapInfo ALC layer (Map 1 – extract below) shows that the majority of the site lies within Grade 2 land. Cumulative effects are considered at 3.5.19 of the scoping report and it states that the loss of agricultural land is 'not considered likely to have a significant environmental effect, given the scale of retained agricultural land, including BMV within the locality'. Notwithstanding this, it is considered that the cumulative effect of the loss of BMV agricultural land around Thornbury as a whole, due to proposed new development, should be thoroughly considered as part of the site assessment and within the ES."

Response: this Chapter contains an assessment of the Proposed Developments impact on Agricultural Land, including an assessment of the cumulative effects of the loss of BMV agricultural land as a result of committed development within Thornbury.

14.2.3 The scoping opinion also states that *"Natural England have also provided guidance that: Impacts from the development should be considered in light of the Government's policy for the protection of the best and most versatile (BMV) agricultural land as set out in paragraph 112 of the NPPF (2012). We also recommend that soils should be considered under a more general*

heading of sustainable use of land and the ecosystem services that they provide as a natural resource in line with paragraph 109 of the NPPF (2012)."

Response: the NPPF (2018) has amended the above paragraphs, and as such, the protection and enhancement of soils is commensurate to their statutory status and identified quality (paragraph 170).

Legislative Context

14.2.4 The Town and Country Planning (Development Management Procedure) (England) Order 2015 sets out the requirement for consultation with Natural England where development of agricultural land is proposed. Natural England should be consulted where *"development which is not for agricultural purposes and is not in accordance with the provisions of a development plan involves the loss of not less than 20 hectares of grades 1, 2 and 3a agricultural land which is for the time being used (or was last used) for agricultural purposes"* or where the loss of less than 20 hectares of BMV agricultural land *"is likely to lead to a further loss of agricultural land amounting cumulatively to 20 hectares or more"* (bullet point 'y' of Schedule 4).

Planning Policy and Guidance

National Planning Policy

14.2.5 National planning policy governing the non-agricultural development of agricultural land is set out in the National Planning Policy Framework (2018) (the NPPF) (MHCLG, 2018).

14.2.6 The NPPF paragraph 170 states that *"planning policies and decisions should contribute to and enhance the natural and local environment by:*

a) 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.

14.2.7 Footnote 53 states that "*where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality"*

Local Planning Policy

Current Planning Policy

14.2.8 The South Gloucestershire Core Strategy 2006 – 2027 was adopted in 2013.

14.2.9 Policy CS9 states inter alia:

"The natural and historic environment is a finite and irreplaceable resource. In order to protect and manage South Gloucestershire's environment and its resources in a sustainable way, new development will be expected to:

9. maximise opportunities for local food cultivation by (a) avoiding the best and most versatile agricultural land and; (b) safeguarding allotment sites".

14.2.10 Relevant explanatory text is set out at paragraph 8.15 which notes that the best and most versatile agricultural land should be protected in recognition of the increasing need to produce food locally due to climate change.

14.2.11 Policy CS34, also sets out policy of relevance as follows:

"Development plan documents and development proposals will take account of the vision for the rural areas and partnership priorities, accord with Neighbourhood Plan initiatives and will (inter alia):

2. protect the best and most versatile agricultural land and opportunities for local food production and cultivation to provide for nearby urban areas and settlements".

14.2.12 The explanatory text at paragraph 16.8 states as follows:

"The best and most versatile agricultural land will be protected from unacceptable development. This is particularly important in view of the increasing need to produce food locally due to the anticipated impact of climate change. Lower grade land may also be valuable for the cultivation of non food crops, including biomass".

14.2.13 There is no specific policy in the Policies, Sites and Places Plan (November 2017).

Guidance/ Best Practice

Planning Practice Guidance

14.2.14 The national Planning Practice Guidance (PPG) re-states the contents of the NPPF at paragraph 8-026-20140306 and identifies BMV land as *"the land which is most flexible, productive and efficient in response to inputs and which can best deliver food and non-food crops for future generations".*

14.2.15 At paragraph 8-025-20140306 (DCLG, 2014) the PPG notes that *"soil is an essential finite resource that provides important 'ecosystem services' for example as a growing medium for food, timber and other crops, as a store for carbon and water, as a reservoir of biodiversity and as a buffer against pollution*". The PPG provides a link to the 'Construction Code of Practice for the Sustainable Use of the Soils on Construction Sites' (DEFRA, 2009) which forms part of the Government's 'Safeguarding our Soils' strategy (DEFRA 2009).

Natural England : Guide to assessing development proposals on agricultural land

14.2.16 The "Guide to assessing development proposals on agricultural land", published on www.gov.uk on 16th January 2018, notes that the aim is to protect BMV land and soils *"from significant, inappropriate or unsustainable development proposals".* It advises local planning authorities in section 6 to *"use ALC survey data to assess the loss of land or quality of land from a proposed development. You should take account of smaller losses (under 20 hectares) if they're significant when making your decision. Your decision should avoid unnecessary loss of BMV land".*

Baseline Data Collection

14.2.17 The assessment has considered the likely significant effects of the Proposed Development on agricultural land.

14.2.18 Information regarding agricultural land quality has been obtained from a review of published data, including existing ALC data and through a detailed ALC survey undertaken in April 2018. The ALC survey was carried out in accordance with the current guidelines for ALC in England and Wales (MAFF 1988). A summary of the results is set out in this chapter and the full report is set out in Technical Appendix 14.1.

Assessment Methodology

Agricultural Land Quality

14.2.19 The quality of land in England and Wales is assessed according to the Agricultural Land Classification (ALC) system; which provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The ALC system divides agricultural land into five grades. Grade 1 of the ALC is described as being of excellent quality and Grade 5, at the other end of the scale, is described as being of very poor quality. The current guidelines and criteria for ALC were published by the Ministry of Agriculture, Fisheries and Food (MAFF) in 1988 ('Agricultural Land Classification of England and Wales : Revised Guidelines and Criteria for Grading the Quality of Agricultural Land'1).

14.2.20 The principle factors influencing agricultural production are named by MAFF as climate, site and soil. These factors, and the interactions between them, form the basis for classifying land into one of five grades; Grade 1 land being of excellent quality and Grade 5 land of very poor quality. Grade 3 land, of which approximately half of the agricultural land in England and Wales falls within is sub-divided into Grades 3a and 3b. Grade 3a land is included in the 'best and most versatile land' with Grades 1 and 2; however it is the lowest grade of land in this category.

14.2.21 The major climatic factors affecting ALC are temperature and rainfall, although account is taken of exposure, aspect and frost risk where relevant. Factors related to 'site' are gradient, micro-relief and flood risk. Soil characteristics of particular importance are texture, structure, depth and stoniness. Climatic, site and soil factors result in varying degrees of constraint on agricultural production. They can act either separately or in combination, the most important interactive limitations being soil wetness and droughtiness.

14.2.22 The grade or sub-grade of land is determined by the most limiting factor present. When assessing constraints, overall climate and the site limitations should be considered first as these can have an overriding influence on the grade.

14.2.23 ALC grades and sub-grades are described in relation to the types of limitation that can occur, the cropping range and the expected level of consistency of yield. The most productive and flexible land falls into Grades 1, 2 and sub Grade 3a and collectively comprises about one-third of the agricultural land in England and Wales. This land is referred to as the 'best and most versatile land'. Approximately half of the land in England and Wales is of moderate quality in sub Grade 3b or poor quality in Grade 4. Poor quality land, although less significant on a national scale, can vary in value according to overall regional quality. The remainder of the national agricultural land area is very poor land in Grade 5, mostly accounted for by upland soils.

Assessment Criteria

14.2.24 The assessment of the effects on agricultural land has been carried out in three stages. Firstly the magnitude of the potential effects has been considered. Secondly the importance / sensitivity of the receptor has been considered and thirdly the significance of effects has then been determined by the interaction of magnitude and sensitivity.

14.2.25 There are no defined thresholds for assessing the effects of non-agricultural development on agricultural assets. The NPPF states that *"local planning authorities should take into account the economic and other benefits of the best and most versatile agricultural land".* Identification and consideration of BMV agricultural land is therefore necessary and the loss of BMV land is a measure of the impact of the proposed development. The thresholds set out in the following tables have been developed over time and are based upon professional judgement and best practice.

14.2.26 The magnitude of the effects of the Proposed Development has been assessed against the criteria set out in Table 14.1 below.

Table 14.1: Magnitude of Effect Table

Magnitude of Effect	Definition
	Effects on Agricultural Land
High	The proposed development would directly lead to the loss of over 50 hectares of BMV agricultural land (Grades 1 / 2 / 3a).
Medium	The proposed development would directly lead to the loss of between 20 and 50 hectares of BMV agricultural land (Grades 1 / 2 / 3a).
Low	The proposed development would directly lead to the loss of less than 20 hectares of BMV agricultural land (Grades 1 / 2 / 3a). Or the loss of any quantity of non-BMV agricultural land (Grades 3b, 4 or 5).
Negligible	No permanent adverse effect on agricultural land.

14.2.27 The methodology for determining the sensitivity of receptors is set out in Table 14.2. The only receptor that has been identified is agricultural land; and in accordance with best practice, the sensitivity of agricultural land is defined by its quality. BMV agricultural land is of national importance whilst poorer quality land (non BMV) is of local importance; and as such, it is identified at 'High' and 'Medium' Sensitivity only.

Table 14.2: Sensitivity of Receptors

Sensitivity	Receptor
High	Land resources are matters of potentially national importance, as identified in the NPPF. The BMV agricultural land (Grades 1, 2 and 3a) is of national importance. The effect on land resources is a combination of the quantum and quality of agricultural land affected, relative to both the national resource and the relative availability of that land locally. Land resources of BMV quality should therefore be classified as being of high environmental value (sensitivity).
Medium	Land that is of poorer quality, Grades 3b, 4 and 5, is of lower sensitivity. It is nevertheless a finite resource of local importance and so is regarded as being of medium sensitivity.

14.2.28 The significance of the effects of the Proposed Development have then been determined by the interaction of the magnitude of effect with the sensitivity of the receptor as set out in the matrix in Table 14.3.

Table 14.3: Significance of Impact

Magnitude of Effect	Sensitivity	
	High	**Medium**
High	Major	Moderate
Medium	Moderate	Moderate
Low	Moderate	Minor
Negligible	Minor	Minor

14.2.29 An impact of Moderate significance or greater is considered to be Significant in EIA Terms. Accordingly any impact which is only of Minor significance or below is considered to be Not Significant in EIA Terms.

Geographical Scope

14.2.30 The agricultural land classification survey considered the agricultural land within the Project Site.

Temporal Scope

14.2.31 The effects on agricultural land will occur at the outset of the Proposed Development i.e. as soon as the developers take occupation of that land and it is taken out of an agricultural use. Accordingly the assessment is primarily based upon the impacts of the Proposed Development when access is first taken. These impacts are permanent.

14.2.32 There are no further effects on agricultural land when the Proposed Development is occupied.

Assumptions & Limitations

14.2.33 There have been no assumptions made or limitations encountered in the preparation of this ES Chapter.

14.3 CONSULTATION

14.3.1 No consultations have been undertaken, aside from the response received to the EIA Scoping discussed above.

14.4 BASELINE ENVIRONMENT

Agricultural Land Quality

14.4.1 The Provisional ALC data (pre-1988) at a scale of 1:250,000 indicates agricultural land in the northern and eastern parts of the Project Site as Grade 2, with Grade 3 in the far south. There is no detailed (post 1988) ALC information covering the Project Site, but a MAFF semi-detailed ALC survey (Thornbury, North and East, July 1997. Job No. 2/97) determined Grade 2 adjacent to the east of the Project Site, and Subgrade 3b adjacent to the southeast.

14.4.2 The Natural England Guidance Note advises that for a detailed ALC assessment boreholes should be made every hectare on a regular grid, and that each auger point should be up to 1.2 m deep.

14.4.3 A detailed ALC survey was carried out across the Project Site in April 2018. The survey determined that agricultural land across the Project Site comprises a mix of Grade 2 agricultural land (14.4 hectares), Subgrade 3a (10.3 hectares), Subgrade 3b land (3 hectares) and Grade 4 (7.1 hectares). Some 24.7 hectares (69%) of the Project Site comprises of *"best and most versatile agricultural land".*

14.4.4 The area and percentage of the grade across the Project Site is shown in Table 14.4 below and is illustrated at Plan KCC 1 at Figure 14.1.

Table 14.4: Agricultural Land Classification Grades across the Site

ALC Grade	Description	Area (Ha)	Area (%)
1	Excellent	-	-
2	Very Good	14.4	40
3a	Good	10.3	29
3b	Moderate	3.0	8
4	Poor	7.1	20
5	Very Poor	0	0
	Non-Agricultural	1.0	3
	TOTAL	35.8	100

14.5 INHERENT DESIGN MITIGATION

14.5.1 The loss of agricultural land is permanent and mitigation is best achieved by limiting the extent of development to the smallest size possible, consistent with operational requirements. There are no measures that can be put in place to mitigate the effects of the Proposed Development on agricultural land.

14.5.2 However soils have a number of important functions beyond the support and growth of plants. These include improved drainage and maintaining solution pathways, supporting ecosystems and providing green areas for communities to use and enjoy. In order to sustain these basic functions it is important that appropriate consideration is given to the soil resource on any development site, as if it is not managed carefully during constriction and ground preparation, these functions can be lost.

14.5.3 "The Construction Code of Practice for the Sustainable Use of Soils on Construction Sites" is a practical guide to assist managers of construction sites in protecting the soil resources with which they work. The Code is not legally binding but, by using it, the soil resource at a site may be enhanced and wider environmental benefits may be achieved. For example, careful movement of soil during ground preparation, including the timing of land work and storage of soils for after use, will provide materials in better condition for landscaping and will also help natural site drainage.

14.5.4 British Standard 3882-2015 also provides specifications for the handling of topsoil including the stripping and retention of topsoil, its storage and its spreading and subsoil grading and preparation.

14.6 POTENTIAL ENVIRONMENTAL IMPACTS & EFFECTS

Construction Impacts and Effects

14.6.1 The effects on the national resource of agricultural land commences during the construction phase. However these effects are permeant and will continue throughout the operation of the Proposed Development.

14.6.2 The Proposed Development will involve the non-agricultural development of approximately 35 hectares of agricultural land. The detailed ALC survey which has been carried out across the Project Site has identified approximately 24.7 hectares of *"best and most versatile agricultural land".*

14.6.3 The impact of the loss of approximately 24.7 hectares of BMV agricultural land constitutes:

- A magnitude of **Medium** effect;
- On a receptor of **High** sensitivity;
- Leading to an impact of **Moderate Significance** which is significant in EIA terms.

14.6.4 However, this impact has to be seen in the local context. Much of the land on the periphery of Thornbury is likely to "best and most versatile agricultural land", with the predictive ALC Maps showing land on the western edge as having a high likelihood i.e. > 60% likelihood of comprising of "best and most versatile agricultural land" and land on the eastern edge a moderate likelihood i.e. 20 – 60 % likelihood of comprising of "best and most versatile agricultural land". Accordingly, it is likely that any development of a similar scale on the edge of Thornbury would have a similar impact on land quality.

Occupation Impacts and Effects

14.6.5 The effects on the national resource of agricultural land is considered at construction, and as such there are no new effects that occur due to the occupation of the Project Site.

14.7 ADDITIONAL MITIGATION, COMPENSATION & ENHANCEMENT MEASURES

14.7.1 There are no effective measures available to mitigate the direct loss of agricultural land as it is not possible to effectively translocate best and most versatile land to another location, nor elevate land quality elsewhere to compensate.

14.7.2 The topsoil resource on the Project Site will be retained within the Proposed Development to provide areas of green infrastructure, residential gardens and amenity areas.

14.8 RESIDUAL ENVIRONMENTAL IMPACTS & EFFECTS

14.8.1 The impacts of the Proposed Development remain as set out in Section 14.6; with the residual impacts of **Moderate** adverse on best and most versatile agricultural land.

14.9 CUMULATIVE EFFECTS

14.9.1 The Scoping Opinion confirmed and added to the list of developments that were to be considered under the Cumulative Assessment. Full details of the schemes are set out in Chapter 5 and a summary of the agricultural baseline data for the identified schemes which involve the loss of agricultural land is set out in Table 14.6 below.

Table 14.6: Agricultural Baseline Data for Cumulative Assessment Sites

Site	Application Ref	Baseline	Cumulative Effect with The Proposed Development
Land at Park Farm, Thornbury	PT11/1442/O	Comprises of 12 hectares of Grade 2 land, 8.7 hectares of Grade 3a and 4.8 hectares of Grade 3b. Accordingly 20.7 of BMV agricultural land has been lost.	Moderate
Land at Morton Way, Thornbury	PT/12/2395/O	Comprises of 4.4 hectares of Grade 2 land, 11 hectares of Grade 3a and 6.6 hectares of Grade 3b. Accordingly 15.4 of BMV agricultural land has been lost.	Moderate
Land at Post Farm, Thornbury	PT15/2917/O	Comprises of 5.6 hectares of Grade 3a (BMV) agricultural land	Moderate
Land West of Gloucester Road, Thornbury	PT16/4774/O	Comprises of 4 hectares of Grade 3a and 4 hectares of Grade 3b. Accordingly 4 hectares of BMV agricultural land will be lost	Moderate
Land at junction of Morton Way and Grovesend Road, Thornbury	PT/16/3565/O	Estimated that the Site comprises of 7.2 hectares of Grade 2, 7.2 hectares of Grade 3a and 7.2 hectares of Grade 3b. Accordingly 14.4 hectares of BMV agricultural land will be lost	Moderate
Land west of Pound Mill Business Centre, Lower Morton, Thornbury	PT13/3101/F	Comprises of approximately 4.5 hectares of agricultural land of which 4 hectares is Grade 2 and 0.5 hectares Grade 3a i.e. all land is BMV	Moderate

14.9.2 The Proposed Development involves the loss of approximately 24.7 hectares of BMV land, and alongside the cumulative sites above, which include the loss of 64.6ha of BMV land, a cumulative impact of High magnitude will occur; resulting in an impact of **Major** significance. The cumulative sites would alone constitute an impact of **Major** significance; without the inclusion of the Proposed Development.

14.10 ASSESSMENT SUMMARY

14.10.1 The Proposed Development will result in the permanent loss of 35 hectares of agricultural land; some 24.7 hectares (69%) comprises of Grade 2 and Subgrade 3a quality, which falls within the category of best and most versatile agricultural land as defined in the NPPF.

14.10.2 In regard to the best and most versatile agricultural land, the magnitude of effect is medium and the sensitivity of the receptor is high. This leads to an overall **Moderate Adverse** impact, which is significant in EIA Terms. However, this has to be seen in the local context and it is likely, given the high levels of “best and most versatile agricultural land” around Thornbury that any development of a similar scale would have a similar level of impact.

14.10.3 These effects occur at the start of the construction phase and are permanent.

Table 14.7: Soils, Agricultural Land and Farming Circumstances Assessment Summary

Environmental Effect	Sensitivity of Receptor	Nature of Impact	Impact Magnitude	Significance	Additional Mitigation	Residual Impact Magnitude	Residual Significance of Effect	Confidence Level
Construction Effects								
Loss of BMV Agricultural Land	High	Permanent	Medium	Moderate Adverse	None	Medium	Moderate Adverse	High
Operation Effects								
N/A								
Cumulative Effects								
Effect	**Description**				**Mitigation**		**Significance**	**Confidence Level**
Loss of over hectares of BMV agricultural land	Cumulatively the schemes identified in Table 14.6 result in the loss of 64.6ha of BMV land; which would result in an impact of High Magnitude. This assessment does not change with the inclusion of the Proposed Development.				None		Major Adverse	High
Climate Change								
Effect	**Description**				**Mitigation**		**Significance**	**Confidence Level**
Land Quality	None Likely				N/A			