



OTTERPOOL PARK

COUNTRYSIDE • CONNECTED • CREATIVE

ENVIRONMENTAL STATEMENT
OP5 CHAPTER 5 – **AGRICULTURE AND SOILS**

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March 2022



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Application Administration

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Environmental Statement

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Environmental Statement Volume 2: Main ES
Chapter 5: Agriculture and Soils

MARCH 2022

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5 Agriculture and Soils

5.1 Introduction

- 5.1.1 This chapter of the ES assesses the impact of construction and operation of the proposed Development with respect to agriculture and soils. The assessment includes consideration of impacts on agriculture and soils.
- 5.1.2 This chapter should be read in conjunction with Chapters 1–4 (the introductory chapters).
- 5.1.3 It has also been prepared alongside and informed by ES Appendix 5.1 which includes Figures 5.1 – 5.5.

Relevant Aspects of the Proposed Development

- 5.1.4 A description of the proposed Development is given in Chapter 4: The Site and the Proposed Development. The specific aspects of the proposed Development that relate to agriculture and soils are all those areas that will be affected by land take and ground disturbance, which would in turn have an impact on farm viability. This includes the areas on site for the proposed Development as shown on the following parameter plans (ES Appendix: 4.5):
- Development Areas and Movement Corridors
 - Open Space and Vegetation
 - Heights.

5.2 Assessment Methodology

Legislation, Policy and Guidance

- 5.2.1 This impact assessment has been undertaken in accordance with current national legislation, and national, regional and local plans and policies relating to agriculture and land use in the context of the proposed Development. A summary of the relevant legislation and policies, the requirements of these policies and the proposed Development response has been provided below.

Legislation

- 5.2.2 There are no specific legislative requirements governing the assessment of agricultural matters, although the Environment Act 2021 (Ref 5.2) does note that ‘land’ is included in the meaning of ‘natural environment’. The framework of any assessment is derived from a combination of EU and national agricultural and land use policies and measures, combined with expert judgement.

Policy

- 5.2.3 The National Planning Policy Framework (NPPF; Ref 5.3) sets out the Government’s planning policies for England and how these are expected to be applied. The NPPF provides a framework within which local and neighbourhood plans can be produced. Planning law requires that applications for planning permission must be determined in accordance with the development plan unless material considerations indicate otherwise. The NPPF must be taken into account in the preparation of local and neighbourhood plans and is a material consideration on planning decisions.
- 5.2.4 Section 15 of the NPPF deals with conserving and enhancing the natural environment. This includes a requirement that planning policies and decisions should recognise “*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*” (paragraph 174).

- 5.2.5 A footnote to this adds 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.”
- 5.2.6 A Strategy for England; Safeguarding Our Soils (Ref 5.4) was published in 2009. This sets out the Governments aims in relation to protecting agricultural soils and in relation to protecting the soil resource during construction and development. This includes a requirement that planning decisions take sufficient account of soil quality, particularly where significant areas of the best and most versatile (BMV) agricultural land are involved. BMV land comprises land in Grades 1, 2 and 3a of the Agricultural Land Classification system.
- 5.2.7 Accordingly, whilst the presence of BMV agricultural land is a material consideration in taking planning decisions this is one of a number of matters that have to be taken into account including other sustainability considerations such as: biodiversity, the quality and character of the landscape, accessibility to infrastructure, workforce and markets and maintaining viable communities.
- 5.2.8 The assessment also considers those relevant policies in the Folkestone & Hythe District Council (F&HDC) Core Strategy Review 2022 (Ref 5.6) and F&HDC Places and Policies Local Plan (Ref 5.7), as well as the Kent Environment Strategy (Ref 5.8).
- 5.2.9 Under Theme 2 of the Kent Environment Strategy, MR5.4 covers the establishment of ‘*land use management approaches that create, preserve and enhance healthy, viable soils and respect landscape character*’. Within this a required outcome is that ‘soils remain functional and healthy’.
- 5.2.10 The F&HDC Core Strategy Review Policy SS8, part g, requires the construction and landforming of the settlement to be soil neutral to avoid any importing or exporting of soil resources.
- 5.2.11 F&HDC Places and Policies Local Plan (2020) includes Policy HW3 (Development that supports Healthy, Fulfilling and Active Lifestyles) which states that proposals to deliver to this policy must not result in the loss of BMV agricultural land unless there is a compelling and overriding planning reason to do so and mitigation is provided through the provision of productive landscapes on-site or in the locality.
- 5.2.12 A response to the relevant policies is set out in the table below.

Table 5-1 Summary of project responses to relevant policies

Document	Policy	Summary of Requirements	Project Response
National Planning Policy Framework, as amended (2021)	Paragraph 174	Requirement to recognise the economic and other benefits of BMV land	The presence of BMV land is identified in the baseline and the impacts on this assessed.
F&HDC Places and Policies Local Plan (2020)	Policy HW3 (Development that supports Healthy, Fulfilling and Active Lifestyles)	Loss of BMV agricultural land should be avoided unless there is a compelling and overriding planning reason to do so and mitigation is provided through the provision of productive landscapes on-site or in the locality	The proposed Development will result in the loss of BMV land to development, however there is a compelling and overriding reason to allow this loss in order to meet the existing and future housing needs of this area. The development includes approximately 50% of open space which includes allotments and open spaces which support health and well-being activities, and which also enable the continued delivery of soil-related ecosystem services across this area.
F&HDC Core Strategy Review 2022	Policy SS8	The construction and landforming of the settlement to be soil neutral to avoid any importing or exporting of soil resources and that soils should be protected and enhanced commensurate to their status and quality.	Soil and ALC surveys are proposed to be undertaken during the Tier 2 assessment. This information will be used to support the development of a Soil Strategy and a Soil Resources Plan.

Guidance

- 5.2.13 Within the Strategy for England; Safeguarding Our Soils (Ref 5.4) there is an aim of encouraging better management of soils during the construction process. Linked to this is the Construction Code of Practice for the sustainable use of soils on construction sites, also published by Defra (Ref 5.9) to protect soil resources disturbed on construction sites. Whilst the Code is not legislatively binding, the wider benefits of following the guidance (in terms of sustainability, cost savings and waste controls) are clearly set out.
- 5.2.14 In February 2022 the Institute of Environmental Management and Assessment (IEMA) published guidance on A New Perspective on Land and Soil in Environmental Impact Assessment. This seeks to drive recognition of the wider ecosystem services provided by soils in addition to the productivity of the land for agricultural production, focusing on a soil function approach. The assessment approach set out here is broadly in line with the guidance with the ecosystem services soils provide recognised. Further assessment of these will also be undertaken following the soil and ALC surveys proposed to be completed at Tier 2.

Consultation and Scoping

Consultation

5.2.15 Table 5-2 provides a summary of the consultation undertaken for this chapter prior to and following the submission of the 2019 application (Y19/0257/ FH). The table summarises how the comments have been addressed in this chapter, where relevant.

Table 5-2 Summary of Consultation

Consultee/Contact/Date	Summary of Consultee Issue	Outcome
Natural England 7 December 2016	Concern raised regarding the presence of BMV land. As the site is likely to comprise >20ha of BMV Natural England would like to review detailed soil information from across the site.	The impact on BMV land is addressed in Section 5.5. Soil and ALC surveys are proposed to be undertaken during the Tier 2 assessment. A focused approach will be undertaken using an analysis of best available published information to predict areas of BMV land.
Natural England 30 May 2017	Advice provided on sources of baseline information relating to soils and Agricultural Land Classification (ALC).	All available data has been used to inform the assessment.
Natural England 01 June 2018	Clarity on the geographic scope.	The geographical scope of the assessment in relation to BMV land and agricultural land holdings is set out in the study area section of the methodology.
Natural England 01 June 2018	Phasing of assessments should be clearly defined.	The phasing of the proposed Development is not required to be defined at the outline planning application stage. A worst-case assessment has been made in the absence of phasing detail. Refer to Chapter 2: EIA Approach and Methodology for an explanation of the tiered approach to planning. An assessment of potential phasing impacts will be included at Tier 2.
Natural England 01 June 2018	Mitigation measures for affected farm business and farm operations should be clearly defined for both construction and operation phases.	Mitigation measures relevant to agricultural land holdings are set out in Section 5.4.
Natural England 01 June 2018	Impacts should be assessed in light of Government policy for the protection of BMV land.	The presence of BMV land has been assessed in light of Government policy for the protection of BMV land and based on available information. Soil and ALC surveys are proposed to be undertaken during the Tier 2 assessment.
Natural England 2 July 2018	Proposal was issued to NE setting out the approach to the ALC assessment based on use of existing data only and no further ALC surveys being	No response from NE was received. However, the rationale for the assessment methodology is set out in Section 5.2.

Consultee/Contact/Date	Summary of Consultee Issue	Outcome
	undertaken at this phase of the application.	
Consultations since 2019	<i>This mainly includes addressing the following LPA and key consultee comments to the previously submitted Outline Planning Application Otterpool Park (Y19/2057/FH)</i>	
Natural England 28 June 2019	Detailed ALC information is required to support the planning application.	A further analysis of existing information will be undertaken to provide a more detailed assessment of land areas at each grade in advance of undertaking focused ALC detailed surveys (in line with published guidance) during the Tier 2 assessment.
F&HDC 11 July 2019	In order for the local planning authority to apply the NPPF (2019) guidance and policy on development involving BMV agricultural land, it would be helpful to provide a breakdown of the area (ha) and proportion (%) of agricultural land in Grade 1, Grade 2 or Subgrade 3a. This is to be able to compare other sites involving development on BMV land in order to seek to use land of a poorer quality in preference to those of a higher quality.	The assessment detailed above will be used to provide additional detail on the areas of each grade affected and inform the extent of soil and ALC surveys. This is proposed to be undertaken during the Tier 2 assessment.
F&HDC 11 July 2019	In order to help ensure that embedded mitigation measures to safeguard soil resources for reuse on site, it would be helpful to have more information on the location and extent of soil resources of differing sensitivity, as identified in Table 5.4. This is to help ensure that soils of different resilience to soil handling/sensitivity are identified, stripped and stored separately and handled appropriately in suitable weather conditions, e.g. clay soils (low resilience/high sensitivity) should be managed separately from sandy soils (high resilience/low sensitivity), etc.	The assessment detailed above will be used to provide additional detail in relation to the resilience of soils to handling which will be used to inform the development of soil handling strategies. Soil and ALC surveys are proposed to be undertaken during the Tier 2 assessment to inform the development of a Soil Resources Plan.
F&HDC 11 July 2019	Further information on the nature of the agricultural enterprises carried out on each holding, the location and extent of the boundaries of each agricultural holding, and the location of any buildings/other fixed infrastructure and equipment (e.g. silage clamps, grain storage sheds, agricultural drainage systems and water supply pipes) is necessary to help assess and substantiate the ES conclusion that likely significant effect of the proposed Development on all 18 agricultural holdings is Minor Adverse - Not Significant?	Information presented on land holdings will be updated with further detail provided where relevant to the assessment during Tier 2.

Consultee/Contact/Date	Summary of Consultee Issue	Outcome
F&HDC 11 July 2019	Is the assessment of agricultural holdings with land in the agri-environmental Higher Level Stewardship (HLS) (which is regarded as being of high sensitivity, see Table 5.4) as Minor Adverse - Not Significant, under estimated?	The assessment criteria have been updated to account for the presence of land under agri-environment schemes and the assessment outcome updated.
F&HDC (Planning Officer) 25 November 2021	Discussion regarding the completion of ALC assessment at Tier 2 of the application process, rather than at Tier 1. F&HDC accepted there is a good case for this approach. The High Level Options Report recognised the presence of BMV land associated with all options with little alternative land available. F&HDC noted that ensuring sufficient flexibility in terms of locating green space and productive growing areas would make undertaking ALC surveys at Tier 2 an appropriate approach.	The presence of BMV land has been assessed based on available information. Soil and ALC surveys are proposed to be undertaken during the Tier 2 assessment.

Scoping

- 5.2.16 A previous EIA Scoping Opinion was undertaken for the 2019 application. For this amended application, a request for a Scoping Opinion was submitted to F&HDC in June 2020. This outlined the work that had been undertaken to date and sets out the proposed approach to the EIA. A Scoping Opinion was issued by F&HDC in July 2020. There were no specific comments in the scoping opinions from F&HDC with respect to agriculture and soils.
- 5.2.17 Additionally, a Scoping Addendum was submitted on 5 October 2021 to outline key changes to the application. These comprised additional land in the north-west corner of the site for provision of the waste water treatment works (WWTW), additional land for highway junction works at Newingreen Junction, minor amendments to clarify land ownership boundaries and a change in the assessment approach in relation to the future uses of Westenhanger Castle. A response was received from F&HDC on this Scoping Addendum as set out in Chapter 2: EIA Approach and Methodology. All relevant changes since the submission of the scoping report have been assessed in this ES.
- 5.2.18 Temple, on behalf of F&HDC, undertook a review of the Draft ES in December 2021. The topic specific comments and response are provided in Table 5-3.

Table 5-3 Response to the Draft ES comments

Consultee	Comment	Response
Temple on behalf of F&HDC, 1 December 2021 (Draft ES)	The Agriculture chapter does not address our previous requests for a % breakdown of BMV categories across the site and the locations of more or less resilient soils, nor does it provide the additional information requested on current agricultural enterprises. Both of these assessments have been suggested as part of the	The assessment sets out how the impact has been determined based on currently available information. This information does not split out Grades 3a and 3b and thus it is not possible to provide a breakdown of BMV categories; however, this will be provided at Tier 2 when a detailed ALC survey will be undertaken. This survey will also confirm the resilience of the soils present and, where

Consultee	Comment	Response
	<p>future Tier 2 detailed submissions, although as these relate to the current baseline it is not clear why this cannot be undertaken at this stage.</p>	<p>necessary, provide further detail on agricultural operations.</p> <p>However, based on available mapping, it is likely that a large proportion of the site will be high grade agricultural land. Available detailed mapping highlights the confirmed presence of BMV land (an area greater than the threshold for triggering a High impact on a receptor of High value). As such, further detailed ALC survey work at this stage would not reduce the significance of the effect as a result of the proposed Development. It is therefore considered that the desk-based assessment assesses a worst-case scenario and allows the likely significance of effect on agricultural land to be identified.</p> <p>Refer to Table 5-2 above with regard to consultation on this matter.</p>

The Study Area

5.2.19 The study area for this topic comprises the land within the application site boundary. Where an individual land holding includes land outside the application site boundary this has been taken into account when assessing the potential impact on farm viability.

Methodology for Establishing Baseline Conditions

5.2.20 The principal agricultural and related resources are the extent and quality of the agricultural land and the land management practices (along with the facilities/machinery required for such operations), as well as diversified activities on farms.

5.2.21 A range of existing information sources have been reviewed in order to assess the character of the site in terms of land use and soils, including:

- Ordnance Survey mapping and aerial photography to establish land use and settlement patterns
- Published Agricultural Land Classification details for the area (provisional and detailed (Post-1988); available from www.magic.gov.uk (Ref 5.10)
- Review of Land Information System Soilscales database (available from www.magic.gov.uk)
- Extent of any agri-environmental schemes including Woodland Grant scheme (available from www.magic.gov.uk)
- Information on the landholdings affected by the proposed Development (including farming type, farming practices, agri-environmental schemes etc.) from aerial imagery and targeted consultation.

Forecasting the Future Baseline

5.2.22 Whilst climate change is likely to have an effect on soil properties, in particular in relation to the soil moisture balance, reductions in the limitations posed by wetness (due to drier summers) may be offset by increases in the limitations posed by droughtiness. Adaptation within the prevailing agricultural systems may also allow some changes to be overcome, for example through crop changes or increased use of irrigation. It is, therefore, difficult to accurately predict if the grade of agricultural land

will change; once further soil information is available (from the ALC surveys proposed at Tier 2) on the specific soil properties and their distribution across the site an assessment of likely climate related changes will be made.

5.2.23 Agricultural circumstances may change; as the assessment continues through the three tiers on-going consultation with landowners will aim to gain visibility of potential material future changes and, where required, these will be assessed at that time.

Defining the Sensitivity of Resource

5.2.24 Apart from the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) there are no legislative requirements governing the assessment of agricultural matters, and the framework of any assessment is derived from national agricultural and land use policies and measures. The key elements of these can be summarised as:

- The conservation of the BMV resources of agricultural land
- Retention of a competitive and sustainable agricultural industry
- The diversification of individual farm businesses into supplementary non-agricultural activities
- The more positive engagement of individual farm businesses with the delivery of environmental benefits

5.2.25 The assessment of effects on agricultural land and businesses has also drawn on guidance provided in the Design Manual for Roads and Bridges (DMRB) LA 109 Geology and Soils (Ref 5.11).

5.2.26 The sensitivity of relevant receptors is assessed using the criteria set out in the table below.

Table 5-4 Criteria for Determining Receptor Sensitivity

Sensitivity of the receptor	Description	Examples
High	Very high agricultural and land use value, quality or rarity on a national scale.	<ul style="list-style-type: none"> • Grade 1, 2 and 3a agricultural land (i.e. BMV land) • Irrigated agriculture • Higher Level Stewardship (HLS) land • Soils with a very low resilience to structural damage (e.g. clayey soil) • Pastoral Farms
Medium	High agricultural and land use value, quality or rarity on a national scale.	<ul style="list-style-type: none"> • Grade 3b agricultural land; • Entry Level Stewardship (ELS) land • Soils with some resilience to structural damage (e.g. loamy soils) • Mixed farms
Low	Medium agricultural and land use value, quality or rarity on a regional scale.	<ul style="list-style-type: none"> • Grade 4 Agricultural Land • Soils with a high resilience to structural damage (e.g. sandy soils) • Arable and grassland (including organic arable farms)
Very Low	Low or negligible agricultural and land use value, quality or rarity on a local scale.	<ul style="list-style-type: none"> • Grade 5 Agricultural Land • Non-agricultural Land

Methodology for Assessing Impacts

Impact Characterisation

5.2.27 The magnitude of impact is based on the consequences the proposed Development would have upon agricultural and land use receptors. There is no published guidance on thresholds for assessing what scale of loss should be regarded as significant, but the presence of BMV land is an important factor in the consideration of the sustainability of development proposals, as set out in paragraph 174 of the NPPF.

5.2.28 Table 5-5 below sets out how the potential magnitude of impacts have been characterised, based on DMRB LA109 and professional judgement.

Table 5-5 Magnitude of Impact Characterisation

Magnitude	Definition
High	<p>Permanent loss or degradation of over 20ha of BMV land, or entire regional resource of BMV land (ALC Grades 1, 2, 3a).</p> <p>Loss of more than 20% of farmed land associated with an agricultural farm holding.</p> <p>Permanent loss of entire area of land under agri-environment or Woodland Grant scheme.</p> <p>No access possible to severed land.</p> <p>Existing land-use across land holding would not be able to continue.</p>
Medium	<p>Permanent loss or degradation of 5-20ha of BMV land, or large proportion of regional resource of BMV land.</p> <p>Loss of 10-20% of farmed land associated with an agricultural farm holding.</p> <p>Long-term, reversible, loss of entire area or majority of land under agri-environment or Woodland Grant scheme.</p> <p>Access possible to severed land via the public highway.</p> <p>Existing land-use across land holding would be able to continue but with major changes such as loss of yield, additional land management or increased use of fertilisers and herbicides.</p>
Low	<p>Permanent loss or degradation of <5ha of BMV land, or small proportion of regional resource of BMV land.</p> <p>Loss of more than 5-10% of farmed land associated with an agricultural farm holding.</p> <p>Short- to medium-term reversible loss, or permanent loss of small areas, of land area under agri-environment or Woodland Grant scheme.</p> <p>Access possible to severed land via private ways.</p> <p>Existing land-use across land holding would be able to continue but with some changes such as loss of yield, additional land management or increased use of fertilisers and herbicides.</p>
Very Low	<p>No loss of BMV land</p> <p>Loss of less than 5% of farmed land associated with an agricultural farm holding.</p> <p>No severance.</p> <p>Short-term impacts to receptors with no impact on integrity. No material changes to existing land-use.</p>

Assessing Significance of Effect

5.2.29 Table 5-6 below sets out how the significance of effect is characterised.

Table 5-6 Significance of Effect Characterisation

Magnitude of Impact	Value of Receptor			
	High	Medium	Low	Very Low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Very Low	Minor	Negligible	Negligible	Negligible

5.2.30 Following the characterisation of an effect as presented in Table 5-6, a clear statement is made as to whether the effect is 'significant' or 'not significant'. Major and moderate effects are considered to be significant and minor and negligible effects are considered to be not significant in terms of the EIA Regulations. However, professional judgement is also applied where appropriate.

Limitations and Assumptions

Limitations

5.2.31 No limitations have been identified to the assessment presented.

Assumptions

5.2.32 Based on available mapping, it is likely that a large proportion of the site will be high grade agricultural land. Available detailed mapping highlights the confirmed presence of BMV land (an area greater than the threshold for triggering a High impact on a receptor of High value). As such, further detailed ALC survey work at this stage would not reduce the significance of the effect as a result of the proposed Development. It is therefore considered that the desk-based assessment assesses a worst-case scenario and allows the likely significance of effect on agricultural land to be identified.

5.3 Baseline

Existing Baseline

Geology

5.3.1 The site is underlain by sandstone and mudstone, with some Head deposits across the northern part of the site and alluvium associated with the watercourses.

Soils

5.3.2 The distribution of soils is shown on Figure 5.1, in ES Appendix 5.1. The soils present appear to fall into two main categories differentiated in the main by their drainage characteristics.

5.3.3 In the central part of the site the soils are described as loamy soils with naturally high groundwater, with slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils present in the north-eastern part of the site. In the eastern / southern parts the soils are described as freely draining slightly acid (in places base-rich) loamy soils.

- 5.3.4 The Soil Map of England and Wales (Ref 5.12) and associated Soil Survey Bulletin (Ref 5.13) describes the presence of three Soil Associations within the application site boundary, as detailed below. A Soil Association represents a group of soil types which are typically found occurring together in a landscape. The Wickham 1 and Park Gate Associations are likely to represent the more poorly drained soils described above.
- Wickham 1 – soils formed in Cretaceous clay or mudstone drift which are slowly permeable seasonally waterlogged fine silty soils overlying fine loamy or clayey soils. These soils can remain wet for long periods and also dry out and become hard in summers. The texture of these soils makes them less resistant to damage on handling, with the finest soils (clay soils) having very low resilience to structural damage (for example from soil handling or trafficking across the soil surface). Land use on these soils can be dominated by pastoral farms.
 - Park Gate – soils formed in aeolian silty drift which are deep stoneless soils variably affected by groundwater. These soils are likely to have some resilience to structural damage unless very fine textured. These soils support horticulture, for example top fruit and hops, as well as cereals and grassland.
 - Malling – soils formed in Cretaceous sand, loam and limestone which are well drained non-calcareous fine loamy soils over limestone at variable depths. Some deep well-drained coarse loamy soils and similar fine loamy over clayey soils. Some fine loamy soils with slowly permeable subsoils and slight seasonal waterlogging. Occasional shallower calcareous soils over limestone. These soils are likely to have some resilience to structural damage, especially where coarser in texture. These soils form fertile land generally without waterlogging in the upper 70cm, used extensively for arable production (chiefly cereals with potatoes and some field vegetables).
- 5.3.5 The extent to which groundwater affects the Park Gate soils will depend on the depth to impermeable layers, their position in the landscape and the extent of artificial drainage provided. Where adequate drainage is provided these soils can support a wide range of uses with few restrictions on the grade of land the soils can support.

ALC Grades

- 5.3.6 The Provisional ALC mapping (at a scale of 1:250,000; available from www.magic.gov.uk) shows the land to be a mix of Grades 2 and 3, with some non-agricultural land also mapped associated with Lympne. This is shown in Figure 5.2, in ES Appendix 5.1. The provisional mapping suggests Grade 2 land is present across much of the site, with lower grade land (Grade 3; not sub-divided into 3a and 3b) present at the western extent of the site and in an area stretching northwards from Harringe Brooks Wood to Rabbits' Wood on Harringe Lane.
- 5.3.7 This mapping does not, however, distinguish between Sub-grades 3a and 3b. Some detailed mapping is available (see Figure 5.3, in ES Appendix 5.1). The eastern part of the site has been mapped as predominantly Grade 2, with small areas of Sub-grades 3a and 3b. A small area around Newingreen has also been mapped as Grade 2.
- 5.3.8 Kent, including the Folkestone & Hythe District, has a higher proportion of Grade 1 and 2 land compared to the rest of England (Agricultural Land Classification (ALC) Statistics, undated; based on the digital 1:250,000 scale Provisional ALC maps as referenced above; Ref 5.14). In Kent there is a 20.5% cover of Grade 2 land, compared to an average for England of 14.2%. Grade 1 land cover in Kent is 9.0% compared to 2.7% for England. In F&HDC the proportion of Grade 2 land is even higher at 32%, with 16.5% Grade 1 land.

- 5.3.9 These statistics also show that, compared to an average of 48.2% Grade 3 land in England, Kent has a slightly higher proportion (49.2%) and F&HDC has a smaller proportion (26.9%).

Land Use

- 5.3.10 There are nine farm and land-based rural units identified as being affected. These are either wholly owned by F&HDC / Homes England or have an option agreement in place, with the exception of one land holding.
- 5.3.11 The agricultural land is predominantly under arable production with some small parcels of land under pasture (for example along the East Stour River corridor). Field boundaries in arable areas have historically been removed creating large field units.
- 5.3.12 Small areas on field margins have been set aside, in some locations to support shooting operations. There is some diversification of land uses, for example a grass runway for powered hang gliders and a racetrack near Harringe Court in the western part of the site.
- 5.3.13 Several land parcels are under Stewardship agreements, both Entry and Higher Level (see Figure 5.4, in ES Appendix 5.1; data from www.magic.gov.uk; Ref 5.10).
- 5.3.14 None of the land is reported to be under a woodland or forestry grant scheme (see Figure 5.5, in ES Appendix 5.1; data from www.magic.gov.uk; Ref 5.10).

Key Receptors and their Value

- 5.3.15 The key receptors are likely to be as follows:
- BMV land and the soils which support this;
 - Farm businesses (including the presence of land under stewardship agreements).
- 5.3.16 It is considered likely that the value of the agricultural land, given the presence of BMV land (i.e. Grades 1 – 3a), is High. Where the soils are less resilient to structural damage (i.e. heavier textures) these would also be considered to be of High value, and this may include some areas of non-BMV land. The agricultural businesses are considered overall to be receptors of Low value given the predominance of arable production within the site with the exception of areas covered by agri-environment agreements where the value is Moderate to High (dependant on the agreements in place).

Future Baseline

- 5.3.17 The future baseline is the situation that would prevail should a proposed Development not proceed. The future baseline is further defined by the assessment scenario that the topic adheres to. The following paragraphs show what the future baseline for Agriculture and Soils has identified.
- 5.3.18 Climate change is likely to have an effect on soil properties, in particular in relation to the soil moisture balance. This could result in a reduction in the limitation posed by wetness (due to drier summers), in particular for soils of the Wickham 1 Association which are slowly permeable which could result in an ALC grade increase. However, this could be offset by an increase in the limitation posed by droughtiness, which may in particular affect the well drained soils, such as those of the Malling Association.
- 5.3.19 Adaptation within the prevailing agricultural system may enable some changes to be overcome, for example through the planting of different crops or the increased use of irrigation. This may allow the soils to continue to provide the same level of use as currently. As such, whilst soil properties may change over the likely timeframe for the proposed Development which could result in grade changes in some circumstances,

given the likely current extent of BMV land across the site it is considered that this will not change significantly within the proposed Development boundary.

- 5.3.20 The descriptions of the farm businesses affected is based on their current use and operation which may change in the future. However, currently no significant changes of use have been identified which would alter the baseline condition.

5.4 Design and Mitigation

- 5.4.1 The following section sets out:

- The embedded design measures, including good practice approaches, relied on in this assessment; and
- The potential significant effects remaining after the application of embedded design measures and good practice approaches, and any additional mitigation required to address these potential significant effects

- 5.4.2 The potential significant effects prior to additional mitigation are identified in the Assessment Summary table.

- 5.4.3 Environmental considerations have influenced the proposed Development throughout the design development process, from early options assessment through to refinement of the Project design. An iterative process has facilitated design updates and improvements, informed by environmental assessment and input from the Project design teams, stakeholders and public consultation.

- 5.4.4 Impacts would be reduced by measures embedded into the design of the development, as well as by additional mitigation, and together these measures would act to avoid, reduce and mitigate effects. The measures have been summarised by whether they are embedded design measures, which are secured through the documents for approval, or additional mitigation secured, for example, by planning condition or legal agreement. Embedded measures are described as measures that form part of the design, developed through the iterative design process and good practice standard approaches and actions commonly used on development projects to avoid or reduce environmental impacts, typically applicable across the whole Development. Additional mitigation is described as any additional Development-specific measures needed to avoid, reduce or offset potential impacts that could otherwise result in effects considered significant in the context of the EIA Regulations.

Embedded Design Measures

Construction

- 5.4.5 As set out in Chapter 4: The Site and the Proposed Development, a key feature of any 'Garden Town or Garden Settlement' development is its inclusion of a rich Green Infrastructure (GI) and ability to maximise the natural environment. Otterpool Park has been planned as a holistic 'Green' development providing accessible routes between the residential setting, informal and formal sport, play spaces, food production areas, community space, workplace and the wider surroundings.
- 5.4.6 A target of 50% GI has been set, including habitats, playing fields, amenity, parks, allotments, orchards and cemeteries. Implementation of appropriate soil handling and re-use measures would ensure that the soils used across the site in these areas would be of the required characteristics and in the required condition to support a variety of specified activities. For example, surplus nutrient-poor soils (topsoil or subsoil) would be re-used in areas of habitat creation (to enable the establishment and sustainability of species-rich habitats) whilst surplus nutrient-rich soils would be prioritised for areas designated for food production or in areas of landscape planting. This would ensure that the retained soils can continue to provide a range of valuable ecosystem services.

- 5.4.7 The sustainable use of the soil resource would be undertaken in line with the Construction Code of Practice for the Sustainable Use of Soil on Construction Sites (Ref 5.9). This would be achieved by the development of a Soil Resources Plan (SRP) based on a detailed pre-construction soil survey, and a Soil Management Plan (SMP) to identify the soils present, proposed storage locations and handling methods and how the resource would be re-used. The SMP, and associated SRP, would form part of the CoCP and proposed Construction Management Plan (CMP). Measures which would be implemented include (but are not limited to):
- Completion of a Soil Resources Survey and incorporate results into a SMP;
 - Link the SMP to the Site Waste Management Plan (SWMP);
 - Ensure soils are stripped and handled in the driest condition possible and banded/scraped to relevant degree to allow surface water runoff;
 - Only stockpile reusable soil for durations in line with the Environment Agency standards;
 - Ensure that, where possible, all soil for reuse is stored on the relevant parcels of land. (i.e. soil won from housing parcels will be left stored correctly for reuse by the housebuilder);
 - Clear segregation of parcel stockpiles to avoid cross contamination and damage;
 - Ensure any main stockpile material (not on parcel) is managed by qualified contractors and any reused material issued to housebuilders has relevant transfer note as per Environment Agency requirements.
- 5.4.8 All soils would be stored away from watercourses (or potential pathways to watercourses) and any potentially contaminated soil would be stored on an impermeable surface and covered to reduce leachate generation and potential migration to surface waters.
- 5.4.9 Industry standard measures would be put in place to control pollution, including from fuel or chemical stores, silt-laden runoff or dust.
- 5.4.10 A considerate construction approach would be used to minimise potential impacts on the remainder of the landholding and on neighbouring landholdings agricultural enterprises during the construction phase, including during different phases of the Development (for example ensuring continuation of livestock drinking water supplies).
- 5.4.11 Toolbox talks would be used to inform all those working on the site of the requirements for soil handling and minimisation of disturbance to neighbouring agricultural activities.
- 5.4.12 All fencing around the proposed Development would be sufficient to resist damage by livestock and would be regularly checked and maintained in a suitable condition. Any damage to application site boundary fencing would be repaired immediately.
- 5.4.13 Measures contained in relevant Defra and Environment Agency best practice guidance documents on the control and removal of invasive weed species would be implemented where appropriate.
- 5.4.14 Works would cease, and the Animal Health Regional Office would be advised, should animal bones be discovered which indicate a potential burial site.
- 5.4.15 All movement of plant and vehicles between fields would cease in the event of a disease outbreak and official Defra advice would be followed to minimise the biosecurity risk associated with the continuation of works.

Operation

- 5.4.16 There is the potential for increased disturbance to agricultural operations, such as disturbance to livestock and fly tipping, on land adjacent to the proposed Development. The Development design would seek to ensure appropriate link up of footpaths and the appropriate design of access points to minimise the risk of areas being used for fly-tipping as secured through the Development and Movement Corridors Parameter Plans (ES Appendix: 2.8) and the Strategic Design Principles (ES Appendix: 4.3).

Additional Mitigation

- 5.4.17 An iterative appraisal of the proposed Development taking into account the embedded design measures and good practice was undertaken to identify any potentially significant effects that would require additional mitigation. Effects on agriculture and soils that could be significant and therefore required further consideration for additional mitigation were as follows:
- Impacts due to loss of agricultural (BMV) land in construction; and
 - Impacts on agricultural businesses in construction (due to loss of land and disruption) and operation (disturbance/fly tipping to neighbouring land holdings).

Construction

- 5.4.18 During the preparation of the CoCP, Otterpool Park LLP would undertake consultation with landowners to reduce the impacts on the farm businesses, as far as practicable. This will include agreement of assurances and obligations that Otterpool Park LLP will accept upon entering the land and compensation, where applicable. This would cover, for example, the loss of land, loss of stewardship payments, disruption, access restrictions and crop losses. This would be secured through agreement with the landowner(s).

Operation

- 5.4.19 Effects on agriculture and soils occur during the construction phase and effects during operation would be minimal, therefore no additional mitigation has been identified.

5.5 Assessment of Residual and Cumulative Effects

Introduction

- 5.5.1 The following section sets out the residual effects following the implementation of the embedded measures and additional mitigation set out above.

Residual Effects from Construction

- 5.5.2 There would be a loss of land from primary agricultural production. The total agricultural land area affected is approximately 589ha, of which it is considered likely that in excess of 400ha comprises BMV land. This land would be lost from primary agricultural production.
- 5.5.3 This is considered to be Major Adverse impact on a resource of High value, resulting in a **Major adverse** effect which would be considered to be **Significant**.
- 5.5.4 Some of the non-BMV land, where the soils are of a heavy texture and so with a low resilience to structural damage, are considered to be a resource of High value resulting in a **Major adverse** effect which would be considered to be **Significant**.
- 5.5.5 During construction, there would be impacts on the agricultural enterprises. Land would be lost to the businesses as each field was brought into the proposed Development, reducing the area available for agricultural production. The measures outlined in Section 5.4 will minimise disruption to ongoing activities and minimise disturbance to remaining livestock. These should limit the likelihood of any of the

enterprises becoming unviable. It is assumed that the phasing, and notice periods provided will allow the enterprises to adapt or move such that the economic performance of the business remains unaffected. As such, it is considered that there would be no more than a short-term **Minor Adverse** effect on farm viability as they adapt through the changes required which is considered to be **Not Significant**.

Residual Effects from Operation

5.5.6 Effects on agriculture and soils occur during the construction phase and effects during operation will be minimal.

5.5.7 There is a residual risk that disturbance and fly-tipping could affect land holdings currently remote from urban areas. With the mitigation in place this is considered to be **Negligible** (i.e. short-term and not affecting business viability) and is therefore **Not Significant**.

Cumulative Effects

Cumulative Effects with other Developments

5.5.8 The following schemes are considered as being appropriate for inclusion in the assessment of cumulative effects, with reasons provided as shown in Table 5-7 below.

Table 5-7 Proposed Committed Developments for Inclusion in Cumulative Assessment

Map ID	Local Planning Authority	LPA Reference No.	Reason for inclusion in cumulative assessment
S38	Ashford	18/0180/AS	Development of greenfield site which appears to be in current agricultural use (within approx. 10km of the Scheme).
S51	Ashford	S51	Development of greenfield site which appears to be in current agricultural use (within approx. 10km of the Scheme).
S52	Ashford	S52	Development of greenfield site which appears to be in current agricultural use (within approx. 10km of the Scheme).
C1	Ashford	n/a	Development of greenfield site which appears to be in current agricultural use (within approx. 10km of the Scheme).
AL	F&HDC	Y16/0199/SH	Development of greenfield site which appears to be in current agricultural use (within approx. 10km of the Scheme).
H	F&HDC	Y14/0873/SH	Development of greenfield site which appears to be in current agricultural use (within approx. 10km of the Scheme).
AM	F&HDC	Y15/1122/SH	Development of greenfield site which appears to be in current agricultural use (within approx. 10km of the Scheme).

5.5.9 As the impact of the proposed Development itself in relation to agricultural land is already **Major Adverse** significance and therefore significant, it is not considered that the schemes listed above would alter the assessment presented above.

Cumulative Effects with the Framework Masterplan

- 5.5.10 The elements of the Framework Masterplan that are not included within the proposed Development could have a cumulative impact on agriculture and soils due to their proximity. As with other developments, regulatory approval would be sought prior to the development of the additional elements. Planning conditions relating to agriculture and soils would need to be satisfied prior to development taking place.

Cumulative Effects with the Permitted Waste Facility

- 5.5.11 An application has been granted for a Permitted Waste Facility (SH/08/124) on the site. This permission has planning conditions which require a Code of Construction Practice to be developed and which must include information on the location and management of soil stockpiles. As this facility does not result in additional agricultural land take and there is a requirement to set out in a Code of Construction Practice how soils will be handled and managed it is considered that the cumulative effect on agriculture and soils would be Neutral.

5.6 Monitoring

- 5.6.1 No monitoring requirements have been identified for agriculture and soils.

5.7 Assessment Summary

- 5.7.1 Table 5-8 provides an assessment summary with respect to Agriculture and Soils including the potential significant effect with embedded design measures in place, and additional measures required to reach the residual significance of effect.

Table 5-8 Summary of assessment with respect to Agriculture and Soils

Receptor	Embedded Design Measures	Potential Significant Effect (pre-mitigation)?	Phase	Additional Mitigation	Mitigation Delivery Mechanism	Residual Effect Significance
Agricultural land (BMV)	Best practice soil handling as identified in the CoCP and approximately 50% of this land to be set aside for Green Infrastructure, retaining a range of valuable Ecosystem Services as secured in the Green Infrastructure Strategy (ES Appendix: 4.11)	Approximately 500ha lost from primary agricultural production, of which a significant proportion (in excess of 400ha) will be BMV land = Significant	C	No additional mitigation identified	N/A	Major Adverse - Significant
Agricultural businesses	N/A	Loss of land/disruption = Significant	C	During the preparation of the CoCP, Otterpool Park LLP would undertake consultation with landowners to reduce the impacts on the farm businesses, as far as practicable, to include agreement of assurances and obligations that Otterpool Park LLP will accept upon entering the land and compensation, where applicable.	Agreement with landowner(s) on assurances and obligations required.	Minor Adverse - Not Significant

Receptor	Embedded Design Measures	Potential Significant Effect (pre-mitigation)?	Phase	Additional Mitigation	Mitigation Delivery Mechanism	Residual Effect Significance
Agricultural businesses	Appropriate detailed design as secured through the Development Areas and Movement Corridors Parameter Plan (ES Appendix: 2.8) and the Strategic Design Principles (ES Appendix: 4.3)	Disturbance/fly-tipping to neighbouring land holdings = Not Significant	O	No additional mitigation identified	N/A	Not Significant

Notes: Construction = C, Operation = O

5.8 References

Reference	Title
Ref 5.1	British Society of Soil Science (2011). Professional Competency in Soil Science: Agricultural Land Classification of England and Wales
Ref 5.2	Environment Act 2021 (legislation.gov.uk) – The Environment Act 2021
Ref 5.3	Department of Local Communities and Government (2021). The National Planning Policy Framework.
Ref 5.4	Defra (2009). A Strategy for England; Safeguarding Our Soils.
Ref. 5.5	Reference not used
Ref 5.6	Folkestone & Hythe District Council (2022). Core Strategy Review 2022
Ref 5.7	Folkestone & Hythe District Council (2020). Places and Policies Local Plan.
Ref. 5.8	Kent County Council (2016). Kent Environment Strategy. A strategy for environment, health and economy.
Ref 5.9	Defra (2009). Construction Code of Practice for the sustainable use of soils on construction sites.
Ref 5.10	www.magic.gov.uk – Geographic information about the natural environment.
Ref 5.11	Highways England Design Manual for Roads and Bridges (DMRB) LA 109 Geology and Soils
Ref 5.12	Soil Survey of England and Wales (1983). Soil Map of England and Wales.
Ref 5.13	Fordham, S. J. and Green, R. D. (1980). Soil Survey Bulletin No. 9. Soils of Kent (published by Soil Survey of England and Wales, Harpenden).
Ref 5.14	MAFF (1983). Agricultural Land Classification of England and Wales. The Distribution of Grades.

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