



# SUNNICA ENERGY FARM

## Preliminary Environmental Information Report

Appendix 10D: Published Landscape Character Extracts

Sunnica Ltd

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## Quality information

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# 1 Published Landscape Character Extracts

## 1.1 Introduction

- 1.1.1 This appendix sets out the relevant extracts from the published landscape character assessments and associated studies across the study area and should be read in combination with Figures 10-5 to 10-9 of **Chapter 10: Landscape and Visual Amenity**.
- 1.1.2 Following the relevant extracts, an assessment of the sensitivity of the landscape character area is undertaken, based upon the methodology stated in Appendix 10C, which is based upon judgements on value and susceptibility to determine sensitivity.

## 1.2 National Level

- 1.2.1 The National Character Areas (NCA) have been defined and described by Natural England.
- 1.2.2 The NCA within the study area are shown on Figure 10-5 of **Chapter 10: Landscape and Visual Amenity**.

### National Character Area 46: The Fens (2013)<sup>1</sup>

- 1.2.3 The key characteristics of the NCA are:
- “Expansive, flat, open, low-lying wetland landscape influenced by the Wash estuary, and offering extensive vistas to level horizons and huge skies throughout, provides a sense of rural remoteness and tranquillity.
  - Jurassic clays are overlain by rich, fertile calcareous and silty soils over the coastal and central fens and by dark, friable fen peat further inland. The soils are important for agriculture, which is hugely significant for the rural economy in the Fens. There are over 4,000 farms in the Fens; enough wheat is grown here annually to produce a quarter of a million loaves of bread and one million tons of potatoes are grown here. In addition to traditional vegetables, exotics such as pak choi are now cultivated. Some 40 per cent of England’s bulbs and flowers are also produced in the Fens.
  - The Wash is the largest estuarine system in Britain, supporting internationally important intertidal and coastal habitats influenced by constant processes of accretion and deposition, forming salt marsh and mudflats and providing habitats for wildfowl, wading birds and other wildlife, including grey seals and approximately 90 per cent of the UK’s common seals. It also provides important natural sea defences and plays a key role in climate change regulation. Flood storage areas on the Nene, Cam, Lark and Ouse washes also provide significant biodiversity

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<sup>1</sup> Natural England, National Character Area 46: The Fens, <http://publications.naturalengland.org.uk/publication/6229624> [Last accessed 3rd December 2019]

interest. True fen mainly occurs at remnant conservation sites, such as Baston or Wicken Fen.

- Overall, woodland cover is sparse, notably a few small woodland blocks, occasional avenues alongside roads, isolated field trees and shelterbelts of poplar, willow and occasionally leylandii hedges around farmsteads, and numerous orchards around Wisbech. Various alders, notably grey alder, are also used in shelterbelts and roadside avenues.
- The predominant land use is arable – wheat, root crops, bulbs, vegetables and market gardening made possible by actively draining reclaimed land areas. Associated horticultural glasshouses are a significant feature. Beef cattle graze narrow enclosures along the banks of rivers and dykes and on parts of the salt marsh and sea banks.
- Open fields, bounded by a network of drains and the distinctive hierarchy of rivers (some embanked), have a strong influence on the geometric/rectilinear landscape pattern. The structures create local enclosure and a slightly raised landform, which is mirrored in the road network that largely follows the edges of the system of large fields. The drains and ditches are also an important ecological network important for invertebrates, fish including spined loach, and macrophytes.
- The area is very rich in geodiversity and archaeology, with sediments containing evidence for past environmental and climate changes and with high potential for well-preserved waterlogged site remains at the fen edge, within some of the infilled palaeo-rivers and beneath the peat.
- Large, built structures exhibit a strong vertical visual influence, such as the 83 m-high octagonal tower of ‘Boston Stump’ (St Botolph’s Church), Ely Cathedral on the highest part of the Isle of Ely dominating its surrounding fen, wind farms and other modern large-scale industrial and agricultural buildings, while drainage and flood storage structures and embanked rail and road routes interrupt the horizontal fen plain.
- Settlements and isolated farmsteads are mostly located on the modestly elevated ‘geological islands’ and the low, sinuous roddon banks (infilled ancient watercourses within fens). Elsewhere, villages tend to be dispersed ribbon settlements along the main arterial routes through the settled fens, and scattered farms remain as relics of earlier agricultural settlements. Domestic architecture mostly dates from after 1750 and comprises a mix of late Georgian-style brick houses and 20th century bungalows.”

1.2.4 The Statements of Environmental Opportunity (SEO) for the NCA are:

- *“SEO 1: Manage the agricultural landscape and soils which allow the Fens to be a major provider of food and horticultural produce, while seeking to enhance opportunities for biodiversity.*
- *SEO 2: Manage the core wetland complexes and increase their connectivity by enhancing the main rivers, waterways and their associated riparian habitats and improve recreational access opportunities to the Fens.*

- *SEO 3: Plan for the creation of new coastal landscapes in the Wash area that are adapted and resilient to the impact of climate change, for the benefit of people and wildlife.*
- *SEO 4: Conserve, manage and enhance the Fens landscape and increase educational opportunities to access its geodiversity, archaeology and cultural heritage to enhance enjoyment and understanding for those who live and work in and visit the Fens.”*

1.2.5 The ‘landscape change’ section outlines that woodland cover is very sparse, in an open agricultural landscape. There is evidence of more recent tree planting close to settlements or along field boundaries. The area is one where agricultural land use is constantly changing and that:

*“The general increase in farm size is reflected in the proliferation of new large-scale agricultural buildings. An increase in the number of polytunnels and glass houses reflects the popularity in bulb growing. These structures can reduce the sense of remoteness in rural areas and cause visual intrusion, enclosing previously open view.”*

1.2.6 In relation to settlement and development, the study states:

*“Development on settlement margins can be particularly damaging, creating visual intrusion and resulting in the loss of surrounding landscape features and increasing the risk of coalescence...”*

1.2.7 Climate change is a noted ‘drivers for change’ within the landscape, relating to flooding and soil erosion.

1.2.8 Other ‘drivers’ include:

*“The Government’s commitment to increasing energy from renewable sources means there is likely to be continued pressure to accommodate such schemes...;*

*projects and partners working to re-wet the Fens offer an important opportunity to halt the loss of carbon from long-term soil stores and also make significant contribution to biodiversity and green infrastructure targets and objectives;*

*Existing rural landscape features should be protected and positive management of those features lost or under threat should be encouraged. Restoration of hedgerows on the clay islands should be a priority.”*

1.2.9 The ‘landscape attributes’ of the NCA are:

*“Open, flat expansive estuarine landscape and seascape with extensive skies and panoramic views offer a sense of remoteness and tranquillity;*

*Highly productive peat soils support large-scale commercial agricultural activity which is nationally important for food production;*

*A historic wetland landscape with a distinct hierarchy of rivers, drains and ditches and large rectilinear geometric fields which create a strong pattern in the landscape;*

*A mosaic of semi-natural wetland habitats such as wet woodlands and grassland, salt marshes, mudflats, reedbeds and fen;*

*A traditionally unwooded character;*

*A varied settlement pattern; and*

*Historic character and archaeological features provide cultural and experiential qualities which contribute strongly to the sense of place.”*

- 1.2.10 Stated ‘Landscape opportunities’ include:

*“Expand the total area of semi-natural habitat and increase connectivity to allow adaptation to climate change...;*

*Protect the long views and open expansive unwooded character of the landscape and work to visually mitigate the impact of large structures including unsympathetic buildings and energy infrastructure that are highly visible in this flat landscape; and*

*Make use of village and town design statements and conservation area appraisals for informing future development proposals. Encourage design that minimises visual impact on local landscapes.”*

#### **NCA 46 Sensitivity**

- 1.2.11 As NCA 46 contains the Fens and a very small part of the Norfolk Coast AONB, its value is assessed as national.

- 1.2.12 As NCA 46 contains a range of infrastructure features and is characterised by areas of engineered watercourses for agriculture, balanced with the ‘open’, low lying and expansive sky characteristics, the susceptibility is assessed as medium.

- 1.2.13 The combination of the national value and medium susceptibility results in a high sensitivity to the proposed Scheme.

#### **National Character Area 85: The Brecks (2015)<sup>2</sup>**

- 1.2.14 The key characteristics of the NCA are:

*“A largely open, gently undulating landscape with a low-lying, dry plateau that rises to the north. Subtle long slopes lead to alluvial flats containing shallow, meandering wooded river valleys.*

*The chalk solid geology lies close to the surface and is covered by thin deposits of sand and flint. The effects of repeated freeze and thaw in the tundra-like climate of the last ice age have produced intricate ground patterns, with patches of calcium-rich soils interspersed with acidic conditions.*

*Remnants of collapsed pingos and other ground-ice depressions which formed in periglacial conditions are typically found in the valleys and are characteristic features at Sites of Special Scientific Interest (SSSI) such as Thompson Common, East Walton Common and Foulden Common.*

<sup>2</sup> Natural England. (2015). National Character Area 85: The Brecks. [online]. Available at: <<http://publications.naturalengland.org.uk/publication/4282581>> [Last accessed 3<sup>rd</sup> December 2019]



*Vast commercial conifer plantations form a forest landscape, unique in lowland England. The regular geometric shape and form and the repeated occurrence of plantations and shelterbelts unify the land cover pattern, forming wooded horizons and framing views into adjacent landscapes.*

*Predominantly agricultural land use focused on arable production, with planned courtyard farmsteads and large, regular 18th- and 19th-century enclosure fields often clearly defined by Scots pine and beech shelterbelts or neat hawthorn hedges, indicative of large estate enclosure.*

*The regular field layouts combine with long, straight, undulating roads to create a geometric landscape character.*

*Outdoor pigs and intensive indoor and outdoor poultry-rearing units are also characteristic.*

*Free-draining geology and soils with naturally low fertility support internationally important lowland heathland and mosaics of lowland acid and calcareous grassland that bring colour and textural variation to the landscape and provide a biodiversity-rich resource.*

*Narrow and meandering lush shallow river valleys (some of which contain unusually fast-flowing streams) form a marked but limited contrast to the dry, extensively arable upland catchment which they drain. All flow westward and are fed by nutrient-poor calcareous groundwater and support important wetland habitats.*

*A high concentration of important archaeological features, resulting from a long continuity of human settlement, include Neolithic flint mines, medieval churches, priories and rabbit warrens, 18th- and 19th-century designed parklands and estate villages, Second World War defence features and 20th-century abandoned settlements in the military training area known as the Stanford Training Area (STANTA).*

*The main population centre is Thetford with road and rail links radiating out from the town. The settlement pattern is sparse with nucleated villages scattered along the river valleys. Farm buildings and churches have considerable impact, but elsewhere the landscape is very empty. Large military air bases are a feature.*

*Traditional knapped flint, clunch (a form of impure chalk) and 'white' brick are characteristic building materials.*

*Away from the main A-road transport corridors where traffic is consistently busy including the A11, A1065 and A134, the area remains still and peaceful. On the approach roads to Swaffham, Watton and Thetford, vertical structures, including communications masts and the Swaffham and North Pickenham wind turbines, dominate the landscape."*

1.2.15 SEO for the NCA relevant to the LVIA and Proposed Development are:

*"SEO 1: Conserve, enhance and increase public awareness of the distinctive historic landscape of the Brecks, which is of national and international significance, through securing and expanding its unique*



*and varied habitat mosaic, protecting and managing its sensitive periglacial landscape and rich historic environment.*

*SEO 4: Encourage measures which lead to the enhancement of landscape character and the historic environment, the sense of place and tranquillity, and the conservation of historic features when considering the design and location of new development and infrastructure and land management options, securing multiple benefits through the provision and management of high-quality green infrastructure networks.”*

1.2.16 In addition, a further ‘Additional Opportunity’ is identified as:

*“Manage, develop and promote opportunities for access and outdoor recreation for both local people and visitors that improve health, wellbeing and enjoyment of the environment, also raising awareness of the important habitats and the wildlife that they support as well as their contribution to the local economy.”*

1.2.17 The ‘Landscape Change’ section notes that there has been some loss of ancient trees associated with the estate parklands, as well as old roadside trees and the characteristic pines in the rows and belts, due to the fact that many of these trees are now in decline or senescent. Without planned and targeted replacement, their loss results in the erosion of landscape character. Additionally, the:

*“NCA has seen an increase in in-field farming associated structures such as animal housing pens and infrastructure buildings connected with specialist pig farms, intensive indoor and outdoor poultry rearing sheds, new water storage reservoirs and the wide-scale use of large irrigation equipment. The use of plastic crop mulches has also seen an increase, changing the character of the landscape when in use.”*

1.2.18 Drivers for change include:

*“Opportunities arise for increasing the size and connectivity of priority habitats such as heaths, wetlands, arable margins and forest land to provide for species adaptation and movement between favourable sites;*

*The creation of more resilient habitats and landscapes, as well as providing opportunities for creating cooler spaces, such as forest or woodland cover, will be a challenge as the climate changes over the coming years and decades; and*

*New developments including the A11 (Fiveways) improvements provide opportunities to ensure a high standard of design and a contribution to green infrastructure increasing opportunities for people to access greenspace and countryside as well as for habitat, landscape and heritage enhancement and climate change adaptation.”*

1.2.19 The stated ‘landscape attributes’ include:

*“The free-draining geology and complex soils support rare and valuable mosaics of lowland heathland and lowland acid and calcareous grassland;*

*Forest and woodland is a strong feature of the landscape with substantial blocks of coniferous plantation, predominantly of Corsican and Scots pines mixed with some broadleaf;*

*The geometric landscape of 18th and 19th century enclosure with medium to large fields bounded by hawthorn hedges; and*

*Sparse settlement, the use of locally sourced traditional building materials, isolated farmsteads and churches, together with an abundance of important archaeological sites.”*

1.2.20 Stated ‘landscape opportunities’ include:

*“Protect, manage and expand areas of lowland heathland especially acid and chalk grass heaths and heather heaths. Encourage appropriate habitat mosaics at heathland sites to support a wide variety of species including populations of internationally important species such as the stone curlew and European nightjar and plants including Spanish catchfly, Breckland thyme and spring speedwell. Where appropriate thin, conifer plantations to increase heathland understory and habitat to areas of poor quality and sandy soils;*

*Replant late enclosure windbreak hedgerows and Scot’s pine lines where they have been lost and positively manage and maintain those which have become neglected to bring about ecological and landscape benefits;*

*Protect the distinctive large-scale Brecks landscape ensuring that new development enhances landscape character and secures multiple benefits through the provision and management of high quality green infrastructure networks where possible;*

*Manage development to reduce its impact on tranquillity, and where appropriate screen the impacts of development particularly where adjacent to protected sites. Protect identified existing rural areas where tranquillity and intrusion, including light pollution, are low to ensure this valued resource is maintained;*

*Conserve and enhance the character resulting from the sparse pattern of settlement including historic farmsteads, churches and other vernacular buildings, and views to them, that often have a strong impact in a landscape. Promote the use of traditional, locally sourced building materials such as flint, ‘white’ brick and clunch (in the west of the area), in any restoration or new development.”*

**NCA 85 Sensitivity**

1.2.21 Due to the historic and ecological association of NCA 85 the value is assessed as national.

1.2.22 Due to the extent of infrastructure across NCA 85, including military bases and road infrastructure, along with its gently undulating landform and enclosure provided by existing vegetation, the susceptibility is assessed as medium.

1.2.23 The combination of the national value and medium susceptibility results in a high sensitivity to the proposed Scheme.

### National Character Area 87: East Anglian Chalk (2014)<sup>3</sup>

#### 1.2.24 The key characteristics of the NCA are:

*“The rolling downland, mostly in arable production, has sparse tree cover but distinctive beech belts along long, straight roads. Certain high points have small beech copses or ‘hanger’, which are prominent and characteristic features in the open landscape. In the east there are pine belts.*

*Remnant chalk grassland, including road verges, supports chalkland flora and vestigial populations of invertebrates, such as great pignut and the chalkhill blue butterfly.*

*Archaeological features include Neolithic long barrows and bronze-age tumuli lining the route of the prehistoric Icknield Way; iron-age hill forts, including that at Wandlebury; impressive Roman burial monuments and cemeteries such as the Bartlow Hills; a distinctive communication network linking the rural Roman landscape to settlements and small towns, such as Great Chesterford; the four parallel Cambridgeshire dykes that cross the Chalk: the Anglo-Saxon linear earthworks of Devil’s Dyke, Fleam Dyke, Heydon/Bran Ditch and Brent Ditch; ridge-and-furrow cultivation remains of the open field systems of the earlier medieval period; and large numbers of later moated enclosures, park lands created, sheepwalks, arterial routes and nucleated villages that emphasise the land use change of this period.*

*Brick and ‘clunch’ (building chalk) under thatched roofs were the traditional building materials, with some earlier survival of timber frame. Isolated farmhouses built of grey or yellowish brick have a bleached appearance.*

*Settlement is focused in small towns and in villages. There are a number of expanding commuter villages located generally within valleys. Letchworth Garden City is a nationally significant designed garden city.*

*In and around the wider area of Newmarket, stud farms impose a distinctive geometric, enclosed and manicured pattern to the landscape.*

*The NCA is traversed by the Icknield Way, an ancient route that is now a public right of way. Roads and lanes strike across the downs perpendicularly and follow historical tracks that originally brought livestock to their summer grazing. Today major roads and railways are prominent landscape characteristics of the NCA.”*

#### 1.2.25 SEO for the NCA relevant to the LVIA and Proposed Development include:

*“SEO 1: Maintain sustainable but productive agricultural land use, while expanding and connecting the chalkland assemblage of semi-natural grasslands, for example by sensitive management of road verges and extending buffer strips along field margins, to benefit soil and water*

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<sup>3</sup> Natural England. (2014). National Character Area 87: East Anglian Chalk. [online]. Available at: <<http://publications.naturalengland.org.uk/publication/6417815967891456>> [Last accessed 3<sup>rd</sup> December 2019]

*quality, reduce soil erosion, strengthen landscape character and enhance biodiversity and pollinator networks.*

*SEO 3: Conserve and promote the landscape character, geodiversity, historic environment and historical assets of the chalklands, including the open views of undulating chalkland, large rectilinear field pattern and linear ditches, strong equine association and the Icknield Way prehistoric route. Improve opportunities to enhance people's enjoyment of the area while protecting levels of tranquillity.*

*SEO 4: Conserve the settlement character and create or enhance sustainable urban drainage systems and green infrastructure within existing and new developments, particularly in relation to the urban fringe and growth areas such as south-east Cambridge, to provide recreation opportunities, increase soil and water quality and enhance landscape character."*

1.2.26 Stated 'Landscape Change' include:

*"Settlement expansion and by-passes have changed the scale and character of the historic market towns and development pressures are likely to increase;*

*Recreational land uses, including horse paddocks and golf courses, are replacing commercial agricultural land uses;*

*An increase in the number of large, new farm buildings is a noticeable change in the character of the landscape;*

*The horse-racing industry at Newmarket is a thriving multi-million pound industry and the Newmarket 'stud landscape' is encroaching further on the transitional zone between chalkland and adjacent areas, blurring the distinction between them and the changing local character;*

*The fragmented and small size of some habitats, including chalk grassland roadside verges, reduces their resilience to threats. The wider heterogeneity of the landscape offers a variety of aspects, for example hedgerows, as 'movement corridors' that will assist more mobile species in finding more favourable conditions; and*

*... Further development and infrastructure in commuter villages is also possible. Development will alter the appearance of the landscape and will reduce the sense of tranquillity..."*

1.2.27 Stated landscape attributes are:

*"Chalk and periglacial landforms and features, including an escarpment and dry valleys;*

*Agricultural landscape;*

*Manicured character of stud landscape around Newmarket, with intimate smaller-scale landscape to the east with rows of pine;*

*Remnant areas of chalk-rich grassland;*

*Distinctive beech belts along roads and in hill-top clumps, plus small ash-dominated woodland; settled landscape with 20th-century*

*development, associated with major transport routes, connecting a few large towns, enlarged commuter villages and isolated farmhouses;*

*Features linked to recreation are widespread – rights of way networks, horse paddocks and golf courses.”*

1.2.28 Stated 'Landscape Opportunities' are:

*“Protect the character and integrity of the rural landscape by conserving its mosaic of cultural heritage and natural assets, semi-natural habitats and historic buildings and archaeological features;*

*Identify and conserve views to and from key viewpoints and landmarks by careful design and vegetation management, minimising the visual impact and effects of development, woodland planting and scrub encroachment;*

*Plan and manage private and public spaces for recreation such as golf courses and restored chalk pits, so that their design and their features contribute positively to landscape character. Seek the conservation, restoration and creation of natural and cultural features in these landscapes; and*

*Conserve, enhance and create new public access infrastructure, access links and accessible natural and cultural features, especially near settlements, in order to enhance the transitional areas between urban landscape and countryside.”*

**NCA 87 Sensitivity**

- 1.2.29 As the NCA contains Newmarket and its associated stud landscape, as well as high cultural and ecological association, the value is assessed as national.
- 1.2.30 As a predominantly open countryside landscape, which is contains several large scale settlements and associated main road and rail infrastructure, the susceptibility is assessed as medium.
- 1.2.31 The combination of the national value and medium susceptibility results in a high sensitivity to the proposed Scheme.

## Regional

### *East of England Landscape Framework (2011)*<sup>4</sup>

- 1.2.32 The East of England Landscape Framework classifies the regional landscape into landscape character types (LCT).
- 1.2.33 The LCT are shown on Figure 10-6 of **Chapter 10: Landscape and Visual Amenity**.

### LCT: Lowland Village Chalklands

- 1.2.34 LCT Lowland Village Chalklands is described as:

*“Low lying, but gently rolling arable landscape, dissected by small streams, with a distinctive pattern of nucleated villages and a patchwork of woodlands and shelterbelts.”*

- 1.2.35 The landform is described as:

*“Low lying, gently rolling topography.”*

- 1.2.36 The natural/water features are described as:

*“Small streams, often tree lined, create shallow valleys.”*

- 1.2.37 The ecological character is described as:

*“Although this is a productive agricultural landscape of moderate relief, favouring arable agriculture, fragments of lowland calcareous grassland still survive (> 2% of the LCT is Priority Habitat).”*

- 1.2.38 The primary land use is described as:

*“predominately arable land use.”*

- 1.2.39 The tree cover is described as:

*“limited woodland cover, except around Newmarket where shelterbelts are a feature.”*

- 1.2.40 The historic features are described as:

*“historic stone churches in nucleated villages act as local landmarks.”*

- 1.2.41 The enclosure pattern is described as:

*“medium to large sized fields enclosed by hawthorn hedges. Field structure is a mix of rectilinear & sinuous patterns, reflecting the process of planned surveyor enclosure from common fields.”*

- 1.2.42 The settlement pattern is described as:

*“a distinctive pattern of historic, nucleated villages with prominent churches. Some villages have grown bigger in the 20th century, while larger towns, such as Cambridge, Newmarket and Royston contribute to an urbanising influence. Building materials include flint, clunch and pale brick.”*

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<sup>4</sup> Landscape East. (2011). East of England Landscape Framework. [online]. Available at: <http://www.landscape-east.org.uk/east-england-landscape-typology> [Last accessed 3<sup>rd</sup> December 2019].

1.2.43 Historic development is described as:

*“This is a landscape dominated by late enclosures, most of which were created from common fields. Some enclosures represent early piecemeal enclosure of common fields. All have experienced significant modification from the mid 20th century.”*

1.2.44 Tranquillity is described as:

*“A settled landscape yet one where tranquillity can readily be perceived.”*

1.2.45 Views are described as:

*“An open landscape with long distance views.”*

#### **Lowland Village Chalklands Sensitivity**

1.2.46 The value of the LT is assessed as regional.

1.2.47 As an area which consists of infrastructure and settlements, the susceptibility is assessed as medium.

1.2.48 The combination of the medium value and medium susceptibility results in a medium sensitivity to the Scheme.

#### **LCT: Forested Estate Sandlands**

1.2.49 LCT Forested Estate Sandlands is described as:

*“this is a relatively simple landscape comprising extensive areas of conifer plantations, arable land and some remnant heaths, reflecting the underlying sandy soils. Scots Pine shelterbelts and 'pine lines' are defining characteristics.”*

1.2.50 The landform is described as:

*“A gently rolling and, in places, undulating topography.”*

1.2.51 The natural/water features are described as:

*“The Brecks are noted for their fluctuating meres and clusters of relict pingos (pond features of periglacial origin which can be wet or dry), but otherwise this is a landscape that is freely drained with few notable water features.”*

1.2.52 The ecological character is described as:

*“Although land use is now dominated by arable farmland and forestry plantations planted on formerly extensive areas of dry grassland and heath, there is still a relatively good survival of semi-natural habitat in this LCT (> 3%).”*

1.2.53 The primary land use is described as:

*“predominantly arable land, often with very visible artificial irrigation and substantial areas of commercial forestry.”*

1.2.54 The tree cover is described as:



*“a strongly wooded landscape with substantial blocks of coniferous plantation (mainly Forestry Commission plantings of Scots and Corsican pines), shelterbelt plantings and 'pine lines', the latter often originating as hedges containing contorted trees.”*

1.2.55 The historic features are described as:

*“There are considerable numbers of prehistoric burial mounds throughout this landscape, formerly set in extensive areas of heathland and now reflected by present day place names.”*

1.2.56 The enclosure pattern is described as:

*“a medium to large scale field pattern. Field systems are mostly rectilinear with some earlier sinuous elements, reflecting a process of planned 'surveyor' enclosure from common fields and heaths.”*

1.2.57 The settlement pattern is described as:

*“Population is sparse and largely concentrated in nucleated villages that are surrounded by notable scattering of estate farmsteads. No major conurbations or urban fringe influences. Mainly 18th and 19th century brick structures with tiled or slate roofs. In the Brecks there is also an important component of flint-walled buildings.”*

1.2.58 Historic development is described as:

*“A landscape dominated late enclosure of former common arable fields and open heathlands (both common and private). Many 18th/19th century parks, often ringed by shelterbelts, were also created primarily for game shooting.”*

1.2.59 Tranquillity is described as:

*“Strong sense of relative isolation resulting from the strongly nucleated settlement pattern, the extensive areas of arable and conifer plantation and the areas of open heath.”*

1.2.60 Views are described as:

*“this landscape has a 'blocky' structure, resulting from the mix of conifer plantations and open land, which creates a strong visual contrast between confinement in the forested areas and open space in the wide expanses of arable farmland.”*

#### **Forested Estate Sandlands Sensitivity**

1.2.61 The value is assessed as regional.

1.2.62 As an area of settlements and infrastructure, balanced with agricultural land use, the susceptibility is assessed as medium.

1.2.63 The combination of the regional value and medium susceptibility results in a medium sensitivity to the Scheme.

#### **LCT Planned Peat Fen**

1.2.64 The overall description for Planned Peat Fens is:

*“A flat, low lying and sparsely populated landscape characterised by dark peaty soils, a grid like pattern of large arable fields bounded by drainage ditches and wide views to distant, often dramatic skies.”*

1.2.65 The landform is described as:

*“An expansive, low-lying (often below sea level), landscape with a distinctively flat landform.”*

1.2.66 The published study notes that this is an intensively farmed landscape, with almost no tree cover and that the landscape is quiet and remote.

1.2.67 In relation to views, the published study notes:

*“An expansive, low-lying (often below sea level), landscape with a distinctively flat landform.”*

#### Planned Peat Fen Sensitivity

1.2.68 The value is assessed as regional.

1.2.69 The area of settlements and infrastructure, balanced with agricultural land use, the susceptibility is assessed as medium

1.2.70 The combination of the regional value and the medium susceptibility results in a medium sensitivity to the Scheme.

## 1.3 County

### *Suffolk Landscape Character Assessment (2010)*<sup>5</sup>

1.3.1 The Suffolk Landscape Character Assessment describes the landscape typologies (LT) of Suffolk and extends partly into Cambridgeshire.

1.3.2 The LT within the study area are shown on Figure 10-7 of **Chapter 10: Landscape and Visual Amenity** and outlined below.

#### LT: Estate Sandlands

1.3.3 The key characteristics of the LT: Estate Sandlands are:

*“Flat or very gently rolling plateaux of free-draining sandy soils, overlying drift deposits of either glacial or fluvial origin;*

*Chalky in parts of the Brecks, but uniformly acid and sandy in the south-east;*

*Absence of watercourses;*

*Extensive areas of heathland or acid grassland;*

*Strongly geometric structure of fields enclosed in the 18th & 19th century;*

*Large continuous blocks of commercial forestry;*

*Characteristic ‘pine lines’ especially, but not solely, in the Brecks;*

*Widespread planting of tree belts and rectilinear plantations;*

*Generally a landscape without ancient woodland, but there are some isolated and very significant exceptions;*

*High incidence of relatively late, estate type, brick buildings;*

*North-west slate roofs with white or yellow bricks. Flint is also widely used as a walling material; and*

*On the coast red brick with pan-tiled roofs, often black-glazed.”*

1.3.4 The visual experience of the typology is described as:

*“Despite the presence of so much forestry, the views in this landscape are often long and there can be a powerful sense of isolation. The ‘planned’ nature of the landscape over such a large area does, however, mean that there is little variation in the views.”*

1.3.5 The condition is noted as:

*“The two sections of this landscape are very different, with the south-east having a stronger urban influence. Martlesham has lost much of its rural character and most of the remnant heathland, such as at Rushmere and Foxhall, is in a suburban environment, further ‘tamed’ by being used for golf courses. Even in the central and northern parts of*

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<sup>5</sup> Suffolk County Council and District Councils. (2010). Suffolk Landscape Character Assessment. [online]. Available at: <http://www.suffolklandscape.org.uk/default.aspx>  
[Last accessed 3<sup>rd</sup> December 2019]

*the coastal area there is a steady pressure of suburbanisation and tourism related development.*

*In the Brecks the landscape remains strongly rural, except in the environs of Bury St Edmunds and Thetford, but is dominated by high-tech modern farming and forestry. The occasional new intrusion, such as the Elveden Forest Holiday Village, has made little impact as it is hidden in the forest.”*

1.3.6 Key forces for change are:

- “Expansion of existing settlements into this landscape and creation of new settlement patterns and clusters associated with infrastructure development;
- Changes in the management and use of landscape parklands;
- Conversion and expansion of farmsteads for residential uses;
- Large-scale agricultural buildings in open countryside;
- Redevelopment of former airfield sites to new uses;
- The introduction of new agricultural techniques;
- Leisure as a driving force for changes in economic activity; and
- Mineral extraction”

1.3.7 Development management principles for the typology are not relevant to the Proposed Development, but do include:

- “Managing changes in agricultural practice such as the landscape impact of poly-tunnels and other agricultural structures.”

1.3.8 Land management guidelines for the area are:

- “Reinforce the historic pattern of regular boundaries;
- Restore, maintain and enhance the pattern of locally distinctive ‘pine lines’;
- Restore, maintain and enhance the network of tree belts and pattern of small plantations found across much of this landscape type;
- Extend the cover of heathland paying particular attention to areas of commercial forestry as these have lower nutrients and a residual seed bank;
- Develop opportunities for locally distinctive species such as the rare Brecks plant; and
- Protect distinctive geomorphology such as patterned ground.”

**LT Estate Sandlands Sensitivity**

1.3.9 As the LT covers the Brecks, the value is assessed as national.

1.3.10 As the land use is predominantly arable and pig farming, characterised by small to medium scale fields, balanced with settlements and infrastructure, the susceptibility is assessed as medium.

- 1.3.11 The combination of the national value and the medium susceptibility results in a high sensitivity to the proposed Scheme.

LT: Rolling Estate Chalklands

- 1.3.12 The key characteristics of the LT are:

*“Very gently rolling or flat landscape of chalky free draining loam;  
Dominated by large scale arable production;  
“Studscape” of small paddocks and shelterbelts;  
Large uniform fields enclosed by low hawthorn hedges;  
Shelter belt planting, often ornamental species;  
A “well kept” and tidy landscape;  
Open views;  
Clustered villages with flint and thatch vernacular houses; and  
Many new large “prestige” homes in villages.”*

- 1.3.13 The visual experience of the typology is described as:

*“The feel of this landscape is one of open space with long views, which is emphasised by the straight roads and regimented pattern of belts and hedges. However, where the “studscapes” is most apparent, belts of trees and woodland planting confine the views.”*

- 1.3.14 The condition is noted as:

*“This is a largely tidy and well-kept landscape that has been maintained by the income from farming the good soil and the horse racing industry. However, the expansion and suburbanisation of villages is eroding the local character.”*

- 1.3.15 With regards to landscape sensitivity and change, the study notes that for this typology:

*“Unless there is a “studscapes” of tree belts and small enclosures, much of this landscape has long open views. Therefore large buildings in the open countryside can be prominent. However, such changes can be accommodated with suitable planting that is consistent with the character of the landscape.”*

- 1.3.16 Development management principles for the typology are not relevant to the Proposed Development, but do include:

*“Managing changes in agricultural practice such as the landscape impact of poly-tunnels and other agricultural structures.”*

- 1.3.17 Key forces for change are:

*“Expansion of existing settlements into this landscape and creation of new settlement patterns and clusters associated with infrastructure development.*

*Conversion and expansion of farmsteads for residential uses.*

*Large-scale agricultural buildings in open countryside.*

*Changes in the management and use of landscape parklands.*

*The introduction of new agricultural techniques.*

*Leisure as a driving force for changes in economic activity. “*

- 1.3.18 Land management guidelines for the area are:

*“Reinforce the historic pattern of regular boundaries.*

*Restore, maintain and enhance the network of tree belts and pattern of small plantations found across much of this landscape type.*

*Restore, maintain and enhance the historic parklands and the elements within them.*

*Maintain and expand the area of chalk grasslands in this landscape.”*

#### **Rolling Estate Chalklands Sensitivity**

- 1.3.19 Due to the presence of Newmarket and the cultural association with the horse racing, the value is assessed as national.
- 1.3.20 As the LT consists of conservation areas, villages, Chippenham park, low and flat areas of fens and dykes, the susceptibility is assessed as medium.
- 1.3.21 The combination of the national value and medium susceptibility results in a high sensitivity to the proposed Scheme.

#### **LT: Settled Chalklands**

- 1.3.22 The key characteristics of the Settled Chalklands are:

*“Chalk and gravel outcrops on the fen edge;*

*Small farms and small holdings;*

*Regular pattern of fields consistent with late enclosure;*

*Tree belts of poplar and pine;*

*Scattered small plantations;*

*Comprehensively settled with small hamlets;*

*Considerable recent settlement expansion; and*

*Airbase dominant in the landscape.”*

- 1.3.23 The visual experience of the Settled Chalklands is described as:

*“On the Mildenhall plateau, the overall feel is of an open plain dominated by the airfield with a few remnant and degraded rural features around it. However further away, especially at Wilde Street and Undley, there are long but well treed views, similar to those on the fenlands, but with a much busier and more populated feel...”*

- 1.3.24 The condition is noted as:

*“most of the area, especially the hamlets, have been reshaped by the physical and economic presence of the airbase. However, the settled landscape still has pockets smaller scale farming and quiet countryside along isolated tree lined droves.”*

- 1.3.25 With regards to landscape sensitivity and change, the study notes that for this LT that:

*“These landscapes are on free draining chalk and gravel outcrops on the edge of the fens. They have historically been the focus for settlement and are scattered with a series of small hamlets that have expanded, especially West Row and Beck Row. Mildenhall and Lakenheath have also expanded into this landscape. The relationship of this urban settlement to the surrounding rural landscape can be potentially problematic, requiring effective control to minimise landscape and visual impact.”*

- 1.3.26 Key forces for change are:

*“Expansion and modification of settlements;  
Changes of land management and land use;  
Large scale buildings in the open countryside; and  
Expansion of garden curtilage.”*

- 1.3.27 One of the development management principles identified for the typology provides:

*“In relation to the visual impact of land use changes from agricultural practices such as poly-tunnels, the study notes that they can have significant visual impact, but that the flat landform and use of existing and new tree lines can be effective in mitigating much of the visual impact.”*

- 1.3.28 Specific land management guidelines for the area are:

*“Restore and maintain the historic pattern of regular field boundaries.  
Restore and maintain the pattern of shelterbelts and tree lines found in this landscape.  
Maintain the condition and habitat diversity of chalk grassland and arable flora habitats.  
Safeguard the widespread archaeological remains relating to early settlement found in this landscape.”*

#### **Settled Chalklands Sensitivity**

- 1.3.29 Due to the association of the airfield and that there are common elements across the LT, including larger scale settlement, the value is assessed as community.

- 1.3.30 Due to the variety in land uses, the susceptibility is assessed as medium.

- 1.3.31 The combination of the community value and medium susceptibility results in a medium sensitivity to the Scheme.

#### **LT Settled Fenlands**

- 1.3.32 The key characteristics of the Settled Fenlands are:

*“Flat landscape of peaty soils;  
Land at sea level, but small sandy islands and ridges up to 4m;*



*Piecemeal enclosure of open common fen;  
Small, narrow fields that are divided by straight, water-filled drains;  
Small poplar plantations and occasional Scots Pine belts;  
Smaller scale farming than in the Planned Fenlands; and  
Comprehensively settled with farmsteads often forming clusters.”*

1.3.33 The visual experience of the typology is described as:

*“The pattern of smallish fields and numerous farmsteads give a more ‘lived in’ feel to this landscape, which contrasts with the larger-scale fields and more isolated farmsteads of the planned fenlands to north, although the difference may not be obvious unless both landscapes are visited.”*

1.3.34 The condition is noted as:

*“The array of small farms, with business parks and a golf course mixed in, as well as caravan sites, gives the droves and hamlets a busy air, which contrasts with the openness and isolation of the deeper fen areas. There are also greater development pressures and settlement expansion breaking down the pattern of plotlands and backyard farming.”*

1.3.35 With regards to landscape sensitivity and change, the study notes that for this typology:

*“Although this is also a large-scale landscape, the tree cover, the mixed agriculture and the more complex pattern of settlement means that the Settled Fenlands feel more “lived in” than the Planned Fenlands.”*

1.3.36 Key forces for change are:

*“Large-scale agricultural buildings in open countryside;  
Change of land use to horse paddocks and other recreational uses;  
The introduction of new agricultural techniques; and  
Extension of garden curtilage.”*

1.3.37 One of the development management principles identified for the typology provides useful guidance for the Proposed Development:

*“In relation to the visual impact of land use changes from agricultural practices such as poly-tunnels, the study notes that they can have significant visual impact, but that the flat landform and use of existing and new tree lines can be effective in mitigating much of the visual impact. Whilst the Proposed Development is not agricultural in nature, it is of a comparative scale to some poly-tunnels and as such the guidance on integration of this type of development is considered relevant.”*

1.3.38 Land management guidelines for the area are:

*“Restore and maintain the historic pattern of the regular dyke network;*

*Restore and maintain the pattern of shelterbelts and tree lines found in this landscape;*

*Maintain the distinctive character of drove-ways enclosed by planting;*

*Maintain condition and habitat diversity of the dyke network with sympathetic management; and*

*Safeguard the widespread archaeological remains relating to early settlement found in this landscape.”*

#### **Settled Fenlands Sensitivity**

1.3.39 Due to the cultural association from the dykes and lodes, fens and river networks, along with the high number of PRoW, the value is assessed as regional.

1.3.40 As an open flat landscape, balanced with the extent of existing infrastructure, the susceptibility is assessed as medium.

1.3.41 The combination of the regional value and medium susceptibility results in a medium sensitivity to the proposed Scheme.

#### **LT Valley Meadows and Fens**

1.3.42 The key characteristics of the LT are:

*“Flat, narrow, river valley bottoms;*

*Deep peat or mixtures of peat and sandy deposits;*

*Ancient meres within the valley bottoms & important fen sites;*

*Small grassland fields, bounded by dykes running at right angles to the main river;*

*Sparse scattering of small alder carr & plantation woodlands;*

*Part of a wider estate type landscape;*

*Largely unsettled, except for the occasional farmstead;*

*Drier fields turned over to the production of arable crops;*

*Cattle grazing now often peripheral to commercial agriculture; and*

*Loss to scrub encroachment, tree planting and horse paddocks.”*

1.3.43 The visual experience of the typology is described as:

*“The pattern of smallish fields and numerous farmsteads give a more ‘lived in’ feel to this landscape, which contrasts with the larger-scale fields and more isolated farmsteads of the planned fenlands to north, although the difference may not be obvious unless both landscapes are visited.”*

1.3.44 The condition is noted as:

*“Some parts of this landscape are still in fine condition and retain a rural feel. This is mostly due to the retention of the traditional management of cattle grazing, a pattern shown at its best at Blyford. However, there is also a lot of neglect and poor management in these landscapes. The difficult access to small fields results in them often*

*being peripheral to any form of active agriculture and so they are tending to be lost to scrub encroachment, tree planting and horse paddocks.”*

#### Valley Meadows and Fens Sensitivity

- 1.3.45 The LT is considered to be of regional value.
- 1.3.46 Due to the dominance of the river, the susceptibility is assessed as high.
- 1.3.47 The combination of the regional value and high susceptibility results in a high sensitivity to the Scheme.

#### Cambridgeshire Landscape Guidelines – A Manual for Management and Change in The Rural Landscape (1991)<sup>6</sup>

- 1.3.48 The relevant Areas are illustrated on Figure 10-7 and summarised below.

#### Area 2 Chalklands

- 1.3.49 The key characteristics of this area are:

*“Complex settlement patterns;*

*Large fields;*

*Modern roads;*

*Interlinked developments;*

*Smooth rolling chalk land hills;*

*Wooded escarpments and beech hangars; and*

*Strong hedgerow and woodland structure.”*

- 1.3.50 The following principles for landscape improvement and management are identified which are relevant to the proposed Scheme:

- **“Planting new beech hangers:** could be placed on suitable, carefully sited knolls, hilltops and scarp-tops; these would form focal points to reinforce the local chalkland landscape character.
- **Management and creation of chalk grasslands:** the majority of the grasslands should remain open and uncluttered. The promotion of species-rich grassland on thin chalk soils would provide visual and wildlife value. Road verges should also be managed to promote plant diversity and interest.
- **Management of existing shelter belts:** these should be restocked to encourage young tree growth and fill gaps.
- **Planting new mixed woodlands and shelter belts:** carefully sited to enclose large tracts of rolling farmland and emphasise landforms.
- **Hedgerows:** selected hedgerows should be reinforced, or managed for particularly significant impact, based upon their visual and wildlife potential. Historically significant hedgerows should be carefully

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<sup>6</sup> Cambridgeshire County Council. (1991). Cambridgeshire Landscape Guidelines – A Manual for Management and Change In The Rural Landscape. [online]. Available at: [https://www.cambridgeshire.gov.uk/asset-library/imported-assets/Landscape\\_document.pdf](https://www.cambridgeshire.gov.uk/asset-library/imported-assets/Landscape_document.pdf) [Last accessed 3<sup>rd</sup> December 2019]

conserved, and new hedges planted to emphasise the existing landscape.

- **Footpath corridor improvements:** the Roman Road is an important route across the chalk landscape. Planting small woodlands at selected locations such as hill tops or to frame views, as well as carefully managing the existing rich flora, would enhance the route. A similar approach could be adopted for other footpaths in the area, concentrating on a small number of linked corridors.”

### Sensitivity of Area 2 Chalklands

- 1.3.51 As an area of landscape features of Lodes and fens, along with Conservation Areas, the value is assessed as regional.
- 1.3.52 As a generally flat landscape crossed by pylons, there is some ability for change, such that the susceptibility is assessed as medium.
- 1.3.53 The combination of the regional value and medium susceptibility results in a medium sensitivity to the proposed Scheme.

### Area 8: Fenlands

- 1.3.54 The key characteristics of this area are stated as a ‘large open landscape’, which:

*“although appearing monotonous, it is in fact characterised by continuous change as the visual characteristics of one fen merge into the next.”*

- 1.3.55 Relevant landscape guidelines are:
- **“Isolated trees and clumps:** a characteristic features of Fenland is the scattering of lone trees, often willows of pollarded origin, which grow on drove edges, road verges, out of ditch banks or adjacent to buildings. Small-scale planting is needed if the presence of isolated mature trees is to be maintained in the landscape. The regular shape of fen fields and the large number of drains provide few obvious sites for planting even occasional trees. A willingness to tolerate ‘lone’ trees in an arable environment will be needed by farmers and landowners, to perpetuate their presences in Fenland;
  - **Planting of avenues/tree belts:** the planting of avenues and lines of trees can do much to improve and diversify the landscape if undertaken on an appropriate scale. The tree belts in the Thorney area are appropriate because they were planted on a grand scale by the Duke of Bedford and in combination they produce the character of that area. An isolated avenue or tree belt is likely to appear out of place on its own, within an open landscape;
  - **Planting of new woodlands:** true woodland is largely absent from Fenland, though records show that some ancient woodland did survive on the larger fen islands until quite recent times, the last site being cleared at Doddington earlier this century. It is on these larger islands that new woodland planting would be most appropriate. For example, there would be substantial benefits from establishing extensive new woodlands on the fen islands round Ely, Chatteris and March;

- **Settlements and large developments:** many Fenland villages have suffered from unsightly fringe development. Planting thick hedgerows with trees or wide shelterbelts on the margins would soften harsh boundaries between rear gardens and farmland. These types of landscaping opportunities should be incorporated into sizeable developments affecting the edges of settlements. Entrances to some villages would be improved by tree planting along verges. Avenue planting of large trees with scale and presence, such as horse chestnut, is appropriate. Tree planting within the settlements will soften their profiles and reinforce their island character within the open fen setting.”

#### Sensitivity of Area 8 Fenlands

- 1.3.56 The value is assessed as regional due to the pattern of the fens.
- 1.3.57 As the area is crossed by transport routes and contains several large scale settlements, the susceptibility is assessed as medium.
- 1.3.58 The combination of the regional value and medium susceptibility results in a medium sensitivity to the proposed Scheme.

#### *Norfolk and Suffolk Brecks Landscape Character Assessment (2013)*<sup>7</sup>

- 1.3.59 The Brecks Landscape Character Assessment identifies focuses on the Brecks, via a series of landscape character types.
- 1.3.60 The landscape character types (LCT) within the study area are shown on Figure 10-8 of **Chapter 10: Landscape and Visual Amenity**.

#### LCT Brecks Arable Heathland Mosaic

- 1.3.61 The distinctive landscape characteristics for the LCT are:
- “Flat or gently sloping plateaux underlain by chalk, but with free-draining sandy soils
  - Large scale mosaic of lowland heath, mixed farmland, conifer plantations, broadleaf woodland and tree belts
  - Juxtaposition of acid and calcareous soils contributes to distinctive and exceptionally rich biodiversity
  - Belts of contorted Scots pine form a striking silhouette against the fields, defining the Brecks
  - Strongly geometric structure of fields, tree belts, roads and tracks
  - Virtually no villages, but a dispersed pattern of farmsteads, hamlets and estates
  - Wealth of archaeological heritage charting continuity of settlement from Mesolithic times and including Neolithic flint mines, medieval priories and rabbit warrens, 18th century designed parklands and 20th century military defences and training grounds”
- 1.3.62 The present landscape character description includes:

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<sup>7</sup> The Brecks Partnership. (2013). Norfolk and Suffolk Brecks Landscape Character Assessment. [online]. Available at: <[https://www.breckland.gov.uk/media/1969/Norfolk-Suffolk-Brecks-landscape-Character-Assessment-2013/pdf/Brecks\\_LCA\\_-\\_Final\\_Report\\_low\\_res\\_23\\_Oct\\_2013.pdf?m=635956200383070000](https://www.breckland.gov.uk/media/1969/Norfolk-Suffolk-Brecks-landscape-Character-Assessment-2013/pdf/Brecks_LCA_-_Final_Report_low_res_23_Oct_2013.pdf?m=635956200383070000)> [Last accessed 3<sup>rd</sup> December 2019]

*“Today the Brecks Arable Heathland Mosaic is a large scale, extensive mosaic of lowland heath, rectilinear plantation woodlands, tree belts and arable fields, with some remaining areas of parkland. In the 20th century the widespread use of irrigation has transformed the agricultural potential of the land and irrigated vegetable crops form part of the agricultural mosaic. Pig farming is also common and often visually prominent. Most vernacular buildings are farmsteads, barns or estate buildings from the 18th and 19th centuries.*

...

*This is a relatively open and very extensive landscape, with long views which are always framed by pine lines and plantations. The straight roads are busy noisy corridors of movement, but away from the roads the landscape feels remote and peaceful, with a touch of wilderness at times. The landscape has a richly textured, colourful and rather unkempt character – the smooth, cultivated arable fields contrast with the rough textures of the bracken strewn verges and pine lines alongside. Arable fields predominate, but intensive pig farming and some poultry farming also forms part of the land cover mosaic. The changing patterns and textures of the crops, meadows and verges contributes to the colourful character of the landscape.*

*Overall the diverse and historic pattern of heath, fields, plantations and pine rows and the rich sense of history stretching right back to Neolithic times, combine to make the Brecks Arable Heathland Mosaic an exceptionally distinctive and evocative landscape.”*

1.3.63 The ‘why its important section’ states:

*“Generally the Brecks Arable Heathland Mosaic is in moderate –poor condition. The historic structure and features of the landscape, including the pine lines, thorn hedges, warren banks, roads and tracks are often in poor condition and many historic features are overgrown by woodland and scrub.”*

1.3.64 The supporting text to the above states:

*“The diverse pattern of land uses and varied backdrop of woodland and tree belts ensures that, from a visual point of view, this landscape can generally accommodate change, through carefully designed woodland planting. However, the wild character and perceived remoteness of the open heaths is sensitive to landscape change; any built development, signage or fencing could be visually intrusive in this natural landscape. The pine lines are also important and sensitive landscape features because they are the most distinctive characteristic of the Brecks Arable Heathland Mosaic.”*

1.3.65 The ‘landscape character sensitivity’ is described as:

*“The diverse patchwork of fields, heath, woodland and tree belts provides a robust visual structure for accommodating landscape change. Areas that are managed for biodiversity are in good condition, many historic features are overgrown, the pine lines are deteriorating and the uniform age structure makes this locally distinctive feature vulnerable to change.*

*Locally distinctive and sensitive landscape features are:*

- *The pine lines*
- *Open heathland with a richly textured microscale mosaic of heather, acidic and chalk grassland*
- *Fluctuating meres and wetlands (of periglacial origin)*
- *Diverse, balanced mosaic of land uses; open land predominates but is partially enclosed by tree belts*
- *Arable field margins, which are rich in flora and fauna*
- *Historic features, e.g. tumuli, trackways, warren banks and lodges”*

1.3.66 ‘Visual sensitivity’ is described as:

*“Long views are always framed by woodland blocks and/ or pine lines but there is nevertheless a long depth of view. Some areas of heathland are exceptionally open. Overall the landscape feels moderately open, and most areas have good opportunities to mitigate the visual impact of landscape change.”*

1.3.67 ‘Landscape value’ is described as:

*“This is an internationally important landscape, of value for its rare and vulnerable biodiversity and for its exceptionally long time-depth and concentration of heritage features. Specific international and national designations are:*

- *Breckland SPA*
- *Breckland, Waveney Little Ouse and Valley Fens and*
- *Norfolk Valley Fens SACs*
- *Numerous Scheduled Ancient Monuments, including ancient trackways and defensive embankments, Bronze Age Barrows, Neolithic flint mines, archaeological excavations for a range of prehistoric sites, deserted medieval villages, the remains of medieval rabbit warrens and historic parklands including Euston Park.*
- *SSSIs and national nature reserves – focused on heathland and mere”*

1.3.68 Relevant aspects of the ‘landscape strategy’ relating to new development or conversion of farmland include:

*“Avoid or minimise the visual impact of new development in views across or adjacent to natural heathland, where such changes could detract from the natural, wild character of the heathland landscape which is increasingly scarce; and*

*Integrate new large-scale agricultural buildings in open countryside by careful choice of form, orientation and colour of buildings. Whenever possible, new agricultural buildings should relate to an existing cluster of buildings and to existing mature trees and woodlands which can provide a backdrop to views. Carefully designed tree planting, which extends the existing pattern of plantations, tree belts and hedgerows, will help to integrate and screen new agricultural development.”*



1.3.69 The ‘new infrastructure development’ guidance is:

- “Extend existing woodlands and tree belts with new planting that is carefully designed to screen the abrupt slopes and access roads that are associated with new storage reservoirs. Extensive new planting will be required to integrate this form of infrastructure within this relatively open arable landscape
- There may be opportunities to create valuable dry heathland habitats on bare ground and newly constructed embankments, provided locally sourced substrate with impoverished soils is used.
- Ensure new hedgerows are planted alongside new or altered roads in order to reduce the perceived scale of road developments and integrate with the existing network of rectilinear boundaries. Blocks of woodland should extend right up to the edge of roads in places, creating ‘pinch-points along the roads and adding variety to local views
- The ‘before-and-after’ sketches on pages 94 and 95 (within the section referring to the Plateau Estate Farmland landscape type) illustrate how the issue of integrating farm reservoirs in large scale agricultural landscapes might be approached using a hypothetical example.”

1.3.70 The overarching principles and priorities for land management are:

- “Conserve the natural, wild character of the heathland landscape, avoiding development that could detract from this scarce and important quality
- Conserve and restore the distinctive Brecks pine rows through a programme of replanting and management.
- Extend and connect areas of lowland heath and dry acid and calcareous grassland habitat, together with the small-scale wetlands of meres, fen and pingos, actively managing these internationally important habitats to conserve biodiversity.
- Conserve the setting and integrity of historic features so that they are visible and easily interpreted as part of the distinctive local character of the Brecks mosaic.”

#### Brecks Arable Heath Mosaic Sensitivity

1.3.71 Due to the ecological and historic association the value is assessed as national.

1.3.72 As an area of generally flat landform, in which the published study notes that existing vegetation structures can provide a robust structure for future development, the susceptibility is assessed as medium.

1.3.73 The combination of the national value and medium susceptibility results in a high sensitivity to the proposed Scheme.

#### LCT River Valleys

1.3.74 The distinctive landscape characteristics for the landscape character type are:

- “Lush, small scale landscape defined by shallow river valleys with a subtle sense of enclosure;
- A mix of peat, sandy and alluvium on flat valley floor; often drift deposits of sand and gravel on flat or very gently sloping valley sides;
- Diverse mosaic of wetland habitats surrounding headwater springs and alongside river channel, including areas of reedbed, carr woodland, marsh and fen;
- Small irregularly shaped floodplain pastures, divided by a network of ditches and dykes, contrast with surrounding arable fields;
- Curving narrow rural roads and tracks often define the edge of the floodplain;
- Concentration of historic sites, reflecting a long history of human settlement and intervention;
- Settlements are sited on floodplain edge, often at historic crossing points;
- Gravel extraction, resulting in extensive lakes and reedbeds; and
- Intimate, tranquil landscape.”

1.3.75 The landscape character sensitivity is described as:

*“The intimate scale and diverse character of the River Valleys is vulnerable to change as the distinctive small scale pattern of these landscapes is finely balanced and can easily be overwhelmed by changes in the proportion or scale of individual elements. In addition, the typically narrow form and subtle topography of the River Valleys ensures that they are very sensitive to changes in adjacent landscapes.*

*Locally distinctive and sensitive landscape features are:*

- *Small- scale, diverse mosaic of riparian and wetland habitats which contrasts with surrounding larger scale landscapes*
- *Sinuuous edges of floodplain, river and marsh, defined by curving tracks, roads and hedgerows*
- *Historic bridges and villages at crossing points, including particularly the fording points of the Ickniel Way*
- *Subtle landform and narrow form of river valleys”*

1.3.76 Visual sensitivity is described as:

*“In general, the River Valleys have a secluded character which is distinctly more enclosed and smaller-scale than the surrounding Brecks landscapes. Views are typically enclosed by the hedgerows, woodland, carr woodland and groups of trees on the valley floor and along rural lanes. Churches and village buildings are often surprise landmarks in local views.*

*There are strong contrasts in the visual character and accessibility of the different river valleys, depending on opportunities for views from local roads and bridges.*

*Since the majority of Brecks settlements are sited on the fringes of the River Valleys, these landscapes provide the setting and focus for local views and corridors of movement for a relatively high proportion of residents and visitors.”*

1.3.77 Landscape value is described as:

*“Key components of landscape value are:*

- *Exceptionally valuable spring-fed wetlands and headwater fen habitats, some of which are of international importance and included within the Breckland SAC*
- *Concentration of semi-natural wetland habitats, including many SSSIs and County Wildlife Sites;*
- *Numerous historic bridges and riverside settlements, mills and halls – conservation areas and clusters of listed buildings*
- *Important archaeological sites, including Bronze Age, Romano-British and Saxon settlements*
- *Remnant historic landscape parklands, e.g. Didlington and Shadwell.”*

1.3.78 The overarching principles and priorities for land management are:

- “Conserve the strong contrasts in scale and diversity between the River Valleys and surrounding farmland, heathland and plantation landscapes.
- Conserve the small-scale character of river valley settlements, with a sequence of framed views to and from the valley floor; avoid over-scaled buildings that project above the local skyline.
- Buffer sensitive river valley habitats from damage caused by development or agricultural practices.
- Conserve the characteristic proportions of the diverse mosaic of land uses within each river valley, encouraging traditional land use management, including grazing by cattle and sheep.”

#### River Valleys Sensitivity

1.3.79 Due to the ecological association the value is assessed as regional.

1.3.80 Due to the pattern of the river valleys the susceptibility is assessed as high.

1.3.81 The combination of the regional value and high susceptibility, the sensitivity of the River Valleys is assessed as high.

#### LCT Low Chalk Farmland

1.3.82 The distinctive landscape characteristics for the landscape character type are:

- “Flat or very gently sloping farmland on chalk and gravel outcrops which forms part of the transition from Brecks to Fens
- Medium-large arable fields interspersed by belts and blocks of mixed woodland

- Most fields bounded by hawthorn hedgerows, but some field margins are marked by wire fencing or lines of trees; in some places fields are unenclosed
- Rectilinear field shapes, but varied field boundaries and irregularly sized woodland blocks create a diffused landscape pattern
- Long views, always framed by woodland, but becoming more open towards the fens
- Clustered settlements and large isolated farmsteads with scattered groups of farm buildings
- Tree belts of Scots pine and poplar are local features, silhouetted against the sky
- Airbases and communications equipment are local landmarks”

1.3.83 The landscape character sensitivity is described as:

*“In areas where there is a high proportion of woodland and tree cover, the landscape provides a robust context for accommodating landscape change. But it is more sensitive, and generally in a more degraded condition, towards the south of the study area, where the Low Chalk Farmland is dominated by the Lakenheath and Mildenhall airbases.*

*Locally distinctive and sensitive landscape features are:*

- *Patchwork of arable fields and blocks of mixed woodland forms a striking and distinctive landscape pattern*
- *Wooded skylines*
- *Rural lanes (and green lanes) and tree lined droves*
- *Remnant historic village greens and associated traditional buildings in village centres”*

1.3.84 Visual sensitivity is described as:

*“Long views are typical, but views are typically set against a backdrop of woodland and there is likely to be good scope to screen and integrate new development by designing new woodland planting that extends and ‘fits’ the pattern of the existing woodlands and tree belts. However this landscape is vulnerable to the visual impact of tall structures, which could not be screened by woodland.*

*The landscape in the south of the study area, close to the settlements of Barton Mills, Mildenhall, Lakenheath, is visually more sensitive than that to the north (between Hockwold cum Wilton and Narborough) because it is more densely settled and more open in character.*

*Elsewhere the gateway views from settlements and rural roads are particularly vulnerable to change.”*

1.3.85 Landscape value is described as:

*“Parts of the Low Chalk Farmland (near Hockwold cum Wilton and Mildenhall Wood) are within the Breckland Special Protection Area and therefore make a contribution to the habitats of the stone curlew,*

*nightjar and woodlark. Elsewhere, the most valuable ecological habitats are the network of mixed woodlands and tree belts, in combination with arable field margins which are important for a wide range of flora and fauna.*

*Aspal Close, an ancient wood pasture that was once the 'home close' of a small manor house is an important remnant historic and ecological landscape feature at Beck Row, near Mildenhall.*

1.3.86 The overarching principles and priorities for land management are:

- “Reduce fragmentation of woodland and hedgerow networks by buffering, extending and linking existing biodiverse sites along woodlands, roads and tracks.
- Conserve and enhance the landscape setting of existing settlements, taking account of gateway views from local roads.
- Integrate new built and infrastructure development, including signage, lighting and road improvements, by conserving and extending existing networks of trees and hedgerows as new and enhanced green infrastructure links that connect new settlement with the surrounding countryside.
- Ensure new reservoirs are integrated within open farmland landscapes by extensive new tree planting, designed to screen views to their abrupt slopes and any associated infrastructure.”

#### Sensitivity of Low Chalk Farmland Sensitivity

1.3.87 The value is assessed as regional.

1.3.88 The susceptibility is assessed as medium.

1.3.89 The combination of the regional value and medium susceptibility results in a medium sensitivity to the Scheme.

#### Cambridgeshire Green Infrastructure Strategy (2011)<sup>8</sup>

1.3.90 This Strategy is designed to assist in shaping and co-ordinating the delivery of Green Infrastructure in the county, to provide social, environmental and economic benefits now and in the future, based upon four objectives:

- To reverse the decline in biodiversity;
- To mitigate and adapt to climate change;
- To promote sustainable growth and economic development; and
- To support healthy living and well-being.

1.3.91 In respect of ‘Landscape’, stated issues include:

*“Erosion of landscape character and quality from changing land use and development.”*

1.3.92 Stated opportunities include:

*“Creation of new and restoration of landscapes through development.”*

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<sup>8</sup> <https://www.cambridge.gov.uk/media/2557/green-infrastructure-strategy.pdf>

1.3.93 Stated constraints include:

*“Fitting in with surrounding landscape character.”*

1.3.94 In respect of PRow, the study notes:

*“Enabling effective provision of easy access for walking, riding and cycling and boating from where people live to the countryside and key destinations is an important issue for Green Infrastructure.”*

1.3.95 The stated opportunities of PRow include:

- “Sustainable movement corridors can provide pathways for biodiversity to move, e.g. in response to climate change or habitat loss, as well as providing a means of human access and movement;
- The Green Infrastructure Strategy should build on the Cambridgeshire Rights of Way improvement Plan (ROWIP)<sup>25</sup> actions to identify gaps in existing rights of way provision and help deliver an enhanced network, providing routes to and between key destinations, together with circular routes close to settlements;
- Ensure existing rights of way are improved and well maintained along river corridors and that connections are made to surrounding Green Infrastructure sites, other destinations and areas of accessible countryside. The rivers themselves also provide opportunities for water-based recreation and sustainable movement;
- There are economic benefits associated with investing in promoted walking, cycling, horse riding and boating routes.
- Analysis of land-based countryside access in the north of the county has revealed a lack of accessible open space and countryside access in and around principal settlements in Fenland and East Cambridgeshire.”

1.3.96 The Strategic network is separated into six areas, with the following being relevant to the study area:

- 4) Eastern Towns and Fens – covering Soham with suggested Green Infrastructure links to the south-west of the village;
- 5) Chippenham Fen – covering most of Sunnica West A and Sunnica East, with a particular emphasis in reversing the decline in biodiversity and that there are significant opportunities for improving and maintaining the fen landscape in respect of contributing to landscape character.
- 6) Cambridge and Surrounding Areas – covering the western part of the study area, to the west and north of Burwell, with a particular emphasis on ‘heritage’, opening up land for nature conservation and creating economic opportunities for the local community.

[St Edmundsbury Green Infrastructure Strategy, Final Report \(2009\)](https://www.westsuffolk.gov.uk/planning/upload/GI-StrategyFinal-Report-Sept-2009.pdf)<sup>9</sup>

1.3.97 Whilst beyond the study area, the Report has been reviewed to identify potential linkages.

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<sup>9</sup> <https://www.westsuffolk.gov.uk/planning/upload/GI-StrategyFinal-Report-Sept-2009.pdf>

## Brecks' Special Qualities<sup>10</sup>

1.3.98 This short study analyses and articulates what is meant by 'The Brecks'.

1.3.99 Patterns of field enclosure are described as:

*"Fields are typically large and blocks of farmland are interspersed with areas of common and heathland, which was often a legacy from the medieval practice of rabbit warrening. The belts of Scots pine, which subdivide many fields in place of hedgerows, are a defining feature of the Brecks landscape. Other distinctive landcover characteristics, which also stem from the relative infertility of the Brecks soils, are the extensive conifer plantations that cover parts of the Brecks and the military complexes and training areas, which have been a significant influence since the early 20th century."*

1.3.100 Settlement pattern is described as:

*"Villages are concentrated on the sides of the valleys that run through the Brecks, with scattered small hamlets and farmsteads on the drier central plateaux."*

1.3.101 The sense of history (time-depth) is stated as being very strong, due to the:

*"These historic features include Neolithic tracks and flint mines (Grimes Graves); clusters of Bronze Age barrows; Romano-British and Roman settlements and roads; Norman motte and bailey castles; the warren banks that enclosed the extensive medieval rabbit warrens; deserted medieval villages and remnants of the open-field systems that surrounded them; the parklands of the 18th century landed estates; and fragments of World War 2 airfields and defence systems."*

1.3.102 The study also notes:

*"The Brecks has few settlements and the majority of Brecks towns and villages are sited in the river valleys, leaving vast areas of landscape that seem 'empty'."*

1.3.103 The 'heathland mosaic' pattern includes:

*"striking change in the type of vegetation along the roads and field boundaries at the outer margins of the core Brecks area, with a disorderly mix of pine, birch, holly and bracken lining many roads."*

1.3.104 The 'pine lines' are noted as 'defining features' and 'iconic' symbols of the Brecks, consisting of veteran trees in straight rows, demarcating field boundaries. The veteran trees are suggested as being a result of pine hedgerows being unmanaged and establishing into trees.

1.3.105 Guidelines for the 'oddly empty' character of the Brecks are:

- "Retain the characteristic dispersed pattern of settlement;
- Avoid linear roadside development;
- Retain tight, angular rural road junctions;

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<sup>10</sup> Brecks Special Qualities, An analysis of identify and sense of place,  
<http://www.breakingnewground.org.uk/assets/LCAP/Brecks-Special-Qualities-Report-low-res.pdf>



- Recognise and promote the value of extensive tranquil, undisturbed areas of countryside.”

1.3.106 Guidelines for the ‘heathland mosaic’ are:

- “Retain, conserve and enhance valuable lowland heathland habitats;
- Extend and connect core heathland habitats wherever possible; and
- Conserve and manage rare fluctuating meres and pingos.”

1.3.107 Guidelines for the ‘pine lines’ are:

- “Conserve all the remaining historic Brecks pine lines; and
- Initiate sustainable management of the pine lines, with a programme of replanting.”

1.3.108 Guidelines for the ‘hidden history’ are:

*“Conserve the setting and integrity of historic features so that they are visible and easily interpreted as part of the distinctive local character of the Brecks.”*