



UNIVERSAL DESTINATIONS & EXPERIENCES UK PROJECT

Former Kempston Hardwick Brickworks
and adjoining land, Bedford

Environmental Statement Volume 3

Appendix 7.4 - Landscape Character Areas: Key Characteristics

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1 LANDSCAPE CHARACTER AREA DESCRIPTIONS

1.1 NATIONAL CHARACTER AREAS

NATIONAL CHARACTER AREA 88: BEDFORDSHIRE AND CAMBRIDGESHIRE CLAYLANDS ¹

- 1.1.1. The key characteristics of this National Character Area (NCA) relevant to the study area are set out below.
- 1.1.2. The study area is a gently undulating, lowland plateau divided by shallow river valleys that gradually widen as they approach The Fens NCA in the east.
- 1.1.3. The underlying geology of Jurassic and Cretaceous clays is overlain by more recent Quaternary glacial deposits of chalky boulder clay (till) and sand and gravel river terrace deposits within the river valleys. Lime-rich, loamy and clayey soils with impeded drainage predominate, with better-drained soils in the river valleys.
- 1.1.4. The River Great Ouse and its tributaries meander slowly across the landscape, and the River Nene and the Grand Union Canal are also features. Three aquifers underlie the NCA and a large manmade reservoir, Grafham Water, supplies water within and outside the NCA.
- 1.1.5. Brickfields of the Marston Vale and Peterborough area form distinctive post-industrial landscapes with man-made waterbodies and landfill sites. Restoration of sand and gravel workings has left a series of flooded and restored waterbodies within the river valleys.
- 1.1.6. Variable scattered woodland cover comprising smaller plantations, secondary woodland, pollarded willows and poplar along river valleys, and clusters of ancient woodland, particularly on higher ground to the northwest representing remnant ancient deer parks and Royal Hunting Forests are evident.
- 1.1.7. The landscape is predominantly open, arable landscape of planned and regular fields bounded by open ditches and trimmed, often species-poor hedgerows which contrast with those fields that are irregular and piecemeal.
- 1.1.8. There is a wide variety of semi-natural habitats supporting a range of species – some notably rare and scarce – including sites designated for species associated with ancient woodland, wetland sites important for birds, great crested newt and species of stonewort, and traditional orchards and unimproved grassland supporting a rich diversity of wild flowers.
- 1.1.9. Rich geological and archaeological history is evident in fossils, medieval earthworks, deserted villages and Roman roads. A number of historic parklands, designed landscapes and country houses – including Stowe House and Park, Kimbolton Park, Croxton Park, Wimpole Hall and Wrest Park – combine with Bletchley Park, Second World War airfields, the Cardington Airship Hangars and brickfields to provide a strong sense of history and place.

¹ [Bedfordshire and Cambridgeshire Claylands - National Character Area Profiles \(nationalcharacterareas.co.uk\)](https://nationalcharacterareas.co.uk)

- 1.1.10. There is a diversity of building materials including brick, render, thatch and stone. Locally quarried limestone features in villages such as Lavendon, Harrold and Turvey on the upper stretches of the River Great Ouse.
- 1.1.11. Settlements cluster around major road and rail corridors, with smaller towns, villages and linear settlements widely dispersed throughout, giving a more rural feel. Small villages are usually nucleated around a church or village green, while fen-edge villages are often in a linear form along roads:
 - Major transport routes cross the area, including the M1, M11, A1, A6, A5 and A14 roads, the East Coast and Midland Mainline railways, and the Grand Union Canal; and
 - Recreational assets include Grafham Water, the Grand Union Canal, Forest of Marston Vale Community Forest, Chilterns Area of Outstanding Natural Beauty, woodland and wetland sites, an extensive rights-of-way network and two National Cycle Routes. The cities of Cambridge and Peterborough and several of the historic market towns in the NCA are popular tourist destinations.

NATIONAL CHARACTER AREA 90: BEDFORDSHIRE GREENSAND RIDGE²

- 1.1.12. The key characteristics of this NCA relevant to the study area are set out below.
- 1.1.13. There is a narrow escarpment resulting from the erosion-resistant sediments of the Lower Greensand Group, with a distinct scarp slope to the northwest and dip slope to the southeast.
- 1.1.14. The rolling and elevated Ridge provides a northwest-facing wooded skyline offering extensive panoramic views across the lower-lying Bedfordshire and Cambridgeshire Claylands and towards the Chilterns.
- 1.1.15. Well-drained acidic sandy soils are capped in places with drift deposits of Boulder Clay. Sand and gravel deposits are present in the Ouzel valley, and there are deposits of peat in the Flit valley between Flitwick and Clophill.
- 1.1.16. Substantial blocks of ancient woodland and coniferous plantation are found on the Ridge and steeper slopes. Wood pasture and numerous hedgerow trees, copses and shelterbelts are associated with the estate farmland and parkland trees.
- 1.1.17. Mixed field and roadside boundaries range from mature shelterbelts to gappy, short flailed boundaries to intact evergreen hedgerows. Commercial arable cropping within a network of large geometric fields is associated with the better soils on the dip slope.
- 1.1.18. A patchwork of semi-natural habitats including mire habitats, lowland heathland and lowland mixed deciduous woodland species, including coppiced hazel, which is important for dormice, at Maulden Wood. Adders are particularly associated with heathland areas of the Ridge. The mire habitats are notable for their invertebrate interest, especially in terms of beetles.
- 1.1.19. The Ridge is dissected by the rivers Ouzel and Ivel, which have carved distinct valleys with riparian habitats, and it is partially bounded to the south by the River Flit. Springs arising from the Ridge support important wetland habitats, including acid mire and wet woodland.

² [Bedfordshire Greensand Ridge - National Character Area Profiles \(nationalcharacterareas.co.uk\)](https://nationalcharacterareas.co.uk/)

1.1.20. There is visible heritage of iron-age banks and ditches at Kings Wood and Glebe Meadows, Houghton Conquest Site of Special Scientific Interest (SSSI) and iron-age hill fort remains at Sandy. A remnant ridge and furrow at Hockliffe and Potsgrove also exists. Historic parklands and estates associated with grand country houses such as Woburn are evident:

- There is a dispersed settlement pattern along the Greensand Ridge, with the majority of towns and villages lying along the river valleys and southern dip slopes. Estate villages, houses and farmsteads use local building materials including clay brick and tile, locally quarried brown ironstone, thatch and render. Several of the villages (including Southill, Woburn and Old Warden) are estate villages and have their own distinct styles; and
- Major communications infrastructure includes the Sandy Heath transmitter. Road and rail links cut north–south through the Ridge.

1.2 LOCAL LANDSCAPE CHARACTER AREAS

LANDSCAPE CHARACTER AREA 5D: NORTH MARSTON CLAY VALE³

- 1.2.1. Key characteristics of this Landscape Character Area (LCA) relevant to the study area are set out below.
- 1.2.2. There is a large scale, open vale, defined by Oxford Clay geology, located between the elevated landscapes of the Mid Greensand Ridge (6B) and the Cranfield to Stagsden Clay Farmland (1A) that provide a sense of containment.
- 1.2.3. The large scale landscape has a mix of agricultural, residential and industrial uses including former brick works and open cast clay pits, landfill, extensive and expanding distribution centres and industrial estates, and major transport corridors including the A421 and A6. Established industrial uses exist in the area, including to the south of Manor Road, comprising a cement mixing operation, car auctions and car breaking operations. A further cement mixing works with adjoining light industrial land uses exist west of B530, Ampthill Road.
- 1.2.4. Areas of ancient woodland e.g. Wootton Wood, form the heart of The Forest of Marston Vale. On-going planting of community woodlands within the Forest of Marston Vale as part of Bedford's Green Gateway (e.g. at Buttons Ramsey) is increasing woodland cover in the landscape.
- 1.2.5. Expansive views across the vale to the prominent landscapes of the Mid Greensand Ridge (6B) and the Cranfield to Stagsden Clay Farmland (1A) within Central Bedfordshire.
- 1.2.6. Bedford, on the northern boundary, brings strong urban fringe characteristics to the landscape - large scale industrial estates, extensive distribution sheds that are expanding to the south, and retail parks south of Kempston typifying views to the town.
- 1.2.7. There is on-going development of industrial estates and distribution sheds west of the A6 at Wixams and Kempston Hardwick, with newly erected warehousing to the west of the A421, south of Wootton.
- 1.2.8. A number of busy transport routes cut north-south through the landscape including the A421, the A6 (forming the eastern boundary of the area) and the main railway lines (Marston Vale Railway Line

³ [Central Bedfordshire Landscape Character Assessment](#)

and Midland Main Railway Line) running from Bedford to London and Milton Keynes. Lines of pylons cut across the landscape and are highly visible - extending from the Greensand Ridge.

- 1.2.9. Settlement occurs across the vale, often associated with minor tributary valleys, characterised by a mix of building ages, styles and materials. More recent development has resulted in the substantial expansion of existing settlement e.g. at Wootton, Stewartby and Wixams.
- 1.2.10. Distant views of the remaining chimney stacks at Stewartby are landmark features on the horizon in views to the south, dwarfed by the wind turbine at Millennium Country Park which reaches over 120m in height, the chimney at Rookery South Energy Recovery Facility which reaches 105m tall.
- 1.2.11. A number of restored landfill sites (creating domed landforms), active landfill sites and sewage treatment works occur within the area and are frequently bounded by harsh, industrial boundary fencing:
 - Settlement is generally concentrated on the flattest areas of the vale. The more undulating land towards the Wooded Greensand Ridge and the Cranfield Clay Farmland is characterised by occasional individual farmsteads; and
 - Numerous public rights of way cut through the landscape and provide connections to the recreational routes on the adjacent landscapes: the John Bunyan Trail and the Marston Vale Trail.

LANDSCAPE CHARACTER AREA 5E: EAST MARSTON CLAY VALE⁴

- 1.2.12. Key characteristics of this LCA relevant to the study area are set out below.
- 1.2.13. A large scale, flat, open vale landscape underlain by Oxford Clay which is included as part of the Forest of Marston Vale.
- 1.2.14. Tributaries of the River Great Ouse, including the Elstow Brook, cross the landscape in deep drainage channels.
- 1.2.15. Historic landmarks such as small bridges e.g. Smeaton's Bridge at Cardington are important features.
- 1.2.16. There are expansive views across the vale to the Mid Greensand Ridge (6B) that forms a prominent backdrop to the Vale, and which provides some sense of containment:
 - Formerly meadow pasture, land use is now predominantly defined by intensive arable cropping contained within medium to large arable fields. Some smaller fields given over to pasture and horse grazing remain.
- 1.2.17. Defined as a regular parliamentary enclosure landscape - variable field and roadside boundaries characterised by short flailed, gappy hedges, with some large open fields where boundaries have been removed.
- 1.2.18. Woodland is sparse across the character area, the most significant being relatively recent planting at Water End Wood and Cotton End.

⁴ [Central Bedfordshire Landscape Character Assessment](#)

- 1.2.19. Coniferous shelterbelt plantings act as unsympathetic visual buffers to large industrial features e.g. the Cardington Airship Sheds at Shortstown and on the edges of settlement. The Cardington Airship Sheds are a prominent landmark heritage feature and widely visible across the vale.
- 1.2.20. Elstow Abbey is a significant landscape feature despite being constrained by modern development. The Abbey retains its relationship with the historic core of Elstow village.
- 1.2.21. There are large scale industrial features punctuate the flat vale landscape such as distribution warehouses south of Bedford, plus former and current mineral workings.
- 1.2.22. The A6, A600 A603, A421 and various secondary roads e.g. Southill and Northill Road, cut through the landscape, having a strong visual and audible presence.
- 1.2.23. The urban edge of Bedford, on the northern boundary and development along the A6, associated with Wixams and Wilstead, brings urban fringe characteristics to the landscape and nearby settlements of Shortstown.
- 1.2.24. There is regeneration of the Cardington Royal Air Force base in Shortstown to mixed use development.
- 1.2.25. Generally small to medium scale, linear villages have varied settlement character. There are locally distinctive influences in the brick, for example Arlesey whites from the Gault Clay and Blunham Brick (yellow) from the Oxford Clay.
- 1.2.26. Post-war and more recent development has occurred within and on the edge of villages and road corridors, resulting in a range of building styles and materials, as at Wilstead, Wixams and Shortstown.
- 1.2.27. Cardington village is notably picturesque and historic. Characterised by red brick, clay tiles and green paint, set around a village green with a striking village church.
- 1.2.28. Small bridges and walkways provide access to village properties and farm entrances over deep tributary drainage channels at Cardington and Wilstead:
 - Individual farmsteads and associated agricultural buildings occur throughout the landscape located along road corridors; and
 - The recreational route of the John Bunyan Trail cuts north-south through the landscape linking the urban edge of Bedford with the Mid Greensand Ridge (6B).

LANDSCAPE CHARACTER AREA 1A: CRANFIELD TO STAGSDEN CLAY FARMLAND⁵

- 1.2.29. Key characteristics of this LCA relevant to the study area are set out below:
- 1.2.30. Defined as a medium - large scale plateau landscape with an open and exposed character with long distant views, and strong skylines.
- 1.2.31. The area is a gently rolling landform predominantly underlain by Oxford Clay, levelling out to areas of flat plateaux on the highest ground such as around Cranfield Airfield which form local skylines. There is a significant elevation range, from 40 to 117m AOD.

⁵ [Central Bedfordshire Landscape Character Assessment](#)

- 1.2.32. The landscape is intersected by subtle valleys associated with tributaries of the River Great Ouse - the most significant of which runs through Stagsden. The valleys are underlain by localised areas of alluvium and valley gravel.
- 1.2.33. The landscape is predominantly under arable cropping contained within large open fields but with pockets of horse paddocks - particularly associated with the settlements.
- 1.2.34. The nationally important Hanger Wood SSSI represents one of the best examples of ash-maple woodland in Bedfordshire.
- 1.2.35. A number of ancient semi-natural woodlands have been retained (such as Holcott Wood and Hanger Wood) located predominantly along the eastern boundary, on slopes falling towards the North Marston Vale.
- 1.2.36. Small spinneys (some ancient, including Lambert's Spinney) are frequently dispersed across the arable landscape but are of insufficient extent to produce a sense of enclosure.
- 1.2.37. In the south, there is the strong presence of Cranfield Technology Park and University with its associated urban infrastructure visible from the adjacent Clay Vales due to its elevated location – although woodland and shelterbelt planting buffers some views.
- 1.2.38. Audible and visual presence of Cranfield Airfield is located on an area of level plateau adjacent to the University.
- 1.2.39. There are variable field boundaries including short flailed and gappy hedges, overgrown hedgerows, and some areas where all boundaries have been removed. Mature standard oak trees often mark old hedgerow lines.
- 1.2.40. Roadside boundaries typically consist of narrow grass verges, overgrown drainage ditches and short-flailed, gappy hedgerows.
- 1.2.41. Settlement within the landscape is concentrated within two contrasting linear villages of Stagsden, which is small, sheltered within a valley, limestone in character and set within a wooded context - and Cranfield – which is a larger, elevated and characterised by red and buff brick housing of a mix of styles and ages.
- 1.2.42. Occasional large individual farmsteads frequently in view are evident.
- 1.2.43. Vertical landmark features such as the church spire at Stagsden and water tower at Long Tag Wood are visible but are generally contained and masked by woodland. Pylon lines cross the landscape from east to west from Wootton Bourne End to Astwood and from Stevington through Great Oaks Wood.
- 1.2.44. Small scale rural lanes cross the landscape although extensive areas are only accessible via the rights of way network.

LANDSCAPE CHARACTER AREA 3B: OAKLEY – GREAT OUSE LIMESTONE VALLEY⁶

- 1.2.45. Key characteristics of this LCA relevant to the study area are set out below.
- 1.2.46. A wide, open, shallow valley founded on Oolitic Limestone, with Alluvium along the course of the river and Valley Gravel on the level valley floor.

⁶ [Central Bedfordshire Landscape Character Assessment](#)

- 1.2.47. The River Great Ouse meanders through the valley in wide loops lined by wetland vegetation including poplar and willow.
- 1.2.48. A landscape with a mixed land-use of arable farmland on the higher ground and pasture (grazed by sheep and cattle) on the valley floor, with areas of parkland character.
- 1.2.49. Medium scale geometric fields are enclosed by hedgerows with some hedgerow trees although in some areas the hedgerows have been replaced by fences.
- 1.2.50. The sloping valley sides of the Hinwick and Pavenham Wooded Wolds provide a sense of enclosure and a rural backdrop, particularly to the north of the area.
- 1.2.51. Settlement takes the form of large villages often with a core of older buildings and considerable modern development at their margins for instance at Bromham and Oakley. Extensive on-going development on the western edge of Bedford has a strong influence on the character of the river valley to the south of the area.
- 1.2.52. Building materials vary from limestone, timber and render to modern red brick with distinctive limestone bridges e.g. Bromham Bridge and Oakley Bridge.
- 1.2.53. Infrastructure corridors of the A6 and Bedford Western Bypass, the Midland Main Railway line and associated large scale buildings give an urban fringe character at the western edge of Bedford; and The John Bunyan Trail and Ouse Valley Way long distance routes cross the landscape.

LANDSCAPE CHARACTER AREA 6B: MID GREENSAND RIDGE⁷

- 1.2.54. Key characteristics of this LCA relevant to the study area are set out below.
- 1.2.55. There is a large scale ridge with a gently undulating ridge top; forming part of the prominent band of Greensand that extends southwest-northeast across the unitary authorities of Central Bedfordshire and Bedford Borough. The narrow northernmost sliver of the area falls within Bedford Borough.
- 1.2.56. There is a dramatic northwest facing slope forming a distinct backdrop to the North Marston Vale and East Marston Vale Clay Vales (5D and 5E), as well as far-reaching, clear views across these adjacent open landscapes.
- 1.2.57. The landscape is divided by the course of the River Flit which has carved a valley through the Greensand and created a small outlying section of the ridge to the south of the valley (within Central Bedfordshire).
- 1.2.58. Agricultural land is primarily in arable cultivation but with some variation of land use i.e. pockets of pasture and free-range pig farming that bring localised variation. There is a greater proportion of pasture on the northwest facing slope.
- 1.2.59. There is a strong underlying heathland character with fine examples of remnant heathland and neutral/acid grassland.
- 1.2.60. Land is of high ecological value - the area supports several nationally important sites for nature conservation including Kings Wood, Glebe Meadows, and Copper's Hill which are all SSSIs. Cooper's Hill is the largest heathland site remaining in Bedfordshire (within Central Bedfordshire).

⁷ [Central Bedfordshire Landscape Character Assessment](#)

- 1.2.61. There is a strong wooded context with extensive areas of deciduous woodland (a large proportion of which is ancient), mixed woodland and coniferous plantations e.g. Exeter Wood and Wilstead Wood. Woodland located along the northwest facing slope and northern half of the ridge top forms part of The Forest of Marston Vale Community Forest.
- 1.2.62. The contrast of arable land and densely wooded areas creates contrasting perspectives from open and exposed to enclosed and sheltered.
- 1.2.63. A large number of historic parks and gardens impart a designed character - including the Grade II* listed Southill Park and Old Warden Park and the Grade II listed Moggerhanger Park, Ickwell Bury and Ampthill Park (all within Central Bedfordshire).
- 1.2.64. Parkland is a dominant land use, influencing not just the land within the park boundary but also the wider landscape for example through the creation or retention of tree clumps as part of significant designed vistas.
- 1.2.65. A dismantled railway runs north-south through the area (small section in Bedford Borough only) with railway bridges and tunnels in local views.
- 1.2.66. Primary transport routes including the M1 and A6 (T) and Midland Main Railway Line cross north-south through the ridge and locally reduce tranquillity although large areas of the ridge have a remote character.
- 1.2.67. Settlements (located outside of Bedford Borough) comprise medium to small villages and hamlets (predominantly linear). Some have a varied character (due to modern expansion) e.g. Maulden and Silsoe with others (including estate villages) being consistent in terms of material and style such as Haynes (red bricks, clay tiles and timber-framed houses):
 - The John Bunyan Trail and Greensand Ridge Walk cross significant tracts - connecting the ridge with the adjacent area; and
 - Bordered by the town of Ampthill that brings some urban edge characteristics to the landscape (within Central Bedfordshire).



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