

Lower Thames Crossing

6.3 Environmental Statement Appendices Appendix 7.4 – National Character Baseline including Seascape Character

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6.3 Environmental Statement Appendices

Appendix 7.4 – National Character Baseline including Seascape Character

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1 National character baseline appraisal summary

- 1.1.1 Natural England has coordinated the identification and description of Landscape Character Areas across England and has divided England into 159 distinct natural areas, referred to as National Character Areas (NCAs). Their boundaries follow natural lines in the landscape, rather than administrative boundaries, and each is defined by a unique combination of landscape, biodiversity, geodiversity and cultural and economic activity.
- 1.1.2 NCA profiles are guidance documents '*which can help communities to inform their decision-making about the places that they live in and care for*' (Natural England, 2013a). The NCA profiles include Statements of Environmental Opportunity that suggest ways communities and other organisations can help to achieve sustainable growth and a more secure environmental future. The SEOs are based on an analysis of information including natural and cultural features, the current key drivers for ongoing change and ecosystem services. The NCA boundaries are shown on Figure 7.1 (Application Document 6.2).

1.2 NCA 119: North Downs

- 1.2.1 The following detail is sourced from NCA 119: North Downs (Natural England, 2013a).

General description

- 1.2.2 The North Downs NCA comprises chalk hills dissected by valleys, such as along the River Medway. Mixed farming is supported by varying soil types with fields interspersed with woodland and chalk grassland. Minor lanes connect traditional small, nucleated villages and scattered farms and houses with typical building materials including timber framing, flint walls and Wealden brick detailing. The minor lanes are often sunken and follow ancient drove roads. More notable infrastructure routes include the M2/A2 and High Speed 1, which skirt the northern boundary of the NCA. Due to the scenic quality and natural beauty of this area, much of it is designated as the Kent Downs Area of Outstanding Natural Beauty (AONB).

Key characteristics

- 1.2.3 Key characteristics of relevance to the Project are provided in the following descriptions from the NCA profile:
- 'The broad dip slope gradually drops towards the River Thames... affording extensive views across London and the Thames Estuary. The carved topography provides a series of dry valleys, ridges and plateaux.'*
 - '...The river valleys cut through the chalk ridge, providing distinctive local landscapes which contrast with the steep scarp slope.'*
 - 'Ancient paths, drove roads and trackways, often sunken, cross the landscape and are a distinctive feature of the dip slope. Defensive structures such as castles, hill forts and Second World War installations, and historic parks, buildings and monuments are found throughout.'*

- d. *'High Speed 1... runs through part of the NCA. The route connects London with the Channel Tunnel. Other improvements to the existing road network have also taken place, with the M20, M25 and M2 all running through the NCA at some point.'*

Tranquillity

- 1.2.4 Based on the Campaign to Protect Rural England (CPRE) map of tranquillity (CPRE, 2007a), the lowest scores for tranquillity in the 5km area of search are associated with the fringes of Chatham and Rochester. Higher scores for tranquillity are found to the south-west of Chatham and Rochester, west of the River Medway.

Intrusion

- 1.2.5 The Intrusion Map (CPRE, 2007b) shows the extent to which rural landscapes are 'intruded on' from urban development, noise (primarily traffic noise), and other sources of visual and auditory intrusion. This shows that the parts of the NCA within the 5km area of search considered 'disturbed' are major transport corridors and urban development, with some areas of 'undisturbed land' west of the River Medway.

Overall judgement on value

- 1.2.6 In accordance with the methodology set out in Appendix 7.2: Landscape and Visual Assessment Methodology, the North Downs NCA is considered to be of high landscape value on account of the nationally valued, accessible landscape designated as an AONB. The NCA contains nationally important biodiversity designations and heritage assets, with numerous Public Rights of Way (PRoWs) of recreational value. The area's special qualities of tranquillity and scenic beauty underpin its designation, although these become increasingly compromised by its proximity to the A2. By virtue of its habitat diversity, recreational value, perceptual aspects and rarity, the overall value of the North Downs NCA is high.

Statements of Environmental Opportunity

- 1.2.7 Guidance for communities and other organisations to help achieve sustainable growth and a more secure environmental future within the NCA include:
 - a. *'SEO1: Manage, conserve and enhance the distinctive rural character and historic environment of the North Downs, including the long-established settlement pattern, ancient routeways and traditional buildings. Protect the tranquillity of the landscape and sensitively manage, promote and celebrate the area's rich cultural and natural heritage, famous landmarks and views for future generations.'*
 - b. *'SEO4: Plan to deliver integrated, well-managed multi-functional green space in existing and developing urban areas, providing social, economic and environmental benefits and reinforcing landscape character and local distinctiveness, particularly on or alongside the boundaries of the designated landscapes within the North Downs.'*

1.3 NCA 113: North Kent Plain

1.3.1 The following detail is sourced from NCA 113: North Kent Plain (Natural England, 2012).

General description

1.3.2 The North Kent Plain NCA borders the Thames Estuary to the north and the chalk hills of the Kent Downs to the south. It largely comprises low-lying and gently undulating agricultural land, which is very productive due to the fertile loam soils. As well as arable use, the soil supports horticulture including orchards and soft fruits. This has given rise to the area being described as the ‘Garden of England’. The landscape is largely open apart from occasional ancient woodland blocks, such as on higher ground within Shorne Woods Country Park, and shelterbelts within fruit-growing areas. Hedgerows are largely absent. The built environment has a strong influence on the open farmland, with features such as pylons particularly dominating in expansive vistas.

Key characteristics

1.3.3 Key characteristics relevant to the Project are provided in the following descriptions from the NCA profile:

- a. *‘Large settlements and urban infrastructure (including lines of pylons) are often visually dominant in the landscape, with significant development around Greater London and the Medway Towns... Major rail and road links connect the towns with London.’*
- b. *‘An open, low and gently undulating landscape, characterised by high-quality, fertile, loamy soils dominated by agricultural land uses.’*

1.3.4 Key facts and data are set out in the profile supporting document, which includes the settlement pattern comprising *‘nucleated villages with low densities of dispersed settlement. Significant urban centres, notably in the West around Greater London and the Medway towns, plus further east at Sittingbourne, Faversham and Canterbury.’*

Tranquillity

1.3.5 Based on the CPRE map of tranquillity (CPRE, 2007a), the lowest scores for tranquillity in the 5km area of search are found in the west of the NCA around Dartford and Gravesend and to the east around Rochester. The areas of greatest tranquillity are found north of Rochester along the Hoo Peninsula.

Intrusion

- 1.3.6 The Intrusion Map (CPRE, 2007b) shows that large areas of the NCA in the 5km area of search are considered disturbed due to the presence of major transport corridors and urban development, while undisturbed areas occur north of Rochester along the Hoo Peninsula.

Overall judgement on value

- 1.3.7 The landscape contains the wooded skyline of Shorne Woods, which forms a small part of the wider nationally valued Kent Downs AONB. The landscape is also valued for providing part of the northern setting to the Kent Downs AONB. The NCA has a strong association with Shorne and Higham Marshes to the north and the Essex landscape beyond. The NCA also contains numerous PRoWs of recreational value. By virtue of its recreational value and perceptual aspects, as well as its partial inclusion in the Kent Downs AONB, the overall value of the North Kent Plain NCA is high.

Statements of Environmental Opportunity

- 1.3.8 Guidance for communities and other organisations to help achieve sustainable growth and a more secure environmental future within the NCA include:
- a. *'SEO1: Maintain the historic character and long tradition of a farmed landscape, creating habitats to establish more resilient and coherent ecological networks within the farmed and peri-urban areas, benefitting biodiversity and geodiversity, and helping to regulate water and soil quality. Protect traditional practices including the longstanding associations of the fruit belt, maintaining a strong sense of place and reinforcing Kent's reputation as the Garden of England.'*
 - b. *'SEO3: Protect the distinct wooded areas of the landscape, particularly through the management of nationally important, ancient semi-natural woodlands, increasing the area of broadleaved woodland where appropriate, while increasing the connectivity of the mosaic of associated habitats notably wooded heath and semi-improved grassland while enhancing the recreational resource.'*

1.4 NCA 81: Greater Thames Estuary

- 1.4.1 The following detail is sourced from NCA 81: Greater Thames Estuary (Natural England, 2013b).

General description

- 1.4.2 The Greater Thames Estuary NCA forms the eastern edge of the London basin and comprises a low-lying, tranquil and remote landscape of mudflats, saltmarsh and reclaimed estuarine marsh dissected by shallow creeks and estuaries. Sea defences often protect areas of grazing marsh and productive arable farmland. Coastal habitats, often internationally designated, are important for birds, rare plants, invertebrates and the diverse marine wildlife. Historic military landmarks, such as Coalhouse Fort, are characteristic of the landscape. The rising ground of the North Kent Plain NCA to the south and the Northern Thames Basin NCA to the north provides a backdrop to the low-lying and open marshland.

- 1.4.3 Much of the NCA is unsettled, although industrial and urban developments, such as Tilbury Port, are encroaching into the estuary and these are highly visible in the low-lying landscape. The NCA profile states *‘A key challenge is to accommodate increasing development pressure in the area with the protection and enhancement of the natural landscape and its internationally important coastal habitats and species, and nationally important open mosaic habitat.’*

Key characteristics

- 1.4.4 Key characteristics of relevance to the Project are provided in the following descriptions from the NCA profile:
- a. *‘Highly urbanised areas... on marsh edges subject to chaotic activity of various major developments including ports, waste disposal, marine dredging, housing regeneration, mineral extraction and... numerous other industry-related activities.’*
 - b. *‘Increasing development pressures around major settlements... with urban, industrial and recreational sites often highly visible within the low-lying marshes.’*
 - c. *‘Predominantly flat, low-lying coastal landscape where extensive open spaces are dominated by the sky, and the pervasive presence of water and numerous coastal estuaries extend the maritime influence far inland.’*
 - d. *‘The NCA includes some of the least settled parts of the English coast, though there are also numerous small villages and hamlets located on higher ground and on the edge of the marshes, reflecting medieval patterns and a traditional coastal economy.’*

Tranquillity

- 1.4.5 Based on the CPRE map of tranquillity (CPRE, 2007a), the lowest scores for tranquillity in the 5km area of search are associated with the urban areas of Gravesend and Tilbury. The highest scores are further east along the Essex banks of the River Thames between East Tilbury and Mucking, as well as along the Kent banks of the River Thames and the Hoo Peninsula.

Intrusion

- 1.4.6 The Intrusion Map (CPRE, 2007b) shows that the disturbed areas of land are predominantly associated with the main areas of development such as at Gravesend and Tilbury, with areas of undisturbed land occurring along the Essex and Kent banks of the River Thames further east.

Overall judgement on value

- 1.4.7 Much of the Shorne and Higham Marshes marshland area is part of a nationally designated Site of Special Scientific Interest and an internationally designated Ramsar site. The importance and value of this landscape is further evidenced by the presence of Shornemead Fort, which forms part of a much wider historic military defence along both banks of the Thames Estuary. However, with significant expansion of the urban fringe close to London, and development pressure continuing to transform the intrinsic character of the area, the NCA’s value is reduced. By virtue of its habitat diversity, cultural associations, perceptual aspects and rarity, and the presence of detracting features, the overall value of the Greater Thames Estuary NCA is medium.

Statements of Environmental Opportunity

- 1.4.8 Guidance for communities and other organisations to help achieve sustainable growth and a more secure environmental future within the NCA include:
- a. *‘SEO1: Maintain and enhance the expansive, remote coastal landscape – with its drowned estuaries, low islands, mudflats, and broad tracts of tidal salt marsh and reclaimed grazing marsh – maintaining internationally important habitats and their wildlife, and underlying geodiversity...’*
 - b. *‘SEO3: Ensure that the tranquil and remote character of the estuary is maintained by conserving and enhancing important coastal habitats and distinctive historic and geological features, while providing increased opportunities for recreation and enjoyment of the landscape.’*
 - c. *‘SEO4: Encourage a strategic approach to development that is informed by and makes a positive contribution to local character, incorporates green infrastructure which provides ecosystem services where they are needed most, and promotes recreation and addresses climate change, while maintaining important open mosaic and coastal habitats, and historic and geological features.’*

1.5 NCA 111: Northern Thames Basin

- 1.5.1 The following detail is sourced from NCA 111: Northern Thames Basin (Natural England, 2013c).

General description

- 1.5.2 The Northern Thames Basin NCA comprises rising land above the low-lying marsh of the Thames Estuary. Near the estuary, the landscape is largely arable since the improvement of the heavy London Clay soils in the 1950s and 1960s. There is an urban fringe character due to the proximity of 20th-century commuter towns and the presence of parkland, golf courses and horse paddocks. Further north as the land rises towards the Brentwood hills, the landscape is well-wooded, with areas of ancient woodland, remnant wood pasture and more recent plantations. There are also tranquil areas remaining where settlement is more dispersed and broken up by arable land and semi-natural habitats.
- 1.5.3 The NCA profile states that *‘The main changes to the area have resulted from increased construction and commercial-scale farming. Both of these have increased pressures on water availability, water flow, soil quality, biodiversity and sense of place. Although housing, other construction and agriculture are significant for the area it is important that these are developed in a sustainable way...’*

Key characteristics

- 1.5.4 Key characteristics of relevance to the Project are provided in the following descriptions from the NCA profile:
- a. *‘The landform is varied with a wide plateau divided by river valleys... extensive tracts of flat land are found in the south.’*

- b. *‘Characteristic of the area is a layer of thick clay producing heavy, acidic soils, resulting in retention of considerable areas of ancient woodland.’*
- c. *‘The pattern of woodlands is varied across the area and includes considerable ancient semi-natural woodland. Hertfordshire is heavily wooded in some areas as are parts of Essex, while other areas within Essex are more open in character. Significant areas of wood pasture and pollarded veteran trees are also present.’*
- d. *‘Mixed farming, with arable land predominating...’*
- e. *‘Historically, settlement was sparse with scattered villages... Today, settlement is dominated by large, 20th-century urban areas.’*

Tranquillity

- 1.5.5 Based on the CPRE map of tranquillity (CPRE, 2007a), the least tranquil areas are associated with urban centres such as Grays, Upminster, Brentwood and Basildon. Other areas of disturbance are associated with the main transport routes linking these centres including the M25, A13, A12 and A127 roads. The most tranquil areas tend to be the lowland, restored fenland areas between the urban centres of Basildon and Upminster and north of the A13. These are more rural areas and are more sparsely inhabited.

Intrusion

- 1.5.6 The 2007 Intrusion Map (CPRE, 2007b) shows a similar pattern to the tranquillity mapping, with areas of disturbed land associated with urban areas, such as Grays, Upminster, Brentwood and Basildon, and the main road and rail transport corridors linking these centres. Light pollution resulting from intensive agriculture, growth of settlements and road infrastructure is particularly apparent in the flat terrain.

Overall judgement on value

- 1.5.7 This landscape has a diverse range of land uses including rough grazing on the ridge, mineral extraction, industry, landfill and recreation, with numerous PRoWs of recreational value. The settlement pattern consists of discrete settlements, such as Linford, Tilbury and Chadwell St Mary, with dispersed farm buildings. From the higher ground there are extensive views out to the Thames Estuary, Kent Hills to the south and Langdon Hills. Pylons and power lines are visually intrusive features within this character area. By virtue of its recreational value and perceptual aspects, and the presence of detracting features, the overall value of the North Thames Basin NCA is medium.

Statements of Environmental Opportunity

- 1.5.8 Guidance for communities and other organisations to help achieve sustainable growth and a more secure environmental future within the NCA include:
- a. *‘SEO1: ...Conserve the riparian landscapes and habitats, for their recreational and educational amenity for their internationally significant ecological value.’*
 - b. *‘SEO3: Protect and appropriately manage the historic environment for its contribution to local character and sense of identity and as a framework for*

habitat restoration and sustainable development, ensuring high design standards (particularly in the London Green Belt) which respect the open and built character of the Thames Basin. Enhance and increase access between rural and urban areas through good green infrastructure links to allow local communities recreational, health and wellbeing benefits.'

- c. *'SEO4: Manage and expand the significant areas of broadleaf woodland and wood pasture, and increase tree cover within urban areas, for the green infrastructure links and important habitats that they provide, for the sense of tranquillity they bring, their ability to screen urban influences and their role in reducing heat island effect and sequestering and storing carbon.'*

2 Marine (seascape) character baseline appraisal summary

2.1 South East Marine Character Area (MCA) 18: Thames and Medway Estuaries

- 2.1.1 The Project passes under the River Thames to the east of Tilbury and Gravesend within the South East MCA 18: Thames and Medway Estuaries (as shown in Figure 7.1 (Application Document 6.2)). The section of MCA 18 which falls within the study area is also covered by the terrestrial NCA 81: Greater Thames Estuary.
- 2.1.2 The River Thames is a busy shipping route to Tilbury Docks and other riverside facilities to the west and is an area of international importance for bird species and associated tracts of semi-natural habitat on both banks. It also has strong historic associations as a transport route and for its military importance as the gateway to London. This is reflected in a number of distinctive landmarks, which include the blockhouses at Gravesend, Tilbury and Coalhouse, along with other blockhouses at Milton and Higham (all built 1539/40). Tilbury Fort was constructed in the 1670s and has been subsequently altered. Coalhouse Fort (in roughly its current form), Cliffe Fort and Shornemead Fort were built in the 1860s to create an area of crossfire. East Tilbury Battery (1889/90) was built to support Coalhouse Fort and is the first of the defensive features in this area designed to blend into the landscape. During the Second World War, an anti-aircraft battery at Bowaters Farm was designed to defend against attacks from the air, while other forts in the area were updated to improve defence capability. The adjacent marshes on the south bank have strong associations with Charles Dickens and the hinterland to the north is associated with Elizabeth I during the threat of the Spanish Armada (1588).
- 2.1.3 This section of MCA 18 forms the transition between the broad, extensive Thames Estuary to the east and the more enclosed and developed River Thames with its associated industry and jetties, which line both banks to the west. The River Thames is bordered on both banks by flood defences from where there are extensive 360-degree panoramic views along and across the estuary, as represented by Representative Viewpoints S-38, N-03 and N-04 in Figures 7.17 and 7.18 (Application Document 6.2). Beyond the sea defences within Kent to the south, the seascape hinterland comprises drained marshes used for grazing. Due to the low-lying nature of the area, the River Thames is only defined by the passing shipping visible above the flood defence. Beyond the marshes, the hinterland covers an extensive open rolling rural chalk downland landscape, which rises to an undulating wooded ridge line within the Kent Downs AONB. There is a strong visual relationship between this chalk landscape and the Thames Estuary. The winding Thames and the backdrop of tall cranes at London Gateway Port to the north-east are a clearly visible feature in these views.
- 2.1.4 To the north of the River Thames, within Thurrock, the immediate low-lying flat marshland hinterland is dominated by incongruous artificial flat-topped raised areas of landfill and an array of overhead powerlines, set against a distinctive low chalk rural ridge. Visible beyond are the more distant wooded Brentwood

and Langdon Hills. The immediate northern hinterland is a changing landscape with the recent demolition of Tilbury Power Station, a previous key landmark, and the emerging Tilbury2 Port development.

- 2.1.5 Tranquil areas and feelings of remoteness and wildness are associated with the extensive salt marshes, mudflats and reclaimed farmed marshland across the estuary. High levels of tranquillity remain in parts of the character area which are not in proximity to London. Recreational opportunities are provided by the Thames Path National Trail, Saxon Shore Way and other PRoWs. The lowest scores for tranquillity are associated with the urban areas of Gravesend, Tilbury and the eastern outer edge of Greater London. Overall, the character area exhibits areas of intrinsically dark landscapes, although there are prominent sources of light in urban residential areas, such as Gravesend and Tilbury Docks.
- 2.1.6 By virtue of its habitat diversity, cultural associations, perceptual aspects and rarity, and the presence of detracting features, the overall value of the South East MCA is medium.

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