

Revisions

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Executive Summary

This Landscape and Visual Impact Assessment (LVIA) Baseline Report has been prepared by The Environmental Dimension Partnership Ltd (EDP), on behalf of The London Resort Company Holdings Limited ('the Applicant') in relation to the Proposed Development of the London Resort (hereafter referred to as the 'Project Site')

The land within the Project Site is the subject of a DCO application for a world class destination entertainment resort with associated infrastructure, staff accommodation, dedicated access road, public amenity space and habitat creation. The Project Site is divided into two separate parts, the Kent Project Site and the Essex Project Site.

No part of the Project Site is covered by any statutory landscape designations; however, a small area within the Kent Project Site pertaining to the A2(T) corridor is located within the landscape related but spatial designation of Metropolitan Green Belt.

The Project Site is located across numerous published Landscape Character Areas (LCA), Townscape Character Areas (TCA) and Reach Character Areas (RCA). EDP has conducted its own Local Landscape Character Assessment based on published information, site visits and desktop research, deriving a number of Local Landscape Character Areas (LLCAs) in order to further understand the baseline environment of the area surrounding the Project Site.

The Project Site features a number of other considerations that add some landscape value to it such as Black Duck, Broadness and Botany Marshes, all located within the Swanscombe Peninsula of the Kent Project Site, a small area of Ancient Woodland within the DCO Order Limits along the A2(T) corridor and a number of Public Rights of Way (PRoW) that provide access across the Project Site. Detractors such as the noise and movement from the adjacent residential and industrial areas, main roads and railway lines strongly 'urbanise' the landscape in perceptual and sensory terms such that the Project Site does not have the character of open rural countryside. Opportunities exist to improve and enhance the structure of the landscape across the area, which has been partially degraded and fragmented with the intensification of industrial and commercial practices.

With regards to visual amenity, a Zone of Theoretical Visibility (ZTV) was modelled, and through consultation with the Local Planning Authorities (LPA), Natural England (NE) and Kent Downs Area of Outstanding Natural Beauty (AONB) Unit a number of photoviewpoint locations were determined and visited.

This exercise revealed that the generally flat vale landscape character that the Project Site is contained within, combined with the prevalence of urban form, contributes towards the relative visual containment of the Project Site. PRoW that pass through the Project Site unsurprisingly have open views of the Project Site, whilst those PRoW that are in close proximity to the Project Site have open to screened views. Beyond 2km, views from PRoW are generally filtered by the combination of intervening trees, hedgerows, built form and gently undulating topography.

Views from the local road network are similarly limited to the road network that passes through the Project Site, and from within the surrounding 2km; these include Galley Road, London Road, International Way, Ferry Road, Hall Road Bridge the B262, A2(T) and A2260. Views from the rail network are limited to the stretch of railways of the HS1 line and North Kent Line, which pass through the DCO Order Limits.

There are a number of individual and groups of dwellings within the visual envelope of the Project Site, primarily within 2km from the Project Site or on more distant, elevated ground to the north and south. These include areas of Swanscombe, dwellings along the waterfront and western edge of Kent Project Site at Ingress Park, riverside properties at Greenhithe some dwellings on elevated ground at Gravesham, the Promenade at Gravesend and dwellings near the waterfront and on elevated ground at Northfleet and Castle Hill.

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Chapter One ◆ INTRODUCTION, PURPOSE AND METHODOLOGY

INTRODUCTION

- 1.1 This Landscape and Visual Impact Assessment (LVIA) Baseline Report has been prepared by The Environmental Dimension Partnership Ltd (EDP), on behalf of The London Resort Company Holdings Limited, to inform a proposed entertainment resort on land at Swanscombe Peninsula, Ebbsfleet Valley and Tilbury Docks (hereafter referred to as 'the Project Site'), which is to be the subject of a Development Consent Order (DCO) application. The Figures referred to throughout this document are contained within ES Volume Three: Figures.
- 1.2 EDP is an independent environmental planning consultancy with offices in Cirencester, Cardiff and Cheltenham. The practice provides advice to private and public sector clients throughout the UK in the fields of landscape, ecology, archaeology, cultural heritage, arboriculture, rights of way and masterplanning. Details of the practice can be obtained at our website [\[REDACTED\]](#)
- 1.3 Figure 11.1 *Site Location and Site Boundaries* (Document Reference 6.3.11.1) illustrates the location of the Project Site and its boundaries. The Project Site is located approximately 30km east-south-east of central London on the south and north banks of the River Thames, in the counties of Kent and Essex. On the south side of the Thames, the Project Site occupies much of the Swanscombe Peninsula, formed by a meander in the river, and includes a corridor for transport connections extending generally southwards to the A2(T) trunk road. On the northern side of the river, the Project Site includes areas of land east of the A1089 Ferry Road and the Tilbury Ferry Terminal, which currently provides passenger services across the river to Gravesend and incorporates the London International Cruise Terminal.
- 1.4 For clarity, the section of the Project Site to the south of the Thames is referred to in this report as the 'Kent Project Site' and that to the north of the river is identified as the 'Essex Project Site'. They are not contiguous and Figure 11.1 illustrates these areas.
- 1.5 An overview of the Proposed Development is contained within Chapter 3: *Project description* (Document Reference 6.1.3).

PURPOSE

- 1.6 The purpose of this document is to identify the landscape and visual baseline conditions of the Project Site and its surrounding area, to inform the design and layout of the proposals and to establish an appropriate scope of work to facilitate an assessment of the effects predicted to arise from the Proposed Development, as part of the Environmental Impact Assessment (EIA) process.

1.7 In compiling the assessment, EDP has undertaken the following key tasks:

- Reviewed the planning policy context for the Project Site;
- Undertaken a desktop study and web search of relevant background documents and maps. EDP’s study included reviews of aerial photographs, web searches, Local Planning Authority (LPA) publications and landscape character assessments. EDP has also obtained, where possible, information about relevant landscape and other designations such as Areas of Outstanding Natural Beauty (AONBs), conservation areas and gardens and parks listed on Historic England’s ‘Register of Historic Parks and Gardens of Special Historic Interest in England’ (RPGs);
- Undertaken a field assessment of local site circumstances, including a photographic survey of the character and fabric of the Project Site and its surroundings, using photography from a number of representative viewpoints. The field assessment was undertaken by qualified landscape architects; and
- Provided an analysis of the likely landscape and visual effects of the Proposed Development, which is determined by combining the magnitude of the predicted change with the assessed sensitivity of the identified receptors. The nature of any predicted effects is also identified (i.e. positive/negative, permanent/reversible).

METHODOLOGY ADOPTED FOR THE ASSESSMENT

1.8 Landscape and visual assessment is comprised of a study of two separate but inter-linked issues:

- Landscape character is the physical make up and condition of the landscape itself, and arises from a distinct, recognisable and consistent pattern of physical and social elements, aesthetic factors and perceptual aspects; and
- Visual amenity is the way in which the site is seen (views to and from the site, their direction, character and sensitivity to change).

1.9 Chapter 3 of this assessment addresses baseline landscape character issues, whilst visual amenity issues are addressed in Chapter 4.

1.10 Given the scale of the Proposed Development, on 06 May 2014, the Secretary of State for Communities and Local Government issued a Section 35 Direction confirming that the London Paramount Entertainment Resort (now branded as ‘The London Resort’) qualifies as a nationally significant business or commercial project for which development consent is required under the Planning Act 2008. LRCH is therefore applying to the Secretary of State for a Development Consent Order (DCO), and has undertaken an EIA to help inform the Secretary of State’s decision on this application. The LVIA will therefore be undertaken in accordance with the ‘Guidelines for Landscape and Visual Impact Assessment – Third Edition (LI/IEEMA, 2013)’ (GLVIA3). The criteria referred to, but not defined within the guidelines, has been defined by EDP as set out in Annex 1.0.

STUDY AREA

- 1.11 To establish the baseline and potential limit of material effects, the study area has been considered at two geographical scales.
- 1.12 Through the consultation process a broad study area of 8km was agreed with Natural England and Kent Downs AONB, as shown on Figure 11.1 *Site Location and Boundaries* (Document Reference 6.3.11.1), enabling the geographical scope of the assessment to be defined and to provide the wider geographical context of the study. The search focussed on the local planning policy context, on identifying national and local landscape and other associated designations (e.g. Area of Outstanding Natural Beauty (AONB), historic parks and gardens) and providing a general geographical understanding of the Project Site and its broader context (for example, in relation to landform, transport routes and the distribution and nature of settlement).
- 1.13 Following initial analysis and subsequent field work, and having an appreciation of the development proposed, a refinement of the study area has been undertaken that focuses on those areas and features that are likely to be affected by the proposals. A Zone of Theoretical Visibility for the proposal was produced across the 8km study area to aid understanding of the potential geographical extent of visual effects and help define a more detailed study area. The extent of this detailed study area is 2km from the DCO Order Limits, although occasional reference may be made to features beyond this area where appropriate. This detailed study area is illustrated on Figure 11.1 *Site Location and Boundaries* (Document Reference 6.3.11.1).

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Chapter Two ◆ LANDSCAPE PLANNING POLICY AND DESIGNATIONS

- 2.1 An appreciation of the ‘weight’ to be attributed to any landscape or visual effects arising from development starts with an understanding of the planning context within which any such development is to be tested for its acceptability. This Section appraises the relevant statutory policy context and guidance with regard to landscape and visual effects.

EUROPEAN LANDSCAPE CONVENTION (2007)

- 2.2 The European Landscape Convention (ELC), which was signed by the UK in February 2006 and became binding in 2007, is the first international convention to focus specifically on landscape issues and aims to protect and manage landscapes in Europe and to plan positively for change within them. The ELC highlights the importance of developing landscape policies dedicated to protection, management and creation of landscapes, and establishing procedures for the general public and other stakeholders to participate in policy creation and implementation.
- 2.3 The ELC defines landscape as *“an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors”* (Council of Europe, 2004).

National Policy Statements

- 2.4 National Policy Statements (NPS) set out the need for government’s policies to deliver Nationally Significant Infrastructure Projects (NSIPs) in England. There is no NPS for business and commercial NSIP projects. However, to the extent that the project includes transport and highways infrastructure, regard will be had to relevant policy in the NPS for National Networks, including:
- Environmental and social impacts (NPS paragraphs 3.2 to 3.5);
 - Criteria for ‘good design’ for national network infrastructure (NPS paragraphs 4.28 – 4.35);
 - Climate change adaptation (NPS paragraphs 4.36 – 4.47);
 - Landscape and visual impacts (NPS paragraphs 5.143 – 5.161); and
 - Land use including open space, green infrastructure and Green Belt (NPS paragraphs 5.162 – 5.185).

NATIONAL PLANNING POLICY FRAMEWORK (2019)

2.5 At the heart of the National Planning Policy Framework (NPPF) is a presumption in favour of sustainable development, this being the underlying theme running throughout the policy statement.

Conserving and enhancing the natural environment

2.6 For landscape, this means recognising the intrinsic beauty of the countryside (paragraph 170) and balancing any ‘harm’ to the landscape resource with the benefits of the scheme in other respects. Paragraph 170 goes on to describe ways in which planning policies and decisions should contribute to the natural and local environment:

- *“protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- *maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.”*

2.7 With regards to statutory landscape designations, paragraph 172 states *“Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues”* and the *“scale and extent of development within these designated areas should be limited. Planning permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest”*. As such, no part of the DCO boundary falls within or adjacent to the above specified statutory landscape designations.

2.8 In consideration of landscape and visual impacts of light pollution, paragraph 180 bullet point c) states that new development should *“limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation”*.

Achieving well-designed places

2.9 In terms of the requirements of good design for development proposals, paragraph 127 seeks to achieve high quality design in development and sets out a number of requirements which are as follows:

- *“will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;*
- *are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;*
- *are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);*
- *establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;*
- *optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and*
- *create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.”*

2.10 Furthermore, paragraph 128 states, as is generally good planning practice that

“Design quality should be considered throughout the evolution and assessment of individual proposals. Early discussion between applicants, the local planning authority and local community about the design and style of emerging schemes is important for clarifying expectations and reconciling local and commercial interests. Applicants should work closely with those affected by their proposals to evolve designs that take account of the views of the community. Applications that can demonstrate early, proactive and effective engagement with the community should be looked on more favourably than those that cannot.”

2.11 Paragraph 130 emphasises that development proposals should take the opportunities available to improve the *“character and quality of the area and the way that it functions”*.

Protecting Green Belt Land

2.12 In consideration of Green Belt matters, as described below, the vast majority of the DCO Order Limit is not located within Green Belt. However, the area south of the A2(T) and A296 main roads within the DCO Order Limits is located within the Metropolitan Green Belt which surrounds the fringes of London (see Figure 11.2 *Landscape Designations and Other Considerations* (Document Reference 6.3.11.2)).

2.13 National planning policy with regard to the protection of Green Belt land is set out in Section 13 of the NPPF, with paragraph 133 stating that: *“The Government attaches great importance to Green Belts. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence”*. Paragraph 134 goes on to describe the five purposes of Green Belt, which are:

- *“to check the unrestricted sprawl of large built-up areas;*
- *to prevent neighbouring towns merging into one another;*
- *to assist in safeguarding the countryside from encroachment;*
- *to preserve the setting and special character of historic towns; and*
- *to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.”*

2.14 In terms of proposals affecting the Green Belt, paragraph 143 states that, *“Inappropriate development is, by definition, harmful to the Green Belt and should not be approved in very special circumstances”*.

2.15 However, paragraph 146 states:

“Certain other forms of development are also not inappropriate in the Green Belt provided they preserve its openness and do not conflict with the purposes of including land within it. These are:

- *...local transport infrastructure which can demonstrate a requirement for a Green Belt location;...”*

2.16 As such, the impact of the potential minor works required to the existing A2(T), B259 junction and exit route upon the openness and permanence of the Green Belt, will be considered within the LVIA.

NATIONAL PLANNING POLICY GUIDANCE

2.17 The national Planning Policy Guidance (PPG) is an on-line resource which supplements the NPPF. The following NPPG ‘documents’ are considered relevant in landscape and visual terms:

- Design: process and tools (last updated 01 October 2019) – Provides advice on the key points to take into account on design;
- Green Belt (published 22 July 2019) – Advice on the role of Green Belt in the planning system;
- Light Pollution (last updated 01 November 2019) – Advises on how to consider light within the planning system; and
- Natural Environment (last updated 21 July 2019) – Explains key issues in implementing policy to protect and enhance the natural environmental, including local requirements.

LOCAL PLANNING POLICY

2.18 The DCO site falls within three LPA areas, namely Dartford Borough Council (DBC), Gravesham Borough Council (GBC) and Thurrock Borough Council (TBC). A review of the local planning policy circumstances, including relevant supplementary planning documents, evidence base documents and associated guidelines relevant to this assessment, is contained below.

2.19 The following policies are considered relevant to this LVIA baseline, with extracts saved in Annex 2.0.

Dartford Borough Council

Dartford Borough Core Strategy (Adopted 2011)

2.20 Policies within the Dartford Borough Core Strategy (Adopted 2011) of relevance to the DCO and landscape and visual amenity include the following:

- Policy CS4 – Ebbsfleet to Stone Priority Area;
- Policy CS5 – Ebbsfleet Valley Strategic Site;
- Policy CS6 – Thames Waterfront Priority Area; and
- Policy CS14 – Green Belt.

Dartford Borough Development Policies Plan (Adopted 2017)

2.21 Policies within the Dartford Borough Development Policies Plan (Adopted 2017) of relevance to landscape and visual amenity include the following:

- Policy DP22 – Green Belt in the Borough; and
- Policy DP25 – Nature Conservation and Enhancement.

Emerging Dartford Borough Local Plan 2036

2.22 The emerging Local Plan will guide future investment in Dartford and key planning and infrastructure decisions to 2036. A ‘Preferred Options’ public options consultation was held in January to February 2020 setting out the emerging proposals alongside alternative approaches. The plan is a long way off adoption at this stage and carries very limited weight in planning terms.

Gravesham Borough Council

Gravesham Borough Local Plan Core Strategy (Adopted 2014)

2.23 Policies within the Gravesham Borough Core Strategy (Adopted 2011) of relevance to the DCO and landscape and visual amenity include the following:

- Policy CS01 – Sustainable Development;
- Policy CS02 – Scale and Distribution of Development;
- Policy CS03 – Northfleet Embankment and Swanscombe Peninsula Opportunity Area;
- Policy CS06 – Ebbsfleet (Gravesham) Opportunity Area;
- Policy CS12 – Green Infrastructure; and
- Policy CS19 – Development and Design Principles.

Saved policies (2007) from Gravesham Borough Local Plan First Review (Adopted 1994)

2.24 There are no saved policies of relevance to landscape and visual amenity within this document.

Emerging Gravesham Borough Site Allocation and Development Management Policies Document

2.25 The emerging Site Allocation and Development Management Policies Document for Gravesham reviews the current strategic policy on the scale and distribution of development in Gravesham and sets out detailed policies to guide decisions on planning applications. Once adopted, it will replace the remaining saved policies from Gravesham Local Plan First Review.

Thurrock Borough Council

Thurrock Borough Council Core Strategy and Policies for Managing Development (Adopted 2015)

2.26 Policies in the Thurrock Borough Council Core Strategy and Policies for Managing Development (adopted 2015) of relevance to landscape and visual amenity include the following:

- Policy CSTP18 – Green Infrastructure;
- Policy CSTP23 – Thurrock Character and Distinctiveness;
- Policy CSTP28 – River Thames; and
- Policy PMD2 – Design and Layout.

Saved policies (2012) from Thurrock Borough Council Local Plan (Adopted 1997)

2.27 There are no saved policies of relevance to landscape and visual amenity within this document.

Emerging Thurrock Borough Council Local Plan

2.28 Work on a new local plan for the Thurrock Borough began in 2014 and is currently aiming for adoption in October 2020.

OTHER RELEVANT DOCUMENTS, STRATEGIES AND INITIATIVES

The Thames Gateway Parklands Vision

2.29 The Thames Gateway Parklands Vision¹ promotes regeneration, development of urban areas and rural open spaces which can be done in such a way that they are well connected and provide a coherent landscape. Through focusing on environmental improvement, the vision aims to improve the quality of life for current and future residents by creating long term value through reconnecting communities to the exceptional landscapes of the Estuary, encouraging greater visitor numbers, employment opportunities and quality of life.

2.30 The long-term aim of the Thames Gateway Parklands Vision is to create “*an exceptional landscape that transforms the perceptions of place*”, namely the estuary landscape by:

- *“Making a connected landscape via ‘green grids’, the Thames Estuary Path and visual and environmental improvements along major transport corridors;*
- *Improving access to urban and rural landscapes for new and existing neighbourhoods;*
- *Renewing and developing urban environments as places of culture and social interaction;*
- *Recognising the value of enhancing agricultural and ‘blue’ landscapes as key economic, environmental, recreational and cultural assets; and*
- *Promoting a clear identity and interest for each locality via investment in regenerated*

¹ Thames Gateway Parklands (East London Green Grid, South Essex Green Grid, Greening the Gateway Kent and Medway, 9th November 2010).

historic environments.”

2.31 The ‘Greening the Gateway Kent and Medway’ partnership has developed a vision and action plan to support delivery of a new network of multi-functional green spaces in conjunction with future development in the Ebbsfleet Valley and A2 Corridor, including the areas containing the DCO site.

Ebbsfleet Valley and A2 Corridor Green Cluster Study

2.32 The Ebbsfleet Valley and A2 Corridor Green Cluster Study² identifies the following ‘Green Grid’ projects within the study area:

- *“Swanscombe Peninsula (Black Duck Marsh, Botany Marshes and riverside public access and habitat enhancements);*
- *Swanscombe Heritage Park & Craylands Gorge (existing public open space enhancement);*
- *Ebbsfleet Valley West and East (new public open spaces, green grid links and habitat creation);*
- *Northfleet Embankment (new riverside promenade providing open space, footpaths and cycleways along waterfront);*
- *Blue Lake (new public open space and water-based recreation/leisure destination);*
- *Northfleet Urban Country Park/Springhead Linear Park (existing public open space enhancement and new linear park); and*
- *A2 Linear Park (new 24ha multi-functional outdoor activity park).”*

Kent Thameside Green Grid Design Strategy and Guidelines

2.33 The Kent Thameside Green Grid Design Strategy and Guidelines³ provide strategic guidance for landscape character areas within the study area, that is of relevance to the above stated ‘Green Grid’ projects.

Thames Strategy East

2.34 The Thames Strategy East⁴ is the specific document which covers the DCO boundary and eastern extent of the River Thames. In accordance with the overarching Thames Gateway Parklands Vision, the document provides a landscape-led vision and strategic guidance in relation to the management of the River Thames corridor’s existing biodiversity, history

² Green Cluster Studies: Ebbsfleet Valley & A2 Corridor Technical Report (Greening the Gateway Kent & Medway Partnership, 2008).

³ Kent Thameside Green Grid Design Strategy & Guidelines (LDA for Kent County Council, June 2004).

⁴ Thames Strategy East (The Thames Estuary Partnership, 2008).

and cultural resources. The Thames Strategy East is to cover a 100-year period and aims to:

“Ensure that the influence of the River Thames and its hinterland will be respected and developed to create beautiful, connected places from often despoiled and degraded post-industrial riverscapes and landscapes - creating places where people will choose to live, work and play.”

2.35 The strategic guidance set out within the document covers a number of relevant considerations in regard to the DCO site and landscape and visual effects. SG4 states that:

“Development within a Reach should protect and enhance the positive aspects of its character. Where parts of some Reaches are of poor quality, major interventions may be necessary to create a new character to reflect the Thames-side location.”

2.36 In specific regard to strategic and local views, SG6 states:

“Development should protect strategic and local views by:

- *avoiding obstructing or cluttering views;*
- *providing opportunities for views across water;*
- *providing interpretation; and*
- *providing fully accessible elevated viewing points.”*

2.37 In terms of lighting, SG7 states that *“Opportunities should be taken to implement co-ordinated lighting strategies, recognising the navigational requirements of the river and that light pollution should be minimised”.*

2.38 In relation to good design of new developments, SG9 states that *“New urban form and built infrastructure should be of the highest design quality and should contribute to a Reach’s character and make a positive contribution to the river’s character.”*

2.39 In terms of riverside open spaces and links, SG10 states that *“Development proposals should protect and enhance the existing network of designated parks and open spaces and their links as well as essential river related infrastructure such as river related transport facilities”.*

2.40 SG22 encourages the installation of public art, based on interpretation of the Thames’ local heritage *“Archaeological and historic references and public art based around historical and cultural assets should be used in development design to create a sense of place and pride in the heritage of an area”.*

The Kent Downs Area of Outstanding Natural Beauty Management Plan 2014 – 2019

2.41 The DCO site is not located within the Kent Downs Area of Outstanding Natural Beauty (AONB), however it is located c.5.1km to the south-east of the DCO site.

- 2.42 Whilst not a local authority area, the Kent Downs AONB Unit is in charge of producing a Management Plan in periods of five years, as required by the Countryside and Rights of Way (CRoW) Act (2000). The Management Plan does not discourage new development within or near to the AONB, but instead sets out a number of policies to steer development to respect the surrounding landscape. The Management Plan 2014 – 2019⁵ highlights the potential for the *"loss of and damage to the quality of views in and out of the AONB through development"* as an issue in relation to protection of the importance, qualities and sensitivity of the AONB landscape. Policy MMP2 of the Management Plan requires high priority to be given to the Management Plan vision, policies and actions in development management decisions.
- 2.43 The Management Plan identifies in Section 4.4 that *"degradation of the setting and urban fringe impacts in certain Kent Downs landscape character areas through development, infrastructure, urbanisation and recreational pressure"* as a key issue for the AONB. It goes onto to state that *"the importance of the setting of the Kent Downs has been emphasised in policy and development management decisions which provides an opportunity to work with Local Planning Authorities to develop planning policy protection for the setting of the Kent Downs and to ensure that the setting is taken into account when Local Planning Authorities determine planning applications"*.
- 2.44 The following policies of the Management Plan are considered particularly relevant to the London Resort proposals:
- *"SD1 - The need to conserve and enhance the natural beauty of the Kent Downs AONB is recognised as the primary purpose of the designation and given the highest level of protection within statutory and other appropriate planning and development strategies and development control decisions.*
 - *SD3 - New development or changes to land use will be opposed where they disregard or run counter to the primary purpose of the Kent Downs AONB.*
 - *SD7 - To retain and improve tranquillity, including the experience of dark skies at night, careful design and the use of new technologies should be used. New developments and highways infrastructure which negatively impact on the local tranquillity if the Kent Downs AONB will be opposed unless they can be satisfactorily mitigated.*
 - *SD8 - Proposals which negatively impact on the distinctive landform, landscape character, special characteristics and qualities, the setting and views to and from the AONB will be opposed unless they can be satisfactorily mitigated.*
 - *SD10 - Positive measures to mitigate the negative impact of infrastructure and growth on the natural beauty and amenity of the AONB will be supported.*
 - *SD11 - Where it is decided that development will take place that will have a negative impact on the landscape character, characteristics and qualities of the Kent Downs*

⁵ Kent Downs Area of Outstanding Natural Beauty Management Plan 2014-2019 (Second revision April 2014, Kent Downs).

AONB or its setting, mitigation measures appropriate to the national importance of the Kent Downs landscape will be identified, pursued, implemented and maintained. The removal or mitigation of identified landscape detractors will be pursued.”

The Kent Downs Area of Outstanding Natural Beauty Setting Position Statement 2018⁶

- 2.45 The Position Statement produced by the Kent Downs AONB Unit is *“intended to provide further guidance on issues of setting for local planning authorities, land owners and other interested parties. It has been prepared in consultation with and approved by the Joint Advisory Committee for the Kent Downs AONB. The statement focuses on ensuring avoidance of harm and the conservation and enhancement of the setting of the AONB, through good design and the incorporation of appropriate mitigation measures”*.
- 2.46 It outlines examples of adverse impacts on the Kent Downs AONB, which include:
- *“development which would have a significant impact on views in or out of the AONB;*
 - *loss of tranquility through the introduction or increase of lighting, noise, or traffic movement or other environmental impact including dust, vibration and reduction in air quality;*
 - *introduction of abrupt change of landscape character; loss or harm to heritage assets and natural landscape, particularly if these are contiguous with the AONB;*
 - *development giving rise to significantly increased traffic flows to and from the AONB, resulting in erosion of the character of rural roads and lanes; and*
 - *increased recreational pressure as a result of development in close proximity to the AONB”*.

LANDSCAPE DESIGNATIONS

- 2.47 No part of the site lies within a national or regionally designated landscape. As discussed briefly above, the Kent Downs AONB is a nationally designated landscape, the boundary of which lies c.5.1km south-east of the Kent Project Site boundary, as illustrated on Figure 11.2 *Landscape Designations and Other Considerations* (Document Reference 6.3.11.2).

Other Relevant Considerations

Green Belt

- 2.48 The vast majority of the DCO Order Limits is not located within the Green Belt, with the Swanscombe Peninsula entirely excluded from this designation, and has been long established as a priority for regeneration and zone of change within national and local planning policy.

⁶ Kent Downs Area of Outstanding Natural Beauty Setting Position Statement (Kent Downs Joint Advisory Committee, 2018).

- 2.49 The vast majority of the access corridor (A2(T) and A296 main roads) is also excluded from the Green Belt, however a small strip of land within the DCO Order Limits and south of the A2(T) main road falls within the Green Belt (see Figure 11.2 *Landscape Designations and Other Considerations* (Document Reference 6.3.11.2)).
- 2.50 The fundamental aim of the Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of green belts are their openness and their permanence. As such, green belt is a spatial planning policy designation rather than a landscape designation based on landscape character and value (i.e. green belts are not automatically of high landscape value). Whilst green belt has been used to control all development, the focus of the designation is essentially to control the sprawl and creep of urban areas and settlements.

Other Environmental Considerations

- 2.51 Figure 11.3 *Other Environmental Considerations* (Document Reference 6.3.11.3) illustrates other environmental considerations within the 8km broad study area. Whilst these may not be specifically landscape designations, features of heritage, ecology, arboricultural and rights of way and access value can influence the landscape or provide a receptor point from which the immediate and wider landscape is experienced.
- 2.52 For example, a nature reserve, local wildlife site or country park open to the public may not be designated for landscape purposes but is likely to be a place that people visit to take in nature, their surroundings including the landscape and seek recreation.

Heritage Matters

- 2.53 A separate Cultural Heritage and Archaeology Chapter (Document Reference 6.1.14) considers the historic character and setting of designated and non-designated heritage assets within the study area. As mentioned above (paragraphs 2.51 to 2.52), while heritage assets are not landscape designations per se, they do, on occasion, serve to influence the character of the landscape and can inform landscape value, which are considerations within this report. Where this is the case, it is noted in the relevant assessment.
- 2.54 No part of the Project Site lies within a registered park or garden (RPG) listed on English Heritage's Register of Parks and Gardens of Special Historic Interest. The closest RPG is 'Gravesend Cemetery', which is designated at Grade II* and located to the south of the B261 within Gravesend. Due to the distance from the Project Site, and the minimal intervisibility between the RPG and the Project Site (as illustrated by Figure 11.3 *Other Environmental Considerations* (Document Reference 6.3.11.3 and verified during the field visit), it is considered very unlikely that there will be any change to the landscape character or visual amenity of these assets as a result of the proposals.
- 2.55 There are a number of conservation areas (CAs) located within the detailed 2km study area (17 in total) as illustrated in Figure 11.3 *Other Environmental Considerations* (Document Reference 6.3.11.3). The nearest is 'The Hill, Northfleet' CA located c.470m

east of the Kent Project Site. Eleven of the 17 CAs within 2km of the Project Site are located in close proximity to one another around Gravesend and Northfleet, south of the Essex Project Site and separated from it by the River Thames.

- 2.56 Numerous listed buildings are located within the 8km broad study area and 2km detailed study area, most of which are clustered around CAs or centrally within urban areas (see Figure 11.3 *Other Environmental Considerations* (Document Reference 6.3.11.3)). Two Grade II listed buildings lie within the Kent Project Site, 'Swanscombe Cutting Footbridge Crossing A2 East of A296 Junction' is located along the A2 corridor, and the other, 'Boundary stone, Ingress Park, Lovers Lane' is located at the western end of the Swanscombe Peninsula. One Grade II* Listed Building is located within the Essex Project Site itself, being the 'Riverside Station, including floating landing stage'. Another Grade II* listed building, 'Church of All Saints' is situated adjacent to the Kent Project Site on Galley Hill Road at the junction with High Street and London Road whilst Grade II 'Garden Bridge, Ingress Park' is located adjacent to the western extent of the DCO boundary (Kent Project Site) to the east of Tiltman Avenue.
- 2.57 There are three scheduled monuments (SM) which fall partially within the DCO Order Limits. They include 'Palaeolithic sites near Baker's Hole', 'Neolithic sites near Ebbsfleet' and 'Springhead Roman Site' all of which feature in the Ebbsfleet Valley area of the Kent Project Site which runs from Swanscombe Peninsula, southwards to the A2(T)/B259 junction. 'Medieval woodland boundary in Darenth Wood' is located adjacent to the western edge of the A2(T) Corridor of the Kent Project Site, whilst 'Tilbury Fort' lies adjacent to the north-east corner of the Essex Project Site.

Ecology Matters

- 2.58 Chapters 12 and 13 (Document Reference 6.1.12 and 6.1.13) consider the ecological assets within the study area. While these are not landscape designations, as for the above referenced heritage assets, they do, on occasion, serve to influence the character of the landscape and can inform landscape value.
- 2.59 No part of the Project Site is covered by any international statutory designations. However, there is one statutory designations of international importance within c.3.4km of the Project Site, being the 'Thames Estuary and Marshes' SPA/Ramsar Site as illustrated on Figure 11.3 *Other Environmental Considerations* (Document Reference 6.3.11.3).
- 2.60 In terms of national designations, within the Kent Project Sites lies the '[Swanscombe Peninsula](#)' [Bakers Hole](#)' Site of Special Scientific Interest (SSSI), which is designated for ~~its geological interest, is below ground and not publicly accessible~~ [its complex open mosaic of habitats and traditional estuarine habitats, nationally important assemblage of vascular plants, invertebrates and breeding birds](#). Other SSSIs within the detailed 2km study area include 'Swanscombe Skull Site', 'West Thurrock Lagoon & Marshes' and 'Darenth Wood' all of which have some form of public access. 'Lion Pit' and 'Grays Thurrock Chalk Pit' are located on the northern side of the Thames within Thurrock District, and contained by their quarried nature, share no inter-visibility with the Project Site.

- 2.61 One National Nature Reserve (NNR), 'Swanscombe Skull Site', is located c.750m from the DCO Order Limits (Kent Project Site). No Local Nature Reserves (LNR) are located within 2km of the Project Site.
- 2.62 Two Local Wildlife Sites (LWS) are located within or partially within the DCO Order Limits. One being 'Botany Marshes' LWS located within the Kent Project Site at the eastern end of the Swanscombe Peninsula, and the other being 'Ebbsfleet Marshes, Northfleet' LWS of which the southern and northern part of the designation is within the Kent Project Site. In addition, a further LWS, 'Alkereden Lane Pit' falls adjacent to the west of the Kent Project Site. 'Tilbury Marshes' LWS is located adjacent to the eastern edge of the Essex Project Site.

Tree Preservation Orders and Ancient Woodland

- 2.63 There are four areas of ancient woodland within close proximity of the southern part of the Kent Project Site, two of which fall between the A2 Main Road and A296, whilst the westernmost extent of the Kent Project Site bounds two small sections of Darenth Wood. Two additional areas of Ancient Woodland bound the southern DCO boundary and the A2 known as 'Stonewood' and 'The Thrift' with a small section of 'The Thrift' falling within the DCO Order Limits (c.0.25ha or 2,503m²). Generally, ancient woodland is located and more frequent within the southern areas and eastern areas of the broad study area, given the riverside and marsh habitats in the north.
- 2.64 A BS 5837:2012 Trees in Relation to Design, Demolition and Construction compliant survey of the trees in relation to the Proposed Development has been completed to inform the masterplan and assessment process and is contained within the Arboricultural Assessment (Document Reference 6.2.12.9).

Rights of Way and Access

National Trails

- 2.65 Natural England's Coastal Access Scheme was approved by the Secretary of State on 09 July 2013 under section 298(2) of the Marine and Coastal Access Act 2009.
- 2.66 On 05 June 2019, Natural England submitted a coastal access report relating to the stretch of land between Grain and Woolwich ('the coastal access report') to the Secretary of State for Environment, Food and Rural Affairs under section 51 of the National Parks and Access to the Countryside Act 1949 ('the 1949 Act'), pursuant to its duty under section 296(1) of the Marine and Coastal Access Act 2009 ('the 2009 Act').
- 2.67 The intended stretch for the England Coast Path known as 'Grain to Woolwich' passes through the Swanscombe Peninsula of the Kent Project Site. This specific stretch is known as GWO4 – 'Botany Marshes to Dartford Marshes'.
- 2.68 The stretch including GWO4 was approved by Secretary of State on 23 April 2020, the intended route of which is contained within the *Public Rights of Way Assessment and*

Strategy (Document Reference 6.2.11.9, Annex 2.0) and illustrated on Figure 11.16 *Existing Public Rights of Way* (Document Reference 6.3.11.16).

- 2.69 On 27 February 2020, Natural England submitted a collection of reports to the Secretary of State setting out the proposals for improved access to the coast between ‘Tilbury and Southend’. The intended stretch passes through the Essex project site and is known as TSE1 – ‘Fort Road, Tilbury to The Manorway, Corringham. The intended route is contained within the *Public Rights of Way Assessment and Strategy* (Document Reference 6.2.11.9, Annex 3.0) and illustrated on Figure 11.16 *Existing Public Rights of Way* (Document Reference 6.3.11.16).

Public Rights of Way

- 2.70 The locations of Public Rights of Way (PRoW) have been obtained from Kent County Council (KCC) Definitive Map and Statement, provided by KCC to EDP on 16 March 2020. Similarly, the locations of PRoW have been obtained from TBC online on 05 May 2020 via their website as printed maps are no longer produced.

Promoted Routes

- 2.71 The ‘Saxon Shore Way’ starts in the town centre of Gravesend and follows a path along the southern bank of the River Thames and the north Kent coast. At its nearest point, it is located c.950m south of the DCO Order Limits (Essex Project Site) and c.2.6km east of the DCO Order Limits (Kent Project Site). Similarly, the Wealdway Path begins in the town centre of Gravesend but travels south 83 miles to Eastbourne. At its nearest point, the route is located c.950m south of the DCO Order Limits (Essex Project Site) and c.1.7km of the DCO Order Limits (Kent Project Site).
- 2.72 The ‘Thames Path’ promoted route (not to be confused with the ‘Thames Path National Trail’), is located at its nearest point, c.6km to the north-west of the DCO Order Limits (Kent Project Site) at Crayford Ness. The route is an unofficial extension of the Thames Path National Trail and follows the south bank downstream from the Thames Barrier (at the Thames Path National Trail end point), to Crayford Ness.
- 2.73 The ‘Darent Valley Path’ follows the course of the River Darent from its source in the Greensand Hills, to where it joins the River Thames north of Dartford. The promoted route is located c.4.1km south-west of the DCO Order Limits (Kent Project Site).

Public Rights of Way, Bridleways, Byways Open to All Traffic (BOAT) and Restricted Byways

- 2.74 There are several PRoWs that pass through the broad study area, as illustrated on Figure 11.2 *Landscape Designations and Other Considerations* (Document Reference 6.3.11.2). A number cross or pass adjacent to the Project Site. In relation to the Kent Project Site, these include:

- Footpath DS1;
- Footpath DS2;

- Footpath DS3;
- Footpath DS5;
- Footpath DS12;
- Footpath DS17;
- Footpath DS20;
- Footpath DS30;
- Footpath DS31;
- Footpath NU1;
- Footpath NU7A;
- Footpath NU14;
- Footpath NU47;
- Footpath DR18;
- Footpath DR19;
- Footpath DR20;
- Footpath DR128; and
- Restricted Byway DR129.

2.75 In relation to the Essex Project Site, these include:

- Footpath 192 (Thurrock).

2.76 There are also a number of PRoW within the local context of the Project Site, which generally provide links through existing urban areas or through countryside to other settlements and urban areas. Potential views from these PRoW, and others within the wider context are considered in Chapter 4 of this assessment.

National Cycle Routes

2.77 As illustrated on Figure 11.2 *Landscape Designations and Other Considerations* (Document Reference 6.3.11.2), sections of National Cycle Route (NCR) 1 pass through the Kent Project Site within Swanscombe Peninsula and the Ebbsfleet Valley, whilst NCR 177 passes through the A2/Pepperhill junction. In addition, NCR 13 passes through the Essex Project Site along Ferry Road and links to Tilbury Fort.

Open Access Land and Country Parks

- 2.78 There are seven country parks located within the broad study area as illustrated on Figure 11.2 *Landscape Designations and Other Considerations* (Document Reference 6.3.11.2). The nearest is Swanscombe Heritage Park, located c.25m from the DCO Order Limits the near the Swanscombe Peninsula. Natural England recognises country parks as significant places that contribute to England's accessible natural green space; they are not necessarily created in recognition of, or to protect, landscape quality. However, the attractive, green, informal, accessible character of the country park means that it has a high local value.
- 2.79 Potential views from these Country Parks within the broad study area are considered in Chapter 4 of this assessment.

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Chapter Three ◆ BASELINE CONDITIONS: LANDSCAPE RESOURCE

- 3.1 As advocated by GLVIA3, this chapter identifies the range of landscape resources with the potential to experience an effect. The analysis of the baseline also requires consideration of the sensitivity of the receptor, this being a function of the susceptibility to change of the receptor and its value.
- 3.2 EDP has undertaken a review of local landscape character, which included site visits by experienced Chartered Landscape Architects in 2020. Where necessary, the relevance of the published character assessments to the local landscape is commented on below. Extracts of key characteristics, to assist with understanding the various Council's accepted baseline positions, are contained in Annex 3.0 below.

National Character Assessment

- 3.3 At the national level, the Project Site lies in a transitional area between National Character Areas (NCAs) as illustrated in Figure 11.4 *National Character Areas* (Document Reference 6.3.11.4).

Greater Thames Estuary

- 3.4 The Swanscombe peninsula area of the Kent Project Site, and the whole of the Essex Project Site, is located within the 'Greater Thames Estuary' NCA (no. 81), which is described as (emboldening added by EDP where directly relevant to the Project Site and near context):

“Predominantly a remote and tranquil landscape of shallow creeks, drowned estuaries, low-lying islands, mudflats and broad tracts of tidal salt marsh and reclaimed grazing marsh that lies between the North Sea and the rising ground inland. It forms the eastern edge of the London Basin and encompasses the coastlines of South Essex and North Kent, along with a narrow strip of land following the path of the Thames into East London.

Despite its close proximity to London, the NCA contains some of the least settled areas of the English coast, with few major settlements and medieval patterns of small villages and hamlets on higher ground and the marsh edges. This provides a stark contrast to the busy urban and industrial areas towards London where population density is high and development pressures are increasing. Sea defences protect large areas of reclaimed grazing marsh and its associated ancient fleet and ditch systems, and productive arable farmland. Historic military landmarks are characteristic features of the coastal landscape.”

3.5 The key characteristics of the 'Greater Thames Estuary' are broadly described as (emboldening added by EDP where directly relevant to the Project Site and near context):

- *“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;*
- *Eastern edge of the London Basin with its underlying geology of the extensive London Clay, containing important sites for geodiversity including fossiliferous deposits, and overlain by productive loamy soils derived from intertidal alluvial muds;*
- *Geological contrast and variety along the coastline provided by Sheppey, a long, low island rising from a stretch of very flat marsh along the Swale Estuary in Kent with low, steep clay cliffs facing towards Essex, and Mersea Island in the Blackwater Estuary in Essex;*
- *Coastline of major geomorphological interest for its coastal processes. Accretion of material carried by the sea from the north recharges intertidal coastal habitats, which are subject to coastal squeeze from rising sea levels;*
- ***Open grazing pastures patterned by a network of ancient and modern reed-fringed drainage ditches and dykes, numerous creeks and few hedges or fences, with tree cover a rarity;***
- *Traditional unimproved wet pasture grazed with sheep and cattle combined with extensive drained and ploughed arable land protected from floods by sea walls, with some areas of more mixed agriculture on higher ground;*
- ***Strong feelings of remoteness and wilderness persist on extensive salt marshes, mudflats and reclaimed farmed marshland, which support internationally important plants, invertebrates and populations of breeding and overwintering birds, notably overwintering Brent geese;***
- ***Open mosaic habitats on brownfield sites support nationally important invertebrate assemblages and key populations of rare invertebrate species;***
- ***Distinctive landmarks of coastal military heritage including Napoleonic military defences, forts and 20th-century pillboxes;***
- *Some of the least settled parts of the English coast with numerous small villages and hamlets on higher ground and marsh edges reflecting medieval patterns and the coastal economy;*
- ***Highly urbanised areas within London and on marsh edges subject to chaotic activity of various major developments including ports, waste disposal, marine dredging, housing regeneration, mineral extraction and prominent power stations plus numerous other industry-related activities;***

- ***Increasing development pressures around major settlements and especially towards London, with urban, industrial and recreational sites often highly visible within the low-lying marshes; and***
- ***Major historical and current transport link to Inner London provided by the River Thames, with an extensive network of road and rail bridges spanning its reaches within the city.***

North Kent Plain

3.6 The southern parts of the Kent Project Site, including the existing quarries, land around Ebbsfleet International and the A2(T) road corridor, are located within the 'North Kent Plain' NCA (no. 113) which comprises

“the strip of land between the Thames Estuary to the north and the chalk of the Kent Downs to the south. The area is open, low and gently undulating. It is a very productive agricultural area with predominantly high-quality, fertile loam soils characterised by arable use. Traditional orchards, soft fruits and other horticultural crops exist in central and eastern areas giving rise to the use of the title ‘Garden of England’. There is an extensive area of ancient woodland around Bean, plus significant ancient woodlands further west. However, it is generally an open landscape: characteristic shelterbelts occur within the fruit-growing areas, but the agricultural land is mostly devoid of hedgerows”.

3.7 The key characteristics of the 'Kent North Plain' NCA are broadly described as (emboldening added by EDP where directly relevant to the Project Site and near context):

- *“An open, low and gently undulating landscape, characterised by high quality, fertile, loamy soils dominated by agricultural land uses;*
- ***The area’s geology is dominated by Palaeogene clays and sands, underlain by the Chalk;***
- *Geologically a chalk outlier – and historically an island separated from the mainland by a sea channel – Thanet forms a discrete and distinct area that is characterised by its unity of land use, arising from the high quality fertile soils developed in thin drift deposits over chalk;*
- ***A diverse coastline (both in nature and orientation), made up of cliffs, intertidal sand and mud, salt marshes, sand dunes and shingle beaches. Much of the coastal hinterland has been built on, and the coast itself has been modified through the construction of sea walls, harbours and piers;***
- *Large arable/horticultural fields with regular patterns and rectangular shapes predominating, and a sparse hedgerow pattern;*
- *Orchards and horticultural crops characterise central and eastern areas, and are often enclosed by poplar or alder shelterbelts and scattered small woodlands;*

- **Woodland occurs on the higher ground around Bean and in smaller blocks to the west, much of it ancient and of high nature conservation interest;**
- *The Stour and its tributaries are important features of the eastern part of the NCA, draining eastwards into the North Sea, with associated wetland habitats including areas of grazing marsh, reedbeds, lagoons and gravel pits. The River Medway cuts through the NCA as it flows into the Thames Estuary;*
- *Other semi-natural habitats include fragments of neutral, calcareous and acid grassland, and also heathland;*
- *The area has rich evidence of human activity from the Palaeolithic period. Key heritage assets include Roman sites at Canterbury, Reculver and Richborough; the Historic Dockyard at Chatham; military remains along the coast; and historic parks and buildings; and*
- **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, as well as around towns further east and along the coast. Major rail and road links connect the towns with London."**

Northern Thames Basin

3.8 Just north of the Essex Project Site, on the northern bank of the River Thames lies the 'Northern Thames Basin' NCA (no. 111) and is described below:

"The Northern Thames Basin is a diverse area which extends from Hertfordshire in the west to the Essex coast in the east. It is separated from the North Sea and Thames Estuary by a narrow band of land that makes up the Greater Thames Estuary National Character Area (NCA). Included within this NCA are the suburbs of North London and also historic towns and cities including St. Albans and Colchester, as well as new and planned towns such as Welwyn Garden City, Hatfield and Basildon. Although arable agriculture is a large industry in the area the soil quality ranges from good to poor quality. The London Clay provides a poor quality soil that becomes waterlogged in winter and cracks and shrinks in summer. Better quality soil is found in areas that contain alluvial deposits from the Thames and other rivers in the area as they formed and changed position over time.

The Northern Thames Basin is an area rich in geodiversity, archaeology and history and diverse landscapes ranging from the wooded Hertfordshire plateaux and river valleys, to the open landscape and predominantly arable area of the Essex heathlands, with areas of urbanisation mixed in throughout. Urban expansion has been a feature of this area since the 16th century when wealthy merchants who were conducting business in London built homes on its outskirts, mainly in the Hertfordshire area. This trend increased dramatically from the mid-19th century as infrastructure improved and people could travel to work in London from the surrounding areas in an hour or less. This has put increased pressure on the area in terms of extra housing developments, schools and other necessities for expanding populations, with a consequential reduction in tranquillity."

3.9 The key characteristics of the ‘Northern Thames Basin’ NCA are broadly described as:

- *“The landform is varied with a wide plateau divided by river valleys. The prominent hills and ridges of the ‘Bagshot Hills’ are notable to the northwest and extensive tracts of flat land are found in the south;*
- *Characteristic of the area is a layer of thick clay producing heavy, acidic soils, resulting in retention of considerable areas of ancient woodland;*
- *Areas capped by glacial sands and gravels have resulted in nutrient-poor, free-draining soils which support remnant lowland heathlands, although these are now small. Areas that have alluvial deposits present are well drained and fertile;*
- *The water bearing underlying Chalk beds are a main source of recharge for the principal London Basin Chalk aquifer;*
- *A diverse landscape with a series of broad valleys containing the major rivers Ver, Colne and Lea, and slightly steeper valleys of the rivers Stour, Colne and Roman. Numerous springs rise at the base of the Bagshot Beds and several reservoirs are dotted throughout the area;*
- *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;*
- *The field pattern is very varied across the basin reflecting historical activity. Informal patterns of 18th-century or earlier enclosure reflect medieval colonisation of the heaths. Regular planned enclosures dating from the Romano-British period are a subtle but nationally important feature on the flat land to the south-east of the area. In the Essex heathlands 18th- and 19th-century enclosure of heathlands and commons followed by extensive 20th-century field enlargement is dominant;*
- *Mixed farming, with arable land predominating in the Hertfordshire plateaux, parts of the London Clay lowlands and Essex heathlands. Grasslands are characteristic of the river valleys throughout. Horticulture and market gardening are found on the light, sandy soils of former heaths in Essex, particularly around Colchester, along with orchards, meadow pasture and leys following numerous narrow rivers and streams;*
- *The diverse range of semi-natural habitats include ancient woodland, lowland heath and floodplain grazing marsh and provide important habitats for a wide range of species including great crested newt, water vole, dormouse and otter;*
- *Rich archaeology including sites related to Roman occupation, with the Roman capital at Colchester and City of St Albans (Verulamium) and links to London. Landscape parklands surrounding 16th- and 17th-century rural estates and country houses built for London merchants are a particular feature in Hertfordshire;*

- *The medieval pattern of small villages and dispersed farming settlement remains central to the character of parts of Hertfordshire and Essex. Market towns have expanded over time as have the London suburbs and commuter settlements, with the creation of new settlements such as the pioneering garden city at Welwyn and the planned town at Basildon; and*
- *Brick-built dwellings are characteristic from the late 17th century onwards. Prior to this dwellings and farm buildings tended to be timber built with weatherboarding, now mainly painted white but traditionally black or tarred, and whitewashed plaster walls.”*

North Downs

3.10 To the south of the Kent Project Site, lies the ‘North Downs’ NCA (no. 119). The North Downs:

“... forms a chain of chalk hills extending from the Hog’s Back in Surrey and ending dramatically at the internationally renowned White Cliffs of Dover. The settlement pattern is characterised by traditional small, nucleated villages, scattered farms and large houses with timber framing, flint walls and Wealden brick detailing. Twisting sunken lanes, often aligned along ancient drove roads, cut across the scarp and are a feature of much of the dip slope. The Kent Downs and Surrey Hills Areas of Outstanding Natural Beauty designations are testament to the qualities and natural beauty of the area.”

3.11 The key characteristics of the North Downs NCA are broadly described as:

- *“Cretaceous Chalk forms the backbone of the North Downs. A distinctive chalk downland ridge rises up from the surrounding land, with a steep scarp slope to the south providing extensive views across Kent, Surrey and Sussex and across the Channel seascape to France;*
- *The broad dip slope gradually drops towards the Thames and the English Channel, affording extensive views across London and the Thames Estuary. The carved topography provides a series of dry valleys, ridges and plateaux;*
- *Chalk soils are predominant across the NCA but the upper part of the dip slope is capped by extensive clay-with-flint deposits. Patches of clay and sandy soils also occur with coombe deposits common in dry valleys;*
- *The North Downs end at the dramatic White Cliffs of Dover, one of the country’s most distinctive and famous landmarks. Most of the coast between Kingsdown and Folkestone is unprotected, allowing for natural processes. The cliffs are home to internationally important maritime cliff-top and cliff-ledge vegetation;*
- *The area is cut by the deep valleys of the Stour, Medway, Darent, Wey and Mole. The river valleys cut through the chalk ridge, providing distinctive local landscapes which contrast with the steep scarp slope;*
- *The south-facing scarp is incised by a number of short, bowl-shaped dry valleys, cut by*

periglacial streams and often referred to as combes. The undulating topography of the dip slope has also been etched by streams and rivers, today forming dry valleys, some of which carry winterbournes that occasionally flow in the dip slope, depending on the level of the chalk aquifer;

- *The footslope of the escarpment supports arable cropping, the dominant land use within the NCA. In the east, the richer, loamy soils of the lower dip slope support large tracts of mixed arable and horticultural production;*
- *Woodland is found primarily on the steeper slopes of the scarp, valley sides and areas of the dip slope capped with clay-with-flints. Well-wooded hedgerows and shaws are an important component of the field boundaries, contributing to a strongly wooded character. Much of the woodland is ancient;*
- *Tracts of species-rich chalk grassland and patches of chalk heath are important downland habitats and of international importance;*
- *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;*
- *Small, nucleated villages and scattered farmsteads including oasts and barns form the settlement pattern, with local flint, chalk and Wealden brick the vernacular materials; and*
- *In the western part of the area, around and to the west of Sevenoaks and into Surrey, there is increased urban development.”*

Summary of NCAs

- 3.12 Given the broad geographical areas covered by the NCAs, it is considered that the description of landscape character undertaken at the sub-regional level is more relevant in establishing the landscape resource baseline. Accordingly, while the above NCAs have been used to inform this LVIA baseline, they will not be carried forward to detailed assessment of effects, the focus being on local landscape character areas which have a greater level of detail relevant to the Project Site.

County and Borough Landscape Character Assessments

- 3.13 The following subsections discuss the county and borough published landscape character areas within the near vicinity of the Project Site. Figure 11.5 *Published Landscape Character Areas* (Document Reference 6.3.11.5) illustrates the location of Landscape Character Areas (LCAs) in relation to the Project Site. It should be noted that where borough level information is not present, the next best available data is used, i.e. county level.

3.14 The host LCAs will be considered for assessment within the LVIA at construction, on completion and at 15 years after completion of the Proposed Development.

Kent's Character Assessment (2004)

3.15 A review of the Kent Landscape Character Assessment (KLCA) finds that the Kent Project Site is located within four LCAs. The northern parts of the Kent Project Site (Swanscombe Peninsula) lie within the 'Western Thames Marshes' LCA, whilst the majority of the southern portions of the Kent Project Site are located within the 'Dartford and Gravesend Fringes' LCA, with sections of the A2(T) road within the DCO Order Limits partially lying within the 'Darenth Downs' LCA and 'Southfleet Arable Lands' LCA.

3.16 The key characteristics of the 'Western Thames Marshes' LCA are described as (emboldening added by EDP where directly relevant to the Project Site and near context):

- ***“Low-lying flat, open marshland, fragmented by built development;***
- ***Urban/estuarine context;***
- ***River uses;***
- ***Remnant grazing marsh and arable farmland; and***
- ***Some localised ditches, dykes, wetlands and scrub.”***

3.17 The key characteristics of the 'Dartford and Gravesend Fringes' LCA are described as (emboldening added by EDP where directly relevant to the Project Site and near context):

- ***“Contained by A2 and urban edges;***
- ***Some semi-natural heathland and woodland;***
- ***Some farmland with remnant hedgerows and trees;***
- ***Landfill sites. Fragmentation by roads; and***
- ***Wide scale amenity uses.”***

3.18 The key characteristics of the 'Darenth Downs' LCA are described as (emboldening added by EDP where directly relevant to the Project Site and near context):

- ***“Smooth, open arable landscape on the chalk;***
- ***Crossed by major transport routes;***
- ***Scattered settlement; and***
- ***Long views to the Kent Thames Gateway.”***

3.19 The key characteristics of the 'Southfleet Arable Lands' LCA are described as (emboldening added by EDP where directly relevant to the Project Site and near context):

- *“Good quality soils developed on the Tertiary Beds overlying the chalk. A generally open arable landscape;*
- ***Open landscape allowing transport routes, pylons and settlement to dominate many areas;***
- *Remnant unkept hedgerows, shelterbelts and woodland copses giving a scruffy and unmanaged feel; and*
- ***Long views to the busy A2 (T) and Kent Thames-side beyond.”***

3.20 The full details of the LCAs mentioned above are contained within Annex 3.0 below, as are the other LCAs located within 2km of the Project Site.

Gravesham Landscape Character Assessment (2009)

3.21 A review of the Gravesham Landscape Character Assessment (GLCA) finds that the Kent Project Site overlaps with two LCAs. The eastern part of the Kent Project Site on Swanscombe Peninsula is located within the Botany Marshes LCA, whilst a small section of the A2(T) at the south-eastern extent of the Kent Project Site is located within 'Gravesend Southern Fringe' LCA. Within the 2km detailed study area is also the 'Istead Arable Farmland' LCA which falls within c.80m south of the Kent Project Site, shown on Figure 11.5. Key characteristics of each of the LCAs are summarised below (emboldening added by EDP where directly relevant to the Project Site and near context):

Botany Marshes LCA

- ***“Flat marshland with man-made sea wall on bank of River Thames;***
- ***Divided by a network of ditches, meandering waterways and small lagoons into small parcels of land;***
- ***Remnant of agricultural land on peninsula;***
- ***Limited public access to marshland;***
- ***Unified clumps of native vegetation;***
- ***Strong network of wildlife corridors within ditches and waterways, mudflat on River Thames provide good habitat opportunities; and***
- ***Visual detractors including electricity pylons running across marshland and large industrial building on character area boundary.”***

Gravesend Southern Fringe LCA

- ***“Dominant settlement on urban edge of Gravesend;***
- ***Very gently undulating topography rising from north to south;***
- ***Small arable fields historically part of Istead Farmlands landscape;***
- ***Man-made golf course landscape acts as visual detractor;***
- ***Limited tree cover mostly consisting of small clumps of non-native tree material on golf course;***
- ***Wire Fence lines and gappy native hedgerows; and***
- ***Landscape dominated by large roads, Channel Tunnel Rail Link and associated infrastructure.”***

Istead Arable Farmland LCA

- ***“Gently undulating topography with open arable fields;***
- ***Fields divided by tracks, roads and occasional hedgerows;***
- ***Orchards to the east;***
- ***Minor native woodland clumps;***
- ***Few roads, which are open in character;***
- ***Istead Rise modern housing development;***
- ***Clusters of properties and farmsteads; and***
- ***Large pylons.”***

3.22 The full details of the LCAs mentioned above are contained within Annex 3.0 below, as are the other LCAs located within 2km of the Project Site.

Gravesham Townscape Appraisal (2008)

3.23 According to the Gravesham Townscape Appraisal (GTA), the Kent Project Site is partially within Townscape Character Area (TCA) ‘Industrial Hinterland’. Elsewhere, the Kent Project Site also abuts the ‘Northfleet’ TCA and ‘Modern Suburbs’ TCA. Whilst the GTA does not list specific key characteristics for each TCA, the following ‘key characteristics’ have been extracted from the narrative for each relevant TCA:

Industrial Hinterland TCA

- Heavy industrial use dominates the area;
- Predominantly flat topography with very little undulation;
- Greenspaces unkempt and overgrown, often covered in litter;
- Wide variety of industrial and commercial buildings varying in size and scale;
- Large amount of concrete and corrugated metal used throughout the sites with little softening from vegetation; and
- Chimney stacks from the cement works are a tall vertical element which rise high into the Northfleet skyline.

Northfleet TCA

- Land use comprises a mixture of both commercial and residential;
- There are limited areas of greenspace, which are generally unmanaged, derelict or in poor condition; and
- Development has been constrained by the physical landform of chalk quarries.

Modern Suburbs TCA

- Topography across the area is predominantly undulating;
- Land use is primarily residential comprising predominantly housing and a small number of blocks of flats;
- Small private garden spaces; and
- On the periphery of the main urban area.

3.24 The full details of the TCAs mentioned above are contained within Annex 4.0 below, as are the other TCAs located within the 2km.

Thurrock Landscape Capacity Study (2005)

3.25 With regard to the Thurrock Landscape Capacity Study (TLCS), the Essex Project Site is determined as falling within the 'Tilbury and Docks Urban Area' LCA and 'Tilbury Marshes' LCA. The following 'key characteristics' have been extracted from the narrative for both LCAs (boldening added by EDP where directly relevant to the Project Site and near context):

Tilbury and Docks Urban Area LCA

- *“Tilbury is a nucleated settlement, which, although located in close proximity to the docks, is separated from the main waterfront industry by a main railway line;*
- *The docks, part of the Port of London, were built in the 1880’s and contain large commercial warehouses and distinctive vertical cranes. From within the docks, **there are substantial cross-river views**. Housing development within Tilbury is predominantly post-war and includes some tower blocks and flat-roofed housing blocks;*
- ***Adjacent to the docks, a large industrial and commercial area** serves Tilbury and contains large warehouses and ASDA supermarket;*
- *There are several areas of publicly accessible greenspace within Tilbury, distributed within housing areas and to the north-east of the settlement (Karting Stadium) ; and*
- *The southern boundary is adjacent to Vange and Fobbing Marshes SSSI.”*

Tilbury Marshes LCA

- *“**Low lying, level landscape;***
- ***Horizontal landform;***
- *Large scale landscape;*
- *Network of linear ditches;*
- ***Southern skyline of dock cranes, chimneys, pylons and power lines;** and*
- *Close proximity of residential areas.”*

3.26 The full details of the LCAs mentioned above are contained within Annex 3.0 as are the other LCAs located within the 2km.

Thames Strategy East (2008)

3.27 A review of the Thames Strategy East (TSE) confirms that the Kent Project Site lies within two Reach Character Areas (RCA), ‘Long Reach and Fiddler’s Reach’ RCA and ‘Northfleet Hope’ RCA. The Essex Project is similarly located within two RCAs, being the ‘Northfleet Hope’ RCA and ‘Gravesend Reach’ RCA. The following ‘key characteristics’ have been extracted from the narrative for the relevant RCAs (emboldening added by EDP where directly relevant to the Project Site and near context):

Long Reach and Fiddler’s Reach RCA

- *“The Reach contains the **highly visible QEII Bridge;***

- *This Reach comprises a fragmented and disjointed patchwork of land uses including large-scale heavy industrial complexes, remnants of marshland giving a semi rural character and pockets of residential development;*
- *The Reach is particularly important for its archaeological value; and*
- *The landscape bears the large scars of chalk extraction.”*

Northfleet Hope Reach RCA

- *“Both banks of this Reach are dominated by shipping activity and its associated infrastructure and land uses;*
- *The chalk ridge that runs close to the river has been extensively quarried and the resulting chalk pits and cliffs are a characteristic feature of Northfleet; and*
- *The main landmarks in the area are Tilbury Bulk Grain Terminal; Tilbury Docks Riverside Wharf; the London International Cruise Terminal; chimneys at Northfleet; and Church of Our Lady of the Assumption, Northfleet.”*

Gravesend Reach RCA

- *“This Reach marks the eastern extent of the more or less continuously urbanised estuary;*
- *The Reach is particularly important for its strategic defence position. Tilbury Fort and New Tavern Fort historically were part of the defences of the river route into London;*
- *Gravesend, a historic market town and former holiday resort, is positioned strategically on the first area of high ground in the Estuary, and characterised by church spires and piers; and*
- *The main landmarks in the Reach are Tilbury Fort, Tilbury Power Station, the Church at West Tilbury, Gravesend Town Pier, New Tavern Fort and the Church of St George, Gravesend.”*

EDP CHARACTER ASSESSMENT

3.28 Whilst the above published assessments provide a helpful contextual appreciation of the wider landscape, none provide a sufficiently site-specific assessment to allow a full assessment to be made of the effects of the Proposed Development on the landscape. In particular, published assessments tend to miss more localised influences on the landscape, such as the effect of traffic or existing development on tranquillity and visual character. Similarly, the differing scales at which the relevant studies were undertaken and their age since publication (all over 10 years ago), results in some inconsistencies where character studies overlap or have changed considerably since publication.

- 3.29 Thus, EDP has undertaken an appropriately detailed assessment of the Project Site itself and its immediate surroundings, which is described below.
- 3.30 Site visits have taken place in 2020 in good to excellent weather conditions. The visits were complemented by a review of aerial photography, mapping and field assessments from publicly assessable locations (e.g. from local roads and PRoW).
- 3.31 This subsection identifies the variation in landscape across the Project Site and its immediate context. Due to the lack of local published landscape character assessments at the sub-county level (namely Dartford Borough) to assist with this LVIA, this LVIA baseline has identified 32 Local Landscape Character Areas (LLCAs) as illustrated on Figure 11.6 *Local Landscape Character Areas* (Document Reference 6.3.11.6) whilst Annex 4.0 below contains further detail on each LLCA. These LLCAs have been based upon review of published national and county level landscape character assessments, EDP site visits and desk study exercises. The boundaries of these LLCAs are, in reality gradual and not fixed, but have been illustrated in line form on plan to provide an understanding of the broad changes in settlement and landscape local to the Project Site. An overview of each LLCA is provided below including their key characteristics, value and sensitivity.

Marshland LLCA

- 3.32 The Marshland LLCA was found to be generally consistent with the character described in the 'Western Thames Marshes' LCA of the Kent Landscape Character Assessment and the 'Botany Marshes' LCA of the Gravesham Landscape Character Assessment.
- 3.33 This LLCA is contained entirely within the Kent Project Site and the Swanscombe Peninsula. The key characteristics are considered to be:
- Low-lying, largely open marshland, fragmented in part by built development and areas of higher ground where industrial waste has raised levels. Divided by a network of ditches, dykes, wetlands and scrub;
 - Manmade sea wall on south bank of River Thames, variation in topography and scrub/tree colonisation creates some degree of containment across the area and partly restricts views;
 - Disused jetties and wharfs on the riverfront, disused industrial buildings and open storage plots on vacant land give a sense of dereliction to the LCA;
 - Salt marsh edge beyond the flood defence wall, Broadness inlet with associated boat sheds and moorings and jetties along water's edge, together with the River Thames itself provide a strong sense of place and history to the LCA;
 - Ditches, marshland and scrub predominate, creating a well vegetated and relatively tranquil natural environment with a sense of detachment from the extensive urban environment in the surrounding area;
 - Remnants of agricultural land on peninsula west of Botany Marshes;

- Limited public access to marshland restricted to public footpath use and occasional private vehicles for security purposes;
- Limited built form, most of which is abandoned and has been in part recolonised by vegetation; and
- Prominent visual detractors including high voltage electricity transmission lines and pylons including a 190m 'super pylon' LCA and large industrial building on character area boundary. Smaller scale detractors including functional and security fenced aeration lagoons, derelict wastewater treatment plant, HS1 tunnel portal and Port of London Authority radar beacon.

Chalk Pits LLCA

3.34 The majority of the Chalk Pits LLCA is not covered by a previously published LCA although Bamber Pit is covered by the high-level Kent LCA as being within the 'Dartford and Gravesend Fringes' LCA. Sandwiched between the Swanscombe Peninsula and the Ebbsfleet Valley of the Kent Project Site, the key characteristics of the Chalk Pits LLCA are considered to be:

- Former chalk quarries comprise an unoccupied area confined by chalk cliffs and have a sense of being 'apart' from the surrounding town and peninsula;
- Chalk spines (retained to maintain transport routes such as the A226 London Road and the integrity of the former chalk pits) form distinctive features and 'east-west' barriers in the landscape;
- Views are possible from the elevated chalk spines such as London Road, however, views from within the quarries are very limited due to containment by the cliffs; and
- The chalk pits are generally well vegetated along the cliff edges, with varying colonisation by vegetation on the pit floors. Bamber Pit is notably covered with mature vegetation and contains a water body.

International LLCA

3.35 The International LLCA falls within the bounds of the Kent Project Site. The key characteristics of the International LLCA are considered to be:

- Baker's Hole Landfill sits within the Ebbsfleet Valley, across land between Swanscombe and the HS1 line/Ebbsfleet International. It comprises two sloping mounds which create a dramatic change to the landform that varies from 6m above Ordnance Datum (aOD) in the east, to 30m aOD in the west and are predominantly short managed grassland in nature;
- Route of HS1 passes centrally, north to south through the area, with road infrastructure bounding the area to the west and south and the North Kent railway line bounding the area to the north-east. Roads generally cross much of the area;

- Located centrally within the area is Ebbsfleet International train station, a modern steel framed and glazed structure with a large indoor and outdoor concourse and station amenities and car parks, which are very well maintained;
- Towards the south of the area is the River Ebbsfleet and its floodplain which comprises wet woodland, grassland and scrub and a nursery premises in the far south, adjacent the A2; and
- Wooded vegetation is generally prevalent throughout the area.

Northfleet LLCA

3.36 The Northfleet LLCA was found to be generally consistent with the character described in the 'Northfleet' TCA of the Gravesham LCA. The LLCA is located to the east of the Kent Project Site and is separated from it by the North Kent railway line. The key characteristics of the Northfleet LLCA are considered to be:

- Land use comprises a mixture of both commercial and residential;
- The LCA has a 'linear form' principally created the constraining factor of the chalk spine that runs north-west to south-east through the area and contains the route of the B2175. This chalk spine feature defines the area topographically, creating a physical barrier between 'high level' Northfleet and the 'low level' 'Industrial Northfleet' on the southern bank of the Thames;
- The historic core of Northfleet, centred around St Boltoph Church has a varied architecture but with a number of architectural features present throughout that are typical of the 'Kentish style' such as weather boarding and hanging tiles. This gives a 'sense of place' to the LCA which is largely absent from the architecture of the Northfleet Industrial LCA;
- Quarried land to the south and west provides a dramatic drop in elevation. Connectivity is poor and restricted to tunnels through the chalk spine for north/south movement. A caged, high level footbridge over the quarries along Church Path provides a pedestrian link east to west but is restrictive and somewhat daunting for users;
- There are limited areas of greenspace, which are generally unmanaged, derelict or in poor condition; and
- Development has been constrained by the physical landform.

Northfleet Industrial LLCA

3.37 The Northfleet Industrial LLCA was found to be generally consistent with the character described in the 'Industrial Hinterland' TCA of the Gravesham LCA. The majority of the LLCA is located to the east of the Kent Project Site, whilst a section of it (Manor Way Industrial Estate) passes through between the Marshland LLCA and Chalk Pits LLCA. The

key characteristics of the Northfleet Industrial LLCA, which comprises Northfleet and Manor Way Industrial Estates and the Swanscombe Cement Works, are considered to be:

- Industrial character dominated by industrial works, commercial units, functional architecture and hardstanding;
- Past quarrying excavations and HS1 have altered levels and created a distinctive southern 'chalk cliff' back drop to the western part of the area;
- The area is dis-jointed and lacks legibility due to the constraining factors of the southern chalk spine and HS1, which severs Manor Way, preventing through routes for vehicles and pedestrians;
- Views dominated by commercial warehouses and factories, security fencing and yards with limited to no amenity space or planting. Views of the Thames are limited but where they do occur, provide a sense of orientation and place to the LCA; and
- Vegetation is limited across the area with very little amenity planting but considerable tree and shrub colonisation in pockets where quarrying has ceased and/or land parcels have become redundant or disused. This is more prevalent towards the western end of Manor Way Industrial Estate of chalk quarries, with some areas disused and others currently being redeveloped.

Northfleet Suburbs

3.38 The key characteristics of the Northfleet Suburbs LLCA are considered to be:

- Residential form comprises a mixture of Victorian, Edwardian and inter-war housing;
- Terraced Victorian and Edwardian dwellings align a chalk ridge which extends north in the northern extent of this area, which gradually slopes the to the River Thames;
- Thames Way main road travels through chalk cutting; and
- Small areas of publicly open space dispersed throughout.

Swanscombe LLCA

3.39 The Swanscombe LLCA falls south of the Chalk Pits LLCA, west of the International LLCA and north of the Ebbsfleet LLCA. The LLCA also falls just west of the Kent Project Site and the key characteristics of the Swanscombe LLCA are considered to be:

- Mixture of mainly Victorian, Edwardian, Inter-war terraced and semi-detached housing centred around the historic centre of St Peter's and St Paul's Church;
- More modern, late 20th century dwellings are located to the south of the railway;
- Public open space is planned and centralised and includes, two recreation grounds and

the extensive, Swanscombe cemetery; and

- Broadly, the areas slopes north towards the peninsula from c. 50m aOD in the south, to c. 28m aOD in the north, with some local variation.

Swanscombe Heritage Park LLCA

3.40 The Swanscombe Heritage Park LLCA is located just west of the Swanscombe LLCA and south-west of the Swanscombe Peninsula. The key characteristics of the LLCA are considered to be:

- An area designated as a country park, national nature reserve, local wildlife site and geological SSSI, which is associated with well-known discoveries of human remains and tools dating back 400,000 years ago;
- Built form is generally absent;
- Semi-natural area between Swanscombe and Greenhithe;
- Area comprises a mixture of small expanses of grassland, dense scrub and woodland;
- Views towards the surrounding areas are limited by mature vegetation within the Heritage Park; and
- The super pylons by the River Thames to the north can be seen from more elevated areas of the park.

Ingress Park LLCA

3.41 The area of Ingress Park LLCA has no previous published LCAs which covers its characteristics and features. The LLCA is located just west of the Swanscombe Peninsula of the Kent Project Site. The key characteristics of the Ingress Park LLCA are considered to be:

- High quality 20th century residential area occupying the former Ingress Estate land;
- Ingress Abbey (dates from 1833), located centrally within the residential development, provides a strong sense of place and historic character to the area;
- Former quarrying has altered the landform in the area, with a heavily vegetated chalk cliff forming the southern boundary of the area and a green backdrop to the Ingress Park development;
- Generous areas of public open space; and
- A sense of separation from neighbouring residential areas due to a single access route and containment by the London Road chalk spine.

Greenhithe Village LLCA

3.42 The key characteristics of the Greenhithe Villages LLCA are considered to be:

- Mix of Victorian, Edwardian and modern housing;
- Very gently undulating topography rising from north to south;
- Mixed material use, varies between red brick, brown brick, weatherboarding, pebbledash, smooth cream/white renders.
- Greenhithe historic core forms an intimate and distinctive streetscape; and
- Many views are contained within the area due to the built nature of area, although some glimpsed views to the north and east maybe possible from some roads, properties and the urban edge.

Knockhall LLCA

3.43 The key characteristics of the Knockhall LLCA are considered to be:

- Mix of Victorian, Edwardian and post-war housing;
- Gently undulating topography;
- Mixed material use, varies between red brick, brown brick, weatherboarding, pebbledash, smooth cream/white renders; and
- Many views are contained within the area due to the built nature of area.

Stone Town LLCA

3.44 The key characteristics of the Stone Town LLCA are considered to be:

- Chalk cliff extends along the northern side of the A226 enclosing the area;
- Built form comprises a mixture of ages and types, including terraces, semi-detached dwellings and apartment blocks;
- Stone Castle is a striking medieval castle made of flint;
- Several open spaces dispersed across the area; and
- Large expanse of semi-natural open space, which covers an old chalk pit, it features grassland meadow and scattered shrubs.

Stone Marshes Riverside and Crossways Business Park LLCA

3.45 The key characteristics of the Stone Marshes Riverside and Crossways Business Park LLCA are considered to be:

- Flat low lying area;
- A stretch of grassland, saltmarsh and mudflats line river edge;
- Dominated by commercial uses; and
- Busy townscape with frequent traffic and haulage passing through it.

Gravesend Town Centre and Riverside LLCA

3.46 The Gravesend Town Centre and Riverside LLCA was found to be consistent with the 'Town Centre' TCA as described within the Gravesham Townscape Appraisal (2008). The key characteristics are considered to be:

- Riverside edge provides extensive views of the River Thames and across to Thurrock;
- Large scale industrial units, cranes and storage facilities near to the river;
- Changes in topography created by redundant quarries;
- Little greenspace provision;
- Large variety of buildings, many unique and impressive, the oldest dating predominantly to the early Victorian era;
- Strong Victorian core;
- Mixed use of materials further enforces the lack of unity between buildings and public spaces; and
- Contrast from modern developments creates lack of unity.

Gravesend Victorian/Edwardian Suburbs LLCA

3.47 The Gravesend Victorian/Edwardian Suburbs LLCA is largely consistent with the Victorian/Edwardian Suburb LCA identified within the Gravesham Townscape Appraisal 2008. The key characteristics are considered to be:

- Gently undulating topography;
- Land use is broadly residential, with large areas of original Victorian and Edwardian housing, and pockets of more modern development; and
- A number of open green spaces.

Gravesend Inter/Post War Suburbs LLCA

3.48 The Gravesend Inter/Post War Suburbs LLCA is largely consistent with the Inter/Post War Suburb LCA identified within the Gravesham Townscape Appraisal 2008. The key characters are:

- Some extensive views of the surrounding landscape and residential streetscape;
- Topography consistently undulating; and
- Largely residential, with a combination of terraced and semi-detached housing.

Gravesend Modern Suburbs LLCA

3.49 The Gravesend Modern Suburbs LLCA is largely consistent with the Modern Suburbia LCA identified within the Gravesham Townscape Appraisal 2008. The key characters are:

- Predominantly undulating topography;
- Land use is residential, with predominantly two-storey housing and a small number of four-storey flats;
- Small private garden spaces;
- On the periphery of the main urban area of Gravesend;
- Lack of any historic or distinct architectural features to within these housing developments, and as a result lack individual character;
- There is nothing in the design or layout of these suburbs to differentiate them from other similar estates built in recent times;
- The Sikh temple, The Old Barracks building and pockets of Victorian housing all help add character and a sense of place, differentiating it from other modern housing estate; and
- Little usable public green space and lack of any focal point for community activity.

Gravesend Southern Fringe LLCA

3.50 The Gravesend Southern Fringe LLCA was found to be consistent with the character described in the 'Gravesend Southern Fringe' LCA of the Gravesend LCA. The key characteristics are:

- Dominant settlement on urban edge of Gravesend;
- Very gently undulating topography rising from north to south;
- Small arable fields historically part of Istead Farmlands landscape;

- Man-made golf course landscape acts as visual detractor;
- Limited tree cover mostly consisting of small clumps of non-native tree material on golf course;
- Wire fence lines and gappy native hedgerows; and
- Landscape dominated by large roads, Channel Tunnel Rail Link and associated infrastructure.

Springhead LLCA

3.51 The Springhead LLCA falls adjacent to the east of the Kent Project Site with some minor areas of overlap on the periphery. The key characteristics of the Springhead LLCA are considered to be:

- Topography across the area is predominantly flat;
- Contained by transport infrastructure, being the HS1 line to the west, North Kent Line to the north and a disused railway line which now forms a public path with mature vegetation lining its banks;
- Land use is primarily residential estates with heavy industrial and commercial use dominating the central part the area as well as an extensive sewage works;
- The ‘estate’ character of the residential and industrial areas lacks architectural diversity and any strong sense of place with few distinguishing characteristics or features;
- Amenity provision in the area is large scale with Northfleet Urban Country Park, a major open space in the area, and Blue Lake located in a former chalk pit being publicly accessible along its northern edge; and
- Wooded vegetation and tree planting is generally prevalent throughout the area.

Wombwell Park LLCA

3.52 The Wombwell Park LLCA was found to be generally consistent with the character described in the ‘Inter/Post War Suburbs’, ‘Modern Suburbs’ and ‘Industrial Hinterland’ TCAs of the Gravesend Townscape Landscape Appraisal. The key characteristics of the Wombwell Park LLCA are considered to be:

- Located on the periphery of the main urban area of Gravesend;
- Predominantly flat topography with very little undulation;
- Land use is primarily residential comprising predominantly housing with a combination of terraced and semi-detached housing and a small number of blocks of flats;

- Residential character a mixture of inter/post war to modern;
- Variety of industrial and commercial buildings varying in size and scale; and
- Small private garden spaces.

Southfleet and Istead Arable Lands LLCA

3.53 The Southfleet and Istead Arable Lands LLCA was found to be generally consistent with the character described in the 'Southfleet Arable Lands' LCA of the Kent LCA and the 'Istead Arable Farmland' LCA of the Gravesend LCA. The key characteristics of the LLCA are considered to be:

- Gently undulating topography with open arable fields;
- Good quality soils developed on the Tertiary Beds overlying the chalk. A generally open arable landscape;
- Open landscape allowing transport routes, pylons and settlement to dominate many areas. Long views to the busy A2 (T) and Kent Thames-side beyond;
- Remnant unkept hedgerows, shelterbelts and woodland copses giving a scruffy and unmanaged feel;
- Fields divided by tracks, roads and occasional hedgerows;
- Orchards north-east of Southfleet;
- Istead Rise modern housing development; and
- Clusters of properties and farmsteads.

Darenth Downs LLCA

3.54 The Darenth Downs LLCA was found to be generally consistent with the character described in the 'Darenth Downs' LCA of the Kent LCA. The key characteristics of the Darenth Downs LLCA are considered to be:

- An undulating landscape of downland;
- Numerous large blocks of ancient woodland are located throughout the area;
- Beacon Wood Country park and a number of PRoW provide substantial public access across the area;
- Far-reaching views are curtailed by mature woodland which creates, enclosed more intimate areas;
- The area is crossed by major transport route of the A2; and

- Scattered pockets of settlement.

Ebbsfleet LLCA

3.55 The Ebbsfleet LLCA was found to be broadly consistent with the character described in the 'Dartford and Gravesend Fringes' LCA of the Kent LCA. However, it does not account for the considerable development that has taken since the assessment was undertaken. As such, the LLCA has been subject to substantial residential development and repurposing, including provision of public access to lakes in former quarrying works and cliffsides. The key characteristics of the Ebbsfleet LLCA are considered to be:

- An extensive area of regeneration within former chalk quarries bordered by the A2 to the south, B259/South Fleet Road to the east, B255 to the west and existing development at Swanscombe and Greenhithe to the north;
- Residential development is interspersed with lakes and extensive green routes and public open space creating a new 'sense of place' within this transformed landscape;
- Dramatic variation in topography, with housing located on high ground towards the south-east corner of the area, whilst other residential areas are located on much lower ground within former chalk pits to the north and west;
- The Observatory is a prominent angled, modern building that has wide views to the north; and
- Large waterbodies formed by former quarrying are fed by groundwater.

Bluewater LLCA

3.56 The Bluewater LLCA is located to the west of the Ebbsfleet LLCA. The key characteristics of the Bluewater LLCA are considered to be:

- An area of flat land, enclosed by vegetated chalk cliffs created from past quarrying;
- A large retail park with substantial areas of car parking is located within the former quarry;
- A series of lakes surround the Bluewater Shopping Centre and car parks, separating it from the chalk cliffs. Many mature trees also enclose the area and soften the views of built form; and
- Tree, shrub planting and areas of grassland breakup the utilitarian appearance of car parks and built form.

Long Reach and Fiddler's Reach LLCA

3.57 The Long Reach and Fiddler's Reach LLCA was found to be entirely consistent with the character and key characteristics described in the 'Long Reach and Fiddler's Reach' RCA of the Thames Strategy East. The key characteristics are:

- The Queen Elizabeth II (QEII) Bridge is a highly visible feature;
- A fragmented and disjointed patchwork of land uses including large-scale heavy industrial complexes, container depots, commercial and office development remnants of marshland giving a semi-rural character and pockets of residential development;
- On the northern bank, the river edges are predominantly hard, with softer edges at West Thurrock Marshes. On the southern bank, edges are more extensively soft, and protected by earth flood embankments;
- Mudflats are an extensive feature; and
- The landscape bears the large scars of chalk extraction.

Northfleet Hope Reach LLCA

3.58 The Northfleet Hope Reach LLCA was found to be entirely consistent with the character and key characteristics described in the 'Northfleet Hope Reach' RCA of the Thames Strategy East. The key characteristics are:

- The northern bank is dominated by shipping activity, particularly at Tilbury Docks, and its associated infrastructure and land uses
- The southern bank is dominated by industry, including a cement works, which also generates shipping infrastructure;
- The river edges are exclusively hard and vertical;
- The chalk ridge that runs close to the river has been extensively quarried and the resulting chalk pits and cliffs are a characteristic feature of Northfleet; and
- The main landmarks in the area are Tilbury Bulk Grain Terminal; Tilbury Docks Riverside Wharf; the London International Cruise Terminal; chimneys at Northfleet; and Church of Our Lady of the Assumption, Northfleet.

Gravesend Reach LLCA

3.59 The Gravesend Reach LLCA was found to be entirely consistent with the character and key characteristics described in the 'Gravesend Reach' RCA of the Thames Strategy East. The key characteristics are:

- This is the eastern extent of the more or less continuously urbanised estuary;

- Of particular importance for its strategic defence position;
- Tilbury Fort and New Tavern Fort historically were part of the defences of the river route into London;
- Gravesend, a historic market town and former holiday resort, is positioned strategically on the first area of high ground in the Estuary, and is characterised by church spires and piers;
- The riverbanks are predominantly hard and vertical;
- The main landmarks in the Reach are Tilbury Fort, Tilbury Power Station, the Church at West Tilbury, Gravesend Town Pier, New Tavern Fort and the Church of St George, Gravesend.

Tilbury Marshes LLCA

3.60 The key characteristics of the Tilbury Marshes LLCA are:

- Low lying, level landscape;
- Horizontal landform;
- Large scale landscape;
- Network of linear ditches;
- Southern skyline of dock cranes, chimneys, pylons and power lines; and
- Close proximity of residential areas.

Tilbury Urban Area LLCA

3.61 The key characteristics of the Tilbury Urban Area LLCA are:

- Tilbury is a nucleated settlement, which, although located in close proximity to the docks, is separated from the main waterfront industry by a main railway line;
- Housing development within Tilbury is predominantly post-war and includes some tower blocks and flat-roofed housing blocks; and
- There are several areas of publicly accessible greenspace within Tilbury, distributed within housing areas and to the north-east of the settlement (Karting Stadium).

Tilbury Docks LLCA

3.62 The Tilbury LLCA was found to be generally consistent with the character described in the 'Tilbury and Docks Urban Area' LCA of the Thurrock LCA. The key characteristics of the Tilbury Docks LLCA are considered to be:

- A low-lying and level landscape;
- Large commercial warehouses, cranes and dockland buildings front onto the Thames and dominate views within the area;
- Substantial cross-river views to Swanscombe Peninsula from within the docks;
- Where not developed for warehousing, the port is mostly hard surfaced to accommodate the storage and movement of vehicles, containers and bulk materials;
- Four wind turbines located at the southern edge of the docks at the water's edge and form a distinctive feature in the riverscape;
- Tilbury Ferry Terminal, London International Cruise Terminal and floating landing stage feature within the LLCA and are all Grade II* listed for architectural and historic interest; and
- The area is well contained by the River Thames to the south and the London, Tilbury and Southend Railway line defines the northern boundary of the area.

Grays/Chadwell St Mary Urban Area LLCA

3.63 The key characteristics of the Grays/Chadwell St Mary Urban Area LLCA are:

- West Thurrock, to the east of the Urban Area is a small linear settlement with a block-shaped form;
- Purfleet is nucleated around an older settlement core;
- West Thurrock church is isolated amongst large modern factory buildings and West Thurrock is bordered to the north by the large retail and commercial Lakeside Development;
- Around West Thurrock, a range of large commercial buildings and warehouses dominate the area;
- Closer to the River Thames, heavy industrial buildings associated with the Purfleet Thames Terminal combine with the strong influence of associated utilities infrastructure;
- Other than the lake within Lakeside retail development, there is lack of public amenity greenspace within the urban area; and
- The area supports a number of sites of significance for nature conservation (geological and wildlife sites).

SUMMARY OF THE CHARACTER OF THE PROJECT SITE ITSELF

- 3.64 Taking the above LLCAs into account, the Project Site and its surroundings varies considerably in character and cannot be ascribed an overarching character, value or sensitivity. Landscape character will therefore be considered and assessed at the local level as described above.
- 3.65 The below paragraphs provide a brief narrative summary of the Project Site itself, informed by the character area study and site visits conducted by EDP.

KENT PROJECT SITE

- 3.66 The focus of the Kent Project Site is the Swanscombe Peninsula, which comprises a large area of open and industrialised land in a low-lying riverside landscape beside the River Thames, between the Queen Elizabeth II Bridge and Gravesend. To the south, a series of chalk pits, landfill areas and infrastructure associated with Ebbsfleet International Station dominate the Ebbsfleet Valley down to the A2.
- 3.67 The Swanscombe Peninsula is predominantly a medium to large scale landscape with a generally open, low-lying and windswept character, retaining extensive areas of marshland including Black Duck Marsh, Botany Marsh and Broadness Marsh as well as existing industrial uses and derelict former industrial land.

Cultural Associations and Historic Landscape

- 3.68 The historic and cultural associations of the Landscape of the Kent project Site are described in Section 2.2 of the *Landscape strategy* (Document Reference 6.2.11.7) and in more detail in the Chapter 14: *Cultural heritage and archaeology* (Document Reference 6.1.14) where the pre-medieval and prehistoric significance of the Project Site is also described.
- 3.69 The Swanscombe Peninsula has a long industrial history relating to the manufacture of cement and paper and the majority of the area is a brownfield site comprising previously developed land, some of which contains contaminated landfill (see Chapter 18: *Soils, hydrogeology and ground conditions* (Document Reference 6.1.18)).
- 3.70 Prior to its use for quarrying and industrial purposes, the Swanscombe Peninsula was principally marshland, comprising a mix of salt marsh (Broadness Salt Marsh) and grazing marsh. The rectilinear drainage ditches on historic mapping indicate that much of land (Black Duck Marsh, Swanscombe Marshes and Botany Marshes) was subject to a grazing regime for summer use. Broadness Salt Marsh now has a raised terrain as a result of cement kiln dust (CKD) tipping and the deposition of river dredging.
- 3.71 The Pilgrim's Way public footpath (DS12) across the Swanscombe Peninsula was a 'Manorway', used from medieval times as a pilgrim's route from the Thames ferry crossing to Swanscombe Church and the shrine of St Hildefirth. The ferry ceased operation in the mid-19th century but the footpath remains.

- 3.72 South of the Swanscombe Peninsula, the land was largely in agricultural use with scattered village settlements, more extensive woodland and orchard plantings as well as watercress beds along the River Ebbsfleet. Small scale gravel, clay and chalk pits were present up until the 19th century when industrial development led to a significant increase in excavation of materials and larger pits being dug.
- 3.73 There are two listed buildings in the Kent Project Site, the A2 footbridge, which is of modern architectural interest and the Ingress park boundary stone, marking the edge of the Ingress Park estate, which included a historic parkland designed by ‘Capability’ Brown.

Topography, Geology and Soils

- 3.74 The Swanscombe Peninsula has an irregular topography (see *Landscape strategy* (Document Reference 6.2.11.7, Section 2.6) particularly because of historical CKD tipping activities and the deposition of dredging from the River Thames. Notably, two raised areas of tipped material rise to over 12-13me aOD, which creates an unnatural topography across what was traditionally a level floodplain. In addition, flood defences create an undulating topography along the edge of the Swanscombe Peninsula, particularly north of Black Duck Marsh.
- 3.75 To the south, the topography is complex, due to a series of chalk pit excavations and landfills. The pit extractions immediately to the south of the peninsula have left low-lying ‘pits’ divided by a significant chalk ‘spine’ which supports the A226, Galley Hill Road and London Road. This chalk spine has been tunnelled in various locations to facilitate road and rail connections. South of the ‘pits’ a landfill area creates an unnaturally high valley side opposite Ebbsfleet international the land then dropping down quite significantly to the lower lying land around Springhead adjacent the River Ebbsfleet.
- 3.76 The geology and soils of the Kent Project Site is described in Section 2.5 of the *Landscape strategy* (Document Reference 6.2.11.7) and in more detail in Chapter 18: *Soils, hydrogeology and ground conditions* (Document Reference 6.1.18). Unsurprisingly, the underlying geology of the Swanscombe Peninsula is alluvium, whilst chalk, sand and gravel underly most of the land to the south. The soil plan illustrated at Figure 11 of the *Landscape strategy* (Document Reference 6.2.11.7) is of less relevance given the extent of landfill that has occurred throughout the Kent Project Site.

Hydrology and Water Features

- 3.77 The hydrology of the Kent Project Site is described and illustrated in the *Landscape strategy* (Document Reference 6.2.11.7 Section 2.7) and Chapter 17: *Water resources and flood risk* (Document Reference 6.1.17). In summary, The River Thames and River Ebbsfleet form the main drainage channels associated with the Kent Project Site, together with an unnamed EA Main River referred to as Swanscombe Channel in Chapter 17: *Water resources and flood risk* (Document Reference 6.1.17). Drainage ditches across the peninsula serve to carry surface water to outflow pipes which discharge into the Thames and Black Duck Marsh.

- 3.78 A number of ponds and areas of standing water occur across the site including a pond in Bamber Pit, an area of open water in Black Duck Marsh and ponds within Botany Marsh.
- 3.79 A system of drains and filtration ponds are also present across the Swanscombe Peninsula to manage the leachate seeping from the landfill.

Habitats and Planting

- 3.80 The habitats across the Kent Project Site are extremely varied and include grazing marsh, semi-improved calcareous and neutral grassland, amenity grassland, semi-mature woodland and scrub, reedbeds, bare ground and open mosaic habitat on previously developed land. These are described and illustrated in Section 2.8 of the *Landscape strategy* (Document Reference 6.2.11.7) and in more detail in Chapter 12 *Terrestrial and freshwater ecology and biodiversity* (Document Reference 6.1. 12) and on Plan LR-PL-EDP-DCP-2.9.3.
- 3.81 Notably, much of the Kent Project Site has re-vegetated naturally over the past 10-20 years following restoration and is a very ‘young’ landscape, much of which is in transition from bare ground to grassland, grassland to scrub and scrub to woodland. In contrast to the majority of the ‘restored’ landscapes which are largely unmanaged (except for flood embankment management), Botany Marsh (east) is managed for wildlife and public access as set out in the Britannia Refined Metals Habitat Management Plan of 2011 (see Chapter 12: *Terrestrial and freshwater ecology and biodiversity* (Document Reference 6.1.12) and the amenity grassland and planting areas around Ebbsfleet International Station and access road are well maintained.

Built Features

- 3.82 Much of the Kent Project Site has been subject to a long history in the mineral extraction, cement and paper mill industries as well as still containing an active industrial estate, business park and international railway station. As a result, there are many buildings across the Kent Project Site of varying condition, ranging from the derelict industrial units south of Black Duck Marsh through to the modern glass and steel architecture of the Ebbsfleet International Station, with the majority being functional industrial units in active use, particularly within the Northfleet Industrial Estate and Manor Way Business Park.
- 3.83 A number of industrial relics are scattered across the Kent Project Site including concrete hardstanding, security fencing and gates, remnant tram lines from the former cement works, disused pylons, concrete blocks, a former sewage treatment plant, disused tunnels between chalk pits
- 3.84 There is also an amalgam of features related to the use of the site for quarrying and industrial landfill as well as construction storage and access for HS1 and Ingress Park such as a haul road along the northern edge of Black Duck Marsh and leachate collection ponds and treatment lagoons within Broadness Marsh as well as Bell Wharf and White’s Jetty.
- 3.85 In terms of vertical elements, the skyline is dominated by overhead power lines and pylons in many views that cross the Peninsula on a south-east to north-westerly alignment, and

include the 190m tall ‘super pylon’ that lifts the transmission lines over the Thames to a similar tower on the northern bank. These lattice towers are the UK’s tallest electricity pylons (and the third largest in Europe) and are prominent local landmarks.

- 3.86 Other utility features include a series of smaller electricity pylons on the Swanscombe Peninsula, to the north and west of Ebbsfleet International Station and to the north of the A2 junction as well as an electricity sub-station, north of the A2 at Springhead, a radar station north of Broadness Creek and a maintenance building west of HS1 to the south of the A2260.
- 3.87 Considering the Swanscombe Peninsula/River Thames interface of the Kent Project Site, the river bank features the derelict White’s Jetty and Bell Wharf, a small lighthouse jetty and an inlet known as Broadness Creek that has a number of moorings and boat sheds varying in character and maintenance.
- 3.88 Major infrastructure such as the A2(T), A2260, HS1 and the North Kent Line Railway are significant built features in the Kent Project Site. The HS1 railway, which emerges from the Thames Crossing Tunnel on the Swanscombe Peninsula and continuing south in cutting is the most notable, particularly given the extent of associated surface car parking, access roads and security fencing. A pumping station that serves to lower ground water adjacent to the tunnel is located to the north-east of the tunnel portal. A section of the North Kent Line also falls within the DCO Order Limits as it crosses the HS1 line and passes between Bamber and Sports Ground Pits. The A2 dominates the southern extent of the DCO Order Limits with the junction slip roads and roundabouts.

Perceptual and Sensory Aspects

- 3.89 The Kent Project Site lies within a very busy urban, estuarine landscape which is active throughout the day and night with transportation and movement and industrial activities all taking place during the hours of darkness as well as during the day. The criss-crossing of rail and road traffic through tunnels and cuttings and over bridges and chalk spines combined with the noise and movements of the industrial activities create a real sense of a complex urban environment. This is combined with the awareness of the activities on the north bank of the Thames, Tilbury Docks being visually present at both day and night with the tall gantry cranes and significant flood lighting to facilitate loading and off-loading.
- 3.90 These ‘busy’ areas lie in close proximity to other abandoned and quiet areas, including the marshes on the Swanscombe Peninsula, the chalk pits and landfill sites and to some extent the Ebbsfleet International car parks which are only particularly active at certain times of the day. Whilst there is a relative tranquillity and sense of openness on some parts of the Swanscombe Peninsula, the visual presence of pylons and chimneys, security fencing and warnings, abandoned buildings and graffiti all combine with the noises from the adjacent industrial activities to reduce the tranquillity and the sense of personal security in the area. Similarly, the overgrown vegetation and tight security fencing along pathways limit the sense of openness and security one might experience in a more cared for setting.

ESSEX PROJECT SITE

3.91 The Essex Project Site was found to be generally consistent with the character described in the 'Tilbury and Docks Urban Area' LCA of the Thurrock Landscape Character Assessment. The area is a low-lying and level landscape, similar to that of the Kent Project Site which is not surprising given the Thameside location. Large commercial warehouses, cranes and dockland buildings front onto the Thames and are located throughout the area which dominate the skyline throughout the nearby area. Where the area has not been developed for warehouses or dockside uses, it is mostly hard-surfaced and used for the storage of vehicles, containers or bulk materials.

Cultural Associations and Historic Landscape

3.92 The Essex Project Site has a similar history to the Kent Project Site in that it was part of the Tilbury Marshes prior to the development of the Tilbury Docks and the arrival of the railway junction and the Tilbury Riverside Station.

3.93 An historic 'Manorway' to guide pilgrims across the Tilbury Marsh existed between Tilbury ferry and the village of West Tilbury although this has largely been lost as a route due to the urban expansion of Tilbury and diversion of the footpath to Tilbury Fort.

3.94 The Essex Project Site contains the Grade II* listed Tilbury Riverside Station and floating landing stage which includes the railway station, baggage hall, and ticket office. This listed building was erected in 1924 to accommodate an expanded station building and floating landing stage that served the Passenger Ship Terminal as well as the Gravesend Ferry. The station allowed passengers to connect to the Gravesend Ferry for onward travel and served as an interchange with Tilbury Docks. The Terminal is notable in history for the docking of the SS Empire Windrush in 1948.

3.95 The railway station closed in 1992 after a long decline in passenger and freight numbers with the rise of car ownership and HGV use. The railway line remained in use by the container terminal to the north as a rail connected unit until 2019 when it was removed and the land re-appropriated for car storage. The Gravesend Ferry Terminal and London International Cruise Terminal remain in full operation. Fort Road has been realigned in front of the Station, running through the site of the southern section of platforms and is served by a bus connection to Tilbury Town Station.

Topography, geology and soils

3.96 The level topography of the Essex project site can be seen on Figure 12 of the *Landscape strategy* (Document Reference 6.2.11.7).

3.97 The geology and soils of the Essex Project Site is unsurprising given its location, loamy and clayey coastal flat soil overlaid on alluvium as illustrated in Figures 10 and 11 of *Landscape strategy* (Document Reference 6.2.1.7). However, as with the Kent Project Site, the Essex project site has been subject to landfill in the past and soils are likely to have been largely replaced with contaminated material.

Hydrology and water features

3.98 The hydrology of the Essex Project Site is described and illustrated in the *Landscape strategy* (Document Reference 6.2.11.7, Section 2.7), the River Thames being the only feature of note.

Habitats and planting

3.99 The habitats across the Essex Project Site are limited to hardstanding and buildings together with some semi-improved grassland and scrub on the roadside verges along Fort Road and the A1089 with Amenity Grassland and scattered trees in the central area of the Asda roundabout. These are described and illustrated in Section 2.8 of the *Landscape strategy* (Document Reference 6.2. 11.7) and in more detail in Chapter 12: *Terrestrial and freshwater ecology and biodiversity* (Document Reference 6.1.12) and Plan LR-PL-EDP-DCP-2.9.3.

Built Features

3.100 The Riverside Station as described above is the principal building in the Essex Project Site. The only other buildings within the Essex Project Site are within the logistics centre to the north. Other notable built features for their scale and size are the extensive area of level hard-surfaced land (approximately 11.75ha in area) currently used for vehicle storage to the north of the Riverside Station and any Cruise Ships that dock at the Terminal. Highways infrastructure and fencing are the only other built features.

3.101 The character of the Essex Project Site is also heavily influenced by built features beyond the boundary include dockside warehousing, the four wind turbines that dominate the skyline to the east.

Perceptual and Sensory Aspects

3.102 Like the Kent Project Site, the Essex Project Site lies within a very busy urban, estuarine landscape, which is active throughout the day and night with transportation and movement, industrial and docking activities all taking place during the hours of darkness as well as during the day. The activities within Tilbury Docks are visually present at both day and night with the tall gantry cranes and significant flood lighting to facilitate loading and off-loading. Thus, this is a stimulating landscape with minimal opportunity to find relative tranquillity in open or natural spaces.

3.103 The Essex Project Site and its immediate context is dominated by transportation and security with limited amenity value and legibility for pedestrians.

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Chapter Four ◆ BASELINE CONDITIONS: VISUAL AMENITY

INTRODUCTION

- 4.1 This section identifies those visual receptors that may be able to obtain views to the Project Site, their distribution, character and sensitivity to change.
- 4.2 Using landform data within a Geographical Information System (GIS), EDP has prepared a Zone of Theoretical Visibility (ZTV). The ZTVs (Document References 6.3.11.8 and 6.3.11.9) are generated using surface data and accounts for other landscape features that may limit the extent of theoretical visibility, such as vegetation and built form. The ZTVs are based on:
- The Project Site in its current form (Document Reference 6.3.11.8); and
 - The Project Site with Proposed Development at the height parameters (see LR-DG-APT-ILP-122.0) across the Project Site (Document Reference 6.3.11.9).
- 4.3 The ZTVs illustrate the theoretical visibility based on a digital surface model (DSM) data (OS Terrain 5), assuming excellent visibility with no atmospheric attenuation.
- 4.4 For its size, the visual influence of the Project Site in its current form is relatively limited given the extent of varying topography and built form in the local vicinity. As Figure 11.9 *ZTV of Proposed Parameters* (Document Reference 6.3.11.9) demonstrates, the visual influence of the Project Site will increase with development. The visual assessment process will determine the extent of the increase in visual influence as well as the magnitude of any visual effects that arise.
- 4.5 The ZTV was visited by walking and driving (as appropriate) local roads, PRoW and other publicly accessible viewpoints.

REPRESENTATIVE VIEWPOINTS

- 4.6 The main receptor groups have been identified and described below and are represented by the photoviewpoints presented in Table 4-1. Based on fieldwork observations and the findings of the data trawl, these photoviewpoints have been selected to represent the variety of views available from public vantage points towards the Project Site.
- 4.7 Figure 11.10 *Photoviewpoint Locations* (Document Reference 6.3.11.10) includes 74 representative viewpoints that have been identified in the ZTV for the Project Site in its current form and of the proposed parameters. These viewpoints are at locations where there are likely to be sensitive visual receptors, including receptors in designated landscapes such as Kent Downs AONB (3no.) and those on PRoW and at residential

properties. These viewpoints will form the basis of the visual assessment, the significance of any effect being assessed in terms of the magnitude of change in the view and the sensitivity of the visual receptor. The location of these views is set out in the table below, however, in keeping with good practice, the proposed viewpoint, photomontage and night-time viewpoints locations for assessment have been consulted with Dartford Borough Council, Gravesham Borough Council, Thurrock Borough Council, Kent Downs AONB, Natural England and Ebbsfleet Development Corporation. The Photoviewpoints are illustrated within Figure 11.12 *Photoviewpoints* (Document Reference 6.3.11.12).

Table 4-1: Summary of representative photoviewpoints

(The following acronyms correspond to additional form of presentation: PM = Photomontage; NV = Night View)

PVP. No.	Location	Grid reference	Distance	Borough	Reason(s) for selection
1	Footpath DS1 Swanscombe Peninsula	560043, 175925	0m	Dartford	Recreational users
2 (PM)	Footpath DS1, Black Duck Marsh	559507, 175419	15m	Dartford	Recreational users
3	Footpath DS1 and NU1, Green Manor Way	560763, 175814	0m	Dartford/ Gravesham	Recreational users
4	Footpath DS2, Swanscombe Peninsula	560399, 176033	0m	Dartford	Recreational users
5 (PM)	Galley Hill Road opposite Grade II* Listed Former Church of All Saints	560574, 174879	0m	Dartford	Road users; Recreational users; Residents
6	St Peter and St Paul Church Swanscombe	560366, 174004	504m	Dartford	Recreational users; Residents
7	Leonard Avenue	560195, 173769	743m	Dartford	Residents
8 (PM + NV)	Rear of Leonard Avenue	560318, 173705	657m	Dartford	Recreational users; Residents
9 (PM)	Swanscombe Heritage Park	559681, 174390	496m	Dartford	Recreational users
10	Outside Grade II Listed 1, Knockhall Road	559593, 174893	216m	Dartford	Residents

PVP. No.	Location	Grid reference	Distance	Borough	Reason(s) for selection
11	Ingress Abbey	559129, 175077	390m	Dartford	Residents
12 (PM + NV)	Greenhithe Riverfront, Sara Crescent	558597, 175225	893m	Dartford	Residents
13 (PM)	A2260 looking south	561420, 173368	0m	Dartford	Road users
14 (PM)	A2260 looking north	561402, 173374	0m	Dartford	Road users
15 (PM)	Bakers Hole SSSI and Scheduled Monument near Ebbsfleet International	561349, 174055	0m	Dartford	Road users; Railway users
16	Ebbsfleet International Car Park	561222, 174164	0m	Dartford	Road users
17 (PM)	Rosherville Quays, Gravesend Riverfront	563707, 174481	721m	Gravesham	Recreational users
18	North Kent Avenue	562092, 174170	162m	Gravesham	Residents
19	Footpath NU3/NU42 within former Northfleet Cement Works	562221, 174787	697m	Gravesham	Recreational users; Employees
20	London Road viewpoint opposite Rosherville Primary School	563050, 174075	1km	Gravesham	Road users; Residents; Students
21 (PM + NV)	Stonebridge Road B2175	561570, 174605	200m	Gravesham	Road users; Residents
22 (PM + NV)	Footpath NU1 Botany Marshes near Britannia Refined Metals Ltd	561163, 175615	3m	Gravesham	Recreational users; Employees;
23 (PM)	Footpath NU1, Botany Marshes near CEMEX	561169, 175799	15m	Gravesham	Recreational users; Employees

PVP. No.	Location	Grid reference	Distance	Borough	Reason(s) for selection
24 (PM)	Thames Path Promoted Route near Charles Park	557883, 175300	1.6km	Dartford	Recreational users; Employees
25	High House, Production Park, Purfleet	556435, 178079	3.87km	Thurrock	Employees; Recreational users
26 (PM)	Footpath 170 south of Proctor and Gamble	559266, 177023	1km	Thurrock	Recreational users
27 (PM)	Footpath 141 Stone Ness	558780, 176348	956m	Thurrock	Recreational users
28	Opposite Devonshire Place, Devonshire Road	560223, 178167	1.36km	Thurrock	Road users; Residents
29 (PM + NV)	The Promenade, Grays	560533, 177531	697m	Thurrock	Residents
30 (PM)	Timber Court and Coal Court	561216, 177456	761m	Thurrock	Recreational users; Residents
31 (PM)	South of Footpath 177, and Grays Beach Riverside Park	561641, 177222	807m	Thurrock	Recreational users
32	Footpath 186, Tilbury and Grays	562501, 177474	1.62km	Thurrock	Recreational users
33 (NV)	B149, Chadwell Bypass	563892, 178502	2.7km	Thurrock	Road users; Residents
34	South of Thames View, Chadwell St Mary	564383, 178178	2.4km	Thurrock	Residents; Recreational users
35	South of Coalhouse Fort on circular path	569143, 176627	4.4km	Thurrock	Recreational users; Visitors of local attraction
36	Footpath 68, West Tilbury	566014, 177878	2.3km	Thurrock	Recreational users

PVP. No.	Location	Grid reference	Distance	Borough	Reason(s) for selection
37 (PM)	Byway 98, Tilbury Fort	564812, 175217	140m	Thurrock	Recreational users; Visitors of local attraction
38	Fort Road, Tilbury	565088, 175793	282m	Thurrock	Recreational users
39 (PM)	Sea Wall, Fort Road, Tilbury	564503, 175208	0m;	Thurrock	Recreational users; Commuters; International Cruise Ship passengers; Visitors of local attraction;
40	Railway Street, Northfleet	561515, 174545	141m	Gravesham	Residents
41 (PM + NV)	Footpath NS177, Cobham, Kent Downs AONB	566820, 168917	5.26km	Gravesham	Recreational users
42 (PM)	A227 Wrotham Road	564006, 170460	2.12km	Gravesham	Road users; Recreational users
43 (PM)	New Barn Road, Scadbury Manor	561996, 171519	666m	Dartford	Road users;
44 (PM)	Footpath DR126, Park Corner Road, Northend	560702, 172012	523m	Dartford	Recreational users; Employees;
45 (PM + NV)	Restricted Byway DR129	561320, 171977	498m	Dartford	Recreational users; Road users;
46 (PM + NV)	Candy Dene, Castle Hill, Ebbsfleet	561083, 173372	0m	Dartford	Residents
47	Hall Road Bridge, B262	562127, 172293	0m	Dartford/ Gravesham	Road users

PVP. No.	Location	Grid reference	Distance	Borough	Reason(s) for selection
48 (PM)	A2260 at Junction with International Way	561655, 173769	0m	Dartford	Road users
49 (NV)	Windmill Hill Park, Gravesend	564849, 173390	1.63km	Gravesham	Recreational users
50 (PM)	Between Gravesend and Tilbury	563051, 174916	970m	Gravesham/Thurrock	Commuters; International Cruise Ship passengers
51	Gravesend Promenade/- Saxon Shore Way/- Wealdway	565402, 174390	870m	Gravesham	Requested by EDC
52	Footpath N129/- Wealdway	564630, 170436	2.2km	Gravesham	Requested by EDC
53	Undesignated path within south Botany Marsh	561030, 175144	0m	Gravesham	Requested by EDC
54	Undesignated path within west Botany Marsh	561165, 175628	0m	Gravesham	Requested by EDC
55	Footpath DS17, HS1 overbridge	561207, 174595	0m	Dartford	Requested by EDC
56	Footpath DR1 near Dartford Crossing	556856, 176065	2.7km	Dartford	Requested by EDC
57 (PM)	High Street, Swanscombe, looking north	560561, 174759	2m	Dartford	Requested by EDC
58	Galley Hill Road	560616, 174866	0m	Dartford	Requested by EDC
59	Footpath NG1/Saxon Shore Way	568035, 174447	4.37km	Gravesham	Requested by EDC
60	Footpath DS12/Pilgrims Way	560259, 175410	0m	Dartford	Requested by EDC
61	Footpath DR26 near Bean	558355, 172097	620m	Dartford	Requested by EDC
62	View from A2 flyover Wrotham Road (A227)	564163, 171146	1.84km	Gravesham	Requested by DBC

PVP. No.	Location	Grid reference	Distance	Borough	Reason(s) for selection
63	Bean Junction, B255/A296 slip road	558450, 173217	2.2km	Dartford	Requested by DBC; Road users; Recreational users
64	Anchor Field Park, Tilbury	564654, 176291	330m	Thurrock	Requested by TC
65 (NV)	King George's Playing Field, Tilbury	564486, 176820	860m	Thurrock	Requested by TC
66 (PM)	River Thames, south of Stone Ness	558753, 175565	1.2km	Dartford/ Thurrock	Requested by GBC; River users;
67 (PM)	River Thames, south of Tilbury Docks	562727, 174951	1.2km	Gravesham/ Thurrock	Requested by GBC; River users
68 (PM)	River Thames, north of Broadness Salt Marsh	560505, 177140	300m	Dartford/ Thurrock	Requested by GBC; River users
69 (PM)	River Thames, Gravesend Reach	566696, 174885	2.2km	Gravesham/ Thurrock	Requested by GBC; River users
70 (PM)	River Thames, Northfleet Hope	561862, 176143	600m	Gravesham/ Thurrock	Requested by GBC; River users
71 (PM)	River Thames, Fiddler's Reach	559723, 176469	480m	Dartford/ Thurrock	Requested by GBC; River users
72	Footpath 117, Tilbury Docks	561977, 176853	850m	Thurrock	Requested by TC
73 (PM + NV)	Pedham Place Golf Centre	553729, 166360	7.7km	Sevenoaks	Requested by Kent Downs AONB Unit and Natural England; Recreational users

PVP. No.	Location	Grid reference	Distance	Borough	Reason(s) for selection
74 (PM + NV)	Layby on Camer Road, North Kent Downs AONB	565045, 167167	5.75km	Gravesham	Requested by Kent Downs AONB Unit and Natural England; Recreational users

Visual receptors

PRoW, open access land and country parks

- 4.8 There are a number of PRoWs within the Project Site and study area, which afford clear views of the Project Site. The location of PRoWs surrounding the Project Site are shown on Figure 11.2 *Landscape designations and other considerations* (Document Reference 6.3.11.2). Views of the main body of the site from PRoWs and Open Access Land are generally limited to those within the surrounding 2km.
- 4.9 Photoviewpoints 1, 2, 3, 4, 5, 22 and 23 (Figure 11.12 (Document Reference 6.3.11.12)) represent views from the PRoW network within or adjacent to the Project Site boundary and generally have open views over much of Kent Project Site at Swanscombe Peninsula.
- 4.10 West of the Kent Project Site are a number of PRoWs within 2km with the potential to experience visual effects as a result of the Proposed Development including Footpath DR4 (Photoviewpoint 24), located on the Thames Path Promoted Route near Charles Park. However, existing built form in combination with the predominantly flat topography limit views towards the Project Site, whilst some cross-water views are possible to the northern tip of the Swanscombe Peninsula on the Kent Project Site.
- 4.11 To the north, there are a number of PRoW on the northern bank of the River Thames, and areas of public open space as well as an ‘Other Route with Public Access’ (ORPA) with the potential for views towards the Kent Project Site cross water. Photoviewpoints 26, 27, 29, 30, and 31 are all taken looking southwards directly towards Swanscombe Peninsula and the Kent Project Site and consist of open, bankside cross water views. The inner parts of the Swanscombe Peninsula of the Kent Project Site are filtered and screened by mature vegetation, whilst further south within the Kent Project Site, there is little to no intervisibility with the Ebbsfleet LLCA/Ebbsfleet Valley. Views from these Photoviewpoints towards the Essex Project Site are screened by the considerable number of industrial and commercial warehouses north-west of the Essex Project Site at Tilbury Docks. On slightly elevated ground is Photoviewpoint 32 on Footpath 186 between Tilbury and Grays, where the super pylon on Swanscombe Peninsula within the Kent Project Site can be distinguished in the view due to its tall vertical nature. The rest of the Project Site (Kent and Essex Project Sites) is generally screened by built form. Beyond 2km, Photoviewpoint

- 36 (Footpath 68, West Tilbury) illustrates views from PRoW on elevated ground to the north-east of the Kent Project Site and north of the Essex Project Site. Views are distant and in part screened by large built form at Tilbury Docks.
- 4.12 To the east of the Essex Project Site, views would be possible from within close range as represented by Photoviewpoint 37 (Byway 98, Tilbury Fort), which has open views from near Tilbury Fort to the Essex Project Site. Similarly, Photoviewpoint 38, taken from Footpath 146, has relatively open views west towards the Essex Project Site. Views from these two locations towards the Kent Project Site are limited by the large-scale built form associated with Tilbury Docks which serve to screen views. Further east beyond 2km, views become far more limited due to the predominately flat topography associated with the edges of the Thames, such that representative Photoviewpoint 35 (taken from an informal footpath which connects to the nearby PRoW network), has little intervisibility due to mature vegetation and built form interrupting views. Photoviewpoint 49 is taken east of the Kent Project Site, and south of the Essex Project Site from a public park on elevated ground at Windmill Hill. Views west towards the Kent Project Site are filtered by mature vegetation, whilst views to the Essex Project Site on the northern bank of the Thames are far more open. Photoviewpoint 19 is taken from a footpath passing Northfleet Lighthouse and Bevan's War Memorial and looks north-west towards the Kent Project Site. However, views are characterised by the immediate industrial/commercial uses and views are interrupted by large-scale built form and subtle undulations in topography.
- 4.13 To the south, Photoviewpoints 43, 44 and 45 represent views from the PRoW network south of the A2(T). The context these PRoW are set within is far more agricultural in character and have fairly open views northwards to the A2(T) section of the DCO Order Limits and beyond. Views further north are limited by a combination of subtle variations in topography, mature vegetation and the built form of the A2(T) itself.
- 4.14 Further south, Photoviewpoint 41 is taken from Footpath NS177 within Jeskyns Country Park and the Kent Downs AONB and provides elevated views northwards,. However, a combination of distance, topography and mature vegetation screens visibility with the Project Site. A similar situation is represented by Photoviewpoints 73 and 74 which are also both located within the Kent Downs AONB.
- 4.15 Photoviewpoint 6 represents available views from the recreation ground associated with St Peter and St Paul's Church Swanscombe. Views northwards to Swanscombe Peninsula are predominantly screened by built form and vegetation, whilst the super pylon located on the Kent Project Site can be distinguished in the view. Photoviewpoint 8 represents views from a recently completed park between the new Castle Hill development and Leonard Avenue. Elevated open views over development are available from this location east to the Ebbsfleet Valley, whilst southward views to the A2(T) sections of the Kent Project Site are hindered by undulating topography from former quarrying, in combination with mature vegetation. In terms of users of Swanscombe Skull Site and National Nature Reserve, views are represented by Photoviewpoint 9 which look north to Swanscombe Peninsula, where the super pylon on the Kent Project Site dominates as a vertical feature.

- 4.16 It is considered that, due to the focus on the surrounding landscape and interest in the local area, users of local PRoW throughout the study area are considered to generally be high sensitivity receptors. However, there are a number of PRoW throughout the study area which experience some de-sensitisation where views are possible of existing built form and large man-made features, such that their sensitivity is reduced to medium.

Road users

- 4.17 Although there are a number of minor roads within the study area, with the exception of those immediately adjacent to the site, only a few, if any, afford clear views of the Project Site. Due to a combination of existing built form, mature landscape features and localised changes in topography, views from roads are frequently contained to the immediate setting.
- 4.18 Roads passing through the Project Site itself will have close range, predominantly open views of some form of the Proposed Development in close proximity. Representative views from photoviewpoints within the DCO Order Limits include Photoviewpoint 5 (Galley Road), 13, 14 (A2260), 15, 16 (International Way), 39 (Ferry Road), 47 (Hall Road Bridge, B262 and A2) and 48 (A2260).
- 4.19 The B2175 runs from Gravesend to Northfleet on a remnant chalk spine. Photoviewpoint 20 illustrates views from this route looking north-west towards Swanscombe Peninsula and the Kent Project Site – views are limited by large scale urban form, topography and mature vegetation, whilst the super pylon features prominently above all of these. Further west, the route drops in elevation to Northfleet Industrial Estate and Stonebridge Road provides elevated, funnelled views in the direction of the main body of Swanscombe Peninsula and Kent Project Site as illustrated by Photoviewpoint 21.
- 4.20 To the south, Photoviewpoints 43, 44 and 45 represent views from the local road network south of the A2. These routes have a more rural context than the majority in the near vicinity of the Project Site which are generally confined to the urban area. These routes have oblique, glimpsed views northwards to the A2(T) section of the DCO Order Limits and beyond. Views further north are limited by a combination of subtle variations in topography, mature vegetation and the built form of the A2(T) itself.
- 4.21 On the northern side of the River Thames, Photoviewpoint 28 represents elevated, funnelled views in a southerly direction towards the Kent Project Site. In comparison, Photoviewpoint 38 represents lower views on more level ground along Fort Road which links Tilbury Docks to Tilbury and West Tilbury to the north. Views from this route are relatively open towards the Essex Project Site in the west, although views towards the Kent Project Site are screened by the large scale built form associated with Tilbury Docks. Further north on more elevated ground, distant views are available from Chadwell Bypass (Photoviewpoint 33) to the Project Site.

Residential dwellings/groups

- 4.22 This assessment has focused on views from publicly accessible locations. Views from private residential properties, although likely to be of high to very high sensitivity to changes in the view, are not protected by national planning guidance or local planning policy. However, to inform good site masterplanning of the development site and limit unnecessary impacts, the visual amenity of domestic dwellings in close proximity to the Project Site is considered as part of this assessment.
- 4.23 Groups of residential receptors that remain likely to experience some views towards the Project Site from their properties include areas of Swanscombe (represented by Photoviewpoints 5, 6, 7 and 8), dwellings along the waterfront and western edge of Kent Project Site at Ingress Park (represented by Photoviewpoints 2 and 11), riverside properties at Greenhithe (represented by Photoviewpoint 12), some dwellings on elevated ground at Gravesham (represented by Photoviewpoint 18), the Promenade at Gravesend (Photoviewpoint 51) and dwellings near the waterfront and on elevated ground at Northfleet (Photoviewpoints 17, 20, 21 and 40) and Castle Hill (Photoviewpoint 46).
- 4.24 With regard to the northern side of the River Thames, waterfront dwellings at Grays on the northern bank of the Thames opposite the Kent Project Site (represented by Photoviewpoints 29, 30 and 31) look south towards the Kent Project Site, dwellings at Chadwell St Mary (Photoviewpoints 33 and 34) and dwellings in Tilbury (Photoviewpoints 64 and 65). However, within these areas, due to the distribution and orientation of residential properties, intervening vegetation, and urban form within the landscape surrounding the Project Site, the number of private residential properties with potential views of the Proposed Development is variable, particularly as the vast majority of views have a reduced susceptibility (and sensitivity) through prevalence of urban form. The sensitivity of residential receptors is dependent, to some extent, on the room(s) and the activities of people in those rooms, from which the Project Site is visible. Residents with visibility from rooms normally occupied in waking hours will generally have a very high sensitivity, with a lower sensitivity from bedrooms and rooms from which there may be no expected view, for example bathrooms.

Users of the Thames

- 4.25 In terms of users of the River Thames, those using the river are likely to be doing so either for work purposes, such as commuting, surveying, transportation of goods and resources, or for recreational purposes such as daily pleasure cruises. Those using the river for work are considered of a low sensitivity, whilst those using it for recreational purposes are considered to be high sensitivity. Representative views from the Thames include Photoviewpoints 50, 66, 67, 68, 69, 70 and 71. As illustrated by these views, much of the Thames riverside throughout the area comprises considerable urban form which exerts a prevailing urban influence over the river itself. The area of the Essex Project Site itself is particularly influenced by large cruise ships and associated docklands infrastructure close by, including cranes, warehouses and a wind farm. The Kent Project Site however is a notable gap in continuous urban form as one travels along the Thames. That being said,

Swanscombe is visible to the south, whilst the adjacent urban built form at Ingress Park and Northfleet ensures the Swanscombe Peninsula at the Kent Project Site remains closely associated with this intensively developed landscape. The wharfs and jetties along the northern edge of the peninsula, which are large scale structures and dilapidated provide a sense of the previous industrial uses of the area.

Proposed wireline photomontage selection

4.26 37 of the representative photoviewpoints have been selected for wireline photomontage production which have been derived through consultation with TBC, GBC, DBC, Kent AONB Unit and Natural England as part of the design development and assessment process. These locations are indicated by orange markers on Figure 11.10 *Photoviewpoint Location Plan* (Document Reference 6.3.11.10). These locations have been selected based on the following criteria:

- Coverage of views from north, south, east and west towards the Project Site;
- Coverage of a range of receptors, e.g. walkers on PRoW, road users; and
- Coverage of identified sensitive receptors, e.g. users of listed buildings, viewers within country parks, conservation areas.

Site context after dark

4.27 Twelve of the representative photoviewpoints have been selected for night time views to capture baseline light during dark hours. Similarly, agreement to these locations has been sought through consultation with TBC, GBC, and DBC as part of the design development and assessment process. These locations are indicated by black markers on Figure 11.11 *Night Photoviewpoints Plan* (Document Reference 6.3.11.11). These locations have been selected based on the coverage of views from north, south, east and west into the site and the majority are taken where receptors are likely to be at night (roads, settlements and dwellings).

4.28 Photoviewpoints 8, 12, 21, 22, 29, 33, 41, 45, 46, 49, 73 and 74 were selected to illustrate the site's context after dark. However, with regard to users of PRoW, it is likely that the majority of receptors are no longer active on these routes after dark, particularly away from urban areas and light sources which provide a sense of security.

4.29 It was found that at a distance to the south, as represented by Night Views: Photoviewpoints 41, 73 and 74 taken from within the Kent Downs AONB, there are numerous light sources from within the urban areas of Gravesend, Northfleet, Tilbury, Swanscombe, Grays and West Thurrock that provide a considerable amount of baseline light. The area around the Night View locations is dark itself and generally void of notable lights sources, whilst the urban area in which the Kent and Essex Project Sites are readily identifiable in views as a busy urban area from distance after dark.

4.30 Cross water views from Night Views: Photoviewpoints 12 and 29 look towards the main area of the proposed London Resort at the Kent Project Site on the Swanscombe

Peninsula. Light sources across the peninsula are limited with the navigational safety lights on the superpylon the main identifiable light source. Residential areas at Ingress Park and industrial areas at Northfleet and cross water at Tilbury, provide light sources which spill somewhat from their sources and add to the night glow of the area. whilst the Kent Project Site remains fairly dark.

- 4.31 From the north-east, Night View: Photoviewpoint 33 illustrates the baseline scenario as experienced from the edge of Chadwell St Mary. The riverside urban areas to the south, including Tilbury, Gray, Ingress Park and Gravesend are notable light sources in the view and create an urban glow. The Kent Project Site is identifiable with the navigational safety lights of the superpylon located on the Swanscombe Peninsula, whilst the considerable lighting associated with Tilbury Docks near the Essex Project Site is also readily noticeable.
- 4.32 From within the urban area of Gravesend, Night View: Photoviewpoint 49 represents the baseline context as experienced from Windmill Hill, a public park contained by residential areas. Similar to Night View: Photoviewpoint 33, there are considerable light sources across the urban areas associated with Thurrock, Gravesend, Grays, Swanscombe and Tilbury which dominate the night time scenario. The Essex Project Site is particularly influenced by existing light sources, whilst the Kent Project Site identifiable by the superpylon is also set within a context that has large scale industrial uses and light sources as a backdrop.
- 4.33 Night Views: Photoviewpoints 45 and 46 illustrate the baseline context of views towards the proposed link road that would connect the A2 to the resort on Swanscombe Peninsula. As illustrated, the road network is well lit throughout the area, whilst lights associated with residential properties and car parks are noticeable in the close to middle distance, whilst commercial uses at Thameside locations are visible at distance, particularly from Night View: Photoviewpoint 45.
- 4.34 In terms of areas within the Kent Project Site, Night View: Photoviewpoints 22 is taken from Botany Marshes looking in the direction of the main body for the proposed London Resort at the Swanscombe Peninsula. As illustrated, the baseline scenario across this part of the Kent Project Site is generally void of light sources (other than the super pylon), whilst glow from nearby urban areas adjacent to the Kent Project Site and cross river exert a light glow over the area with a lot of the foreground readily visible. The chalk cliffs to the south (left of the image) are also lit up by lighting associated with the Manor Way industrial park.

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Chapter Five ◆ PREDICTED EFFECTS AND MITIGATION

INTRODUCTION

- 5.1 This report has outlined the scope and methodology that has been adopted for the assessment of landscape and visual effects of the Proposed Development.
- 5.2 The assessment follows industry standard guidelines (GLVIA3) and has been scoped based on the reduced potential for effects with distance from the Project Site. An initial 8km study area provided a comprehensive basis for further refinement, once data trawls and ZTVs had identified the extent of sensitive receptors and likelihood of significant impact. Given the visual containment in a variety of directions and strong pre-existing urban context, a 2km detailed study area was identified to focus the assessment on the receptors most likely to experience significant change.

PREDICTED EFFECTS

- 5.3 The landscape and visual assessment will examine the current landscape and visual baseline conditions within the Project Site and evaluate the Project Site in its broader context, including landscape and landscape related designations, as illustrated on Figure 11.2 *Landscape Designations and Other Considerations* (Document Reference 6.3.11.2).
- 5.4 The assessment process will involve an iterative analysis of the likely landscape and visual effects of the evolving development proposals. Where likely significant adverse effects cannot be avoided through design, additional mitigation measures will be considered.
- 5.5 The most notable landscape effect as a result of the Project Development would be the change in character from a mosaic of marshland, scrub, cleared brownfield land, former quarries, industrial works and disused industrial works to an entertainment resort and associated infrastructure across much of the Project Site. Other potential effects include the removal of trees to allow for access and layout, together with the planting of new hedgerows and trees to strengthen the structure of the landscape.
- 5.6 The main potential likely significant landscape and visual effects of the Proposed Development during construction are anticipated to include:
- Potential landscape impacts caused by the operational development would generally be localised in scale and restricted to the change in land use and character across the Project Site itself, and change in character in the immediate environs as a result of changes in views;
 - Changes to the character of the landscape of the Project Site, through alteration of

land use introduction of new temporary and permanent built features and infrastructure would give rise to permanent, long-term impacts on landscape character. A permanent, long-term impact on landscape character would occur due to physical impact on landscape within the Project Site including ground remodelling, tunnelling and the introduction of new built and natural features within existing scrub, marsh and former and existing industrial land. Whilst the scale of change in built form and the loss of some natural habitat is likely to give rise to adverse landscape and visual impacts across some parts of the Project Site, the change in character from run-down former industrial site/industrial dump to a vibrant entertainment resort would be beneficial in others. There would also be additional beneficial effects such as the creation of new habitats and enhancement of existing habitats across the peninsula and within the wider DCO Order Limits;

- The increase in movement of vehicles and people within the Project Site and surrounding area including an increase in river traffic as well as an increase in the number of light sources including street and path lighting, floodlighting and internal lighting of buildings are also likely to give rise to adverse visual, noise and landscape character impacts during the hours of darkness as well as during the day;
- There would be adverse and beneficial physical impacts on landscape elements and features within the Project Site caused by the localised removal of existing landscape features such as marshland and scrub as well as removal of disused and run-down built elements within the Project Site;
- Similarly there would be adverse and beneficial effects of the geological and hydrological features within the Project Site caused through land re-profiling and regrading, with redirection and enhancement of waterbodies; and
- Potential adverse visual effects upon close proximity views from roads include (but are not limited to) the A2, A226, A296, A2260, B259, B262, Lower Road, Manor Way, Tiltman Avenue and Ferry Road, National Cycle Routes, PRoW, Swanscombe Heritage Park (Country Park) Botany Marshes, river traffic, HS1 and North Kent Line and residential receptors due to visibility of the completed scheme (including built development, traffic and lighting).

5.7 The main potential likely significant landscape and visual effects of the Proposed Development once completed, irrespective of any mitigation measures, are summarised below:

- Potential landscape impacts caused by the operational development would generally be localised in scale and restricted to the change in land use and character across the Project Site itself and change in character in the immediate environs as a result of changes in views;
- Changes to the character of the landscape of the Project Site, through alteration of land use introduction of new temporary and permanent built features and infrastructure would give rise to permanent, long-term impacts on landscape

character. A permanent, long-term impact on landscape character would occur due to physical impact on landscape within the Project Site including ground remodelling, tunnelling and the introduction of new built and natural features within existing scrub, marsh and former and existing industrial land. Whilst the scale of change in built form and the loss of some natural habitat is likely to give rise to adverse landscape and visual impacts across some parts of the Project Site, the change in character from run-down former industrial site/industrial dump to a vibrant entertainment resort would be beneficial in others. There would also be additional beneficial effects such as the creation of new habitats and enhancement of existing habitats across the peninsula and within the wider DCO Order Limits;

- The increase in movement of vehicles and people within the Project Site and surrounding area, including an increase in river traffic as well as an increase in the number of light sources including street and path lighting, floodlighting and internal lighting of buildings, are also likely to give rise to adverse visual, noise and landscape character impacts during the hours of darkness as well as during the day;
- There would be adverse and beneficial physical impact on landscape elements and features within the Project Site caused by the localised removal of existing landscape features such as marshland, scrub as well as removal of disused and run-down built elements within the Project Site;
- Similarly there would be adverse and beneficial effects of the geological and hydrological features within the Project Site caused through land re-profiling and regrading, with redirection and enhancement of waterbodies; and
- Potential adverse visual effects upon close proximity views from roads include (but are not limited to) the A2, A226, A296, A2260, B259, B262, Lower Road, Manor Way, Tiltman Avenue and Ferry Road, National Cycle Routes, PRow, Swanscombe Heritage Park (Country Park) Botany Marshes, river traffic, HS1 and North Kent Line and residential receptors due to visibility of the completed scheme (including built development, traffic and lighting).

Potential effects upon the metropolitan green belt

- 5.8 With regard to the Metropolitan Green Belt, given the small area of land potentially affected (c.28 hectares), the limited nature of the works and the previously developed nature of the A2(T), B259 junction, A296 and B255, effects upon the spatial nature of this designation are expected to be limited.
- 5.9 The anticipated works to the A2(T) access corridor are likely to experience minor changes due to the A2(T), B259, A296 and B255 improvement works. It is anticipated that the proposed access corridor and junction improvements would be successfully integrated into the landscape with limited significant adverse effects and similar in nature to the baseline scenario. Similarly, the effects upon the openness and permanence of the Green Belt are not expected to be affected to a notable degree due to the existing developed nature of the transport routes.

Potential mitigation

5.10 A number of opportunities exist to improve and enhance the structure of the landscape across the area, which has been partially degraded and fragmented by quarrying, industrial use and decline. A strong framework of green infrastructure across the Project Site will be delivered, incorporating hedgerow and woodland planting as well as enhancements to marshland and saltmarsh. Creation of public open space that will include connectivity to the landscape beyond the Project Site will also bring a number of biodiversity, landscape and recreational connectivity benefits. As stated within Green Infrastructure: An integrated approach to land use (Landscape Institute):

“Green Infrastructure is the network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect villages, towns and cities. Individually, these elements are GI assets, and the roles that these assets play are GI functions. When appropriately planned, designed and managed, the assets and functions have the potential to deliver a wide range of benefits – from providing sustainable transport links to mitigating and adapting the effects of climate change.”

5.11 A Landscape Strategy has been developed for the Project Site (Document Reference 6.2.11.7), which identifies constraints and opportunities to protect and enhance green infrastructure. Key opportunities to improve the green infrastructure network include:

- Provision of high quality public open space and community routes, utilising the Project Site’s riverside landscape framework where possible;
- Enhancement of biodiversity corridors within the Project Site, particularly areas of wet marshland and saltmarsh, seeking opportunities to extend these areas where feasible;
- Retention of existing ecologically important features and habitats within the Project Site where possible, particularly where these relate to marshland areas;
- Enhancement of pedestrian/cycle connections to and through the Project Site;
- Provision of sustainable drainage systems;
- Delivery of a net gain in tree planting across the Project Site and
- Development of a sensitive lighting strategy (see Lighting Statement: LR-DC-BUR-REP-818.0) which follows key parameters designed to limit light spill such as maximum heights, directional units and specific light sources.

Chapter Six ◆ SUMMARY AND CONCLUSIONS

SUMMARY

6.1 The findings show that in landscape terms:

- The site is not covered by any statutory landscape designations and will be designed and developed in accordance with national and local landscape planning policy;
- The Project Site is located across numerous published LCAs, TCAs and RCAs. EDP has conducted its own Landscape Character Assessment based on published information, site visits and desktop research; and
- The Project Site features a number of other considerations that add some landscape value to it:
 - Black Duck, Broadness and Botany Marshes all located within the Swanscombe Peninsula of the Kent Project Site;
 - Ancient Woodland bounding the DCO Order Limits along the A2(T) corridor; and
 - A number of PRow that provide access across the site.

6.2 In terms of visual amenity:

- The generally flat vale landscape character that the Project Site is contained within contributes towards the relative visual containment of the Project Site;
- PRow that pass through the Project Site unsurprisingly have open views of the Project Site, whilst those PRow that are in close proximity to the Project Site have open to screened views;
- Beyond 2km, views from PRow are generally filtered by the combination of intervening trees, hedgerows, built form and gently undulating topography;
- Views from the local road network are similarly limited to the road network which passes through the Project Site, and from within the surrounding 2km;
- Views from the rail network are limited to the stretch of railways of the HS1 line and North Kent Line which pass through the DCO Order Limits; and
- There are a number of individual and groups of dwellings within the visual envelope of the Project Site, primarily within 2km from the Project Site or on more distant, elevated ground to the north and south.

CONCLUSIONS

- 6.3 The Project Site is not covered by any statutory landscape designations and could be designed and developed in accordance with national and local landscape planning policy.
- 6.4 There are no significant constraints to development in landscape, visual and arboricultural terms. However, development of the Project Site in the manner proposed would unsurprisingly alter the character of the landscape of the Project Site itself.
- 6.5 Whilst the Project Site is not subject to a protective landscape designation, it is crossed by PRow and is visible to a variety of receptors locally. Detractors such as the noise and movement from the adjacent residential and industrial areas, main roads and railway lines strongly 'urbanise' the landscape in perceptual and sensory terms such that the Project Site does not have the character of open rural countryside.
- 6.6 Opportunities exist to improve and enhance the structure of the landscape across the area, which has been partially degraded and fragmented with the intensification of industrial and commercial practices. A strong framework of green infrastructure across the Project Site is illustrated through an over-arching *Landscape strategy* (Document Reference 6.2.11.7) and Figure 11.15 *Landscape masterplan* (Document Reference 6.3.11.15) for the Project Site. This includes the provision of a retained, albeit somewhat realigned and upgraded on-site PRow network, offering recreational value, and a community resource (see *Public rights of way assessment* (Document Reference 6.2.11.9)). There will also be the creation of surface water attenuation and retention features including reedbeds, ponds and swales, incorporated within the areas of open space. In addition to these site-wide measures, along the site boundaries and through the development along key existing green links, the landscaping will be managed and reinforced to contain the Proposed Development, providing site security, screening and habitat enhancement, along with aiding the integration of the development into its landscape context when viewed from further afield.

Annexes

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Annex 1.0 ◆ ASSESSMENT METHODOLOGY

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INTRODUCTION

A1.1 This section provides a methodology for landscape and visual impact assessment as used by EDP.

METHODOLOGY

A1.2 The assessment methodology for assessing landscape and visual effects prepared by EDP is based on the following best practice guidance:

- Guidelines for Landscape and Visual Impact Assessment – Third Edition (LI/IEMA, 2013); and
- An Approach to Landscape Character Assessment (Natural England, October 2014).

A1.3 Other reference documents used to understand the baseline position in landscape terms comprise published landscape character assessments appropriate to the Project Site's location and the nature of the proposed development.

A1.4 The nature of landscape and visual assessment requires both objective analysis and subjective professional judgement. Accordingly, the following assessment is based on the best practice guidance listed above, information and data analysis technique, it uses quantifiable factors wherever possible and subjective professional judgement where necessary, and is based on clearly defined terms.

LANDSCAPE ASSESSMENT

A1.5 Landscape effects derive from changes in the physical landscape fabric that may give rise to changes in its character and how this is experienced. These effects need to be considered in line with changes already occurring within the landscape and which help define the character of it.

A1.6 Effects upon the wider landscape resource, i.e. the landscape surrounding the development, requires an assessment of visibility of the proposals from adjacent landscape character areas, but remains an assessment of landscape character and not visual amenity.

VISUAL ASSESSMENT

A1.7 The assessment of effects on visual amenity draws on the predicted effects of the development, the landscape and visual context, and the visibility and viewpoint analyses and considers the significance of the overall effects of the proposed development on the visual amenity of the main visual receptor types in the study area.

IDENTIFYING LANDSCAPE AND VISUAL RECEPTORS

A1.8 This assessment has sought to identify the key landscape and visual receptors that may be affected by the changes proposed.

A1.9 The assessment of effects on landscape as a resource in its own right draws on the description of the development, the landscape context and the visibility and viewpoint

analysis to identify receptors, which, for the proposed development may include, but not be limited to, the following:

- The landscape fabric of the Project Site;
- The key landscape characteristics of the local context;
- The ‘host’ landscape character area that contains the proposed development;
- The ‘non-host’ landscape character areas surrounding the host character area and may be affected by the proposals (where relevant); and
- Landscape designations on a national, regional or local level (where relevant).

A1.10 The locations and types of visual receptors within the defined study areas are identified from Ordnance Survey maps and other published information (such as walking guides), from fieldwork observations and from local knowledge provided during the consultation process. Examples of visual receptors may include, but not be limited to, the following:

- Settlements and private residences;
- Users of National Cycle Routes and National Trails;
- Users of local/regional cycle and walking routes;
- Those using local rights of way – walkers, horse riders, cyclists;
- Users of open spaces with public access;
- People using major (motorways, A and B) roads;
- People using minor roads; and
- People using railways.

ASSESSMENT OF LANDSCAPE AND VISUAL EFFECTS

A1.11 The assessment of effects on the landscape resource includes consideration of the potential changes to those key elements and components that contribute towards recognised landscape character or the quality of designated landscape areas; these features are termed landscape receptors. The assessment of visual amenity requires the identification of potential visual receptors that may be affected by the development. As noted, following the identification of each of these various landscape and visual receptors, the effect of the development on each of them is assessed through consideration of a combination of:

- Their overall sensitivity to the proposed form of development, which includes the susceptibility of the receptor to the change proposed and the value attached to the receptor; and

- The overall magnitude of change that will occur - based on the size and scale of the change, its duration and reversibility.

DEFINING RECEPTOR SENSITIVITY

- A1.12 A number of factors influence professional judgement when assessing the degree to which a particular landscape or visual receptor can accommodate change arising from a particular development. Sensitivity is made up of judgements about the 'value' attached to the receptor, which is determined at baseline stage, and the 'susceptibility' of the receptor, which is determined at the assessment stage when the nature of the proposals, and therefore the susceptibility of the landscape and visual resource to change, is better understood.
- A1.13 Susceptibility indicates "*the ability of a defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences*"⁷. Susceptibility of visual receptors is primarily a function of the expectations and occupation or activity of the receptor. A degree of professional judgement applies in arriving at the susceptibility for both landscape and visual receptors and this is clearly set out in the technical appendices to this assessment.
- A1.14 A location may have different levels of sensitivity according to the types of visual receptors at that location and any one receptor type may be accorded different levels of sensitivity at different locations.
- A1.15 Table A1-1 provides an indication of the criteria by which the overall value of a landscape receptor is judged within this assessment. Table A1-2 provides an indication of the criteria by which the overall susceptibility of the landscape in relation to the type of development proposed, in this case, Commercial and Transport Infrastructure.

⁷ Landscape Institute and Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, Third Edition Page 158.

Table A1-1: Assessment of landscape value

Very low	Low	Medium	High	Very high
LANDSCAPE CHARACTER AREA VALUE				
Undesignated countryside and landscape features; absence of distinctive landscape characteristics; despoiled/-degraded by the presence of many landscape detractors.	Undesignated countryside and landscape features; few distinctive landscape characteristics; presence of landscape detractors.	Undesignated countryside and landscape features; some distinctive landscape characteristics; few landscape detractors.	Locally designated/valued countryside (e.g. Areas of High Landscape Value, Regional Scenic Areas) and landscape features; many distinctive landscape characteristics; very few landscape detractors.	Nationally/internationally designated/valued countryside and landscape features; strong/-distinctive landscape characteristics; absence of landscape detractors.
CONSIDERATION OF OTHER VALUE CRITERIA				
Condition/quality				
A landscape with no or few areas intact and/or in poor condition.	A landscape with few areas that are intact and/or in a reasonable condition.	A landscape with some areas that are intact and/or in reasonable condition.	A landscape with many areas that are intact and/or in a reasonable condition.	A landscape with most areas intact and/or in good condition.
Scenic quality				
A landscape of little or no aesthetic appeal.	A landscape of low aesthetic appeal.	A landscape of some aesthetic appeal.	A landscape of high aesthetic appeal.	A landscape of very high aesthetic appeal.

Very low	Low	Medium	High	Very high
Rarity and Representativeness				
A landscape that does not contain rare landscape types or features.	A landscape that contains few distinct landscape types or features.	A landscape that contains distinct but not rare landscape types or features.	A landscape that contains one or more rare landscape types or features.	A landscape that is abundant in rare landscape types or features.
Conservation interests				
A landscape with no or very limited cultural, geological and/or nature conservation content.	A landscape with limited cultural, geological and/or nature conservation content.	A landscape with some cultural, geological and/or nature conservation content.	A landscape with rich cultural, geological and/or nature conservation content.	A landscape with abundant cultural, geological and/or nature conservation content.
Recreation value				
A landscape with no or very limited contribution to recreational experience.	A landscape with no or limited contribution to recreational experience.	A landscape that provides some contribution to recreational experience.	A landscape that provides a good contribution to recreational experience.	A distinct landscape that forms a strong contribution to recreational experience.
Perceptual aspects				
A landscape with prominent detractors, probably part of the key characteristics.	A landscape with landscape detractors, and is not particularly wild, tranquil or unspoilt.	A landscape with few detractors that also retains some perceptual values.	A landscape with very few detractors that has a relatively wild, tranquil or unspoilt landscape.	A wild, tranquil or unspoilt landscape without noticeable detractors.

Very low	Low	Medium	High	Very high
Cultural associations				
A landscape without recorded associations.	A landscape with few recorded associations.	A landscape with some and/or moderately valued associations.	A landscape with numerous and/or highly valued associations.	A landscape of rich and/or very highly valued associations.
OVERALL JUDGEMENT OF LANDSCAPE VALUE				
Very low value – receptor largely reflects very low value criteria above.	Low value – receptor largely reflects low value criteria above.	Medium value – receptor largely reflects medium value criteria above.	High value – receptor largely reflects high value criteria above	Very high value – receptor largely reflects very high value criteria above.

Table 1-2: Assessment of landscape susceptibility to commercial and transport infrastructure development

Very Low Susceptibility to Change	Low Susceptibility to Change	Medium Susceptibility to Change	High Susceptibility to Change	Very High Susceptibility to Change
Pattern, Complexity and Physical Susceptibility to Change from Commercial and Transport Infrastructure Development				
A simple, monotonous and/or degraded landscape with common/-indistinct features and minimal variation in landscape pattern.	A landscape with an occasionally intact pattern and/or with a low degree of complexity and with few features in reasonable condition.	A landscape with some intact pattern and/or with a degree of complexity and with features mostly in reasonable condition.	A landscape with mostly patterned/textured or a simple but distinctive landscape and/or with high value features and essentially intact.	A strongly patterned/-textured or a simple but distinctive landscape and/or with high value features intact.

Very Low Susceptibility to Change	Low Susceptibility to Change	Medium Susceptibility to Change	High Susceptibility to Change	Very High Susceptibility to Change
Visual Susceptibility to Change from Commercial and Transport Infrastructure Development				
<p>A very enclosed landscape that contains or strongly filters views, with an absence of visual landmarks and a lack of intervisibility with designated landscapes.</p>	<p>A predominantly enclosed landscape that contains or at filters most views, with very few views of visual landmarks or intervisibility with designated landscapes.</p>	<p>A partially enclosed landscape with some visual containment and filtering, possible limited intervisibility with visual landmarks and designated landscapes.</p>	<p>An open landscape with intervisibility and limited visual filtering or enclosure. Prominent visual landmarks may be present, and/or intervisibility with designated landscapes may occur.</p>	<p>An open or exposed landscape with extensive intervisibility and no or very limited visual filtering or enclosure. Prominent visual landmarks are present, and/or intervisibility with designated landscapes occurs.</p>
Experiential Susceptibility to Change from Commercial and Transport Infrastructure Development				
<p>A landscape with prominent visual and/or aural intrusion and close relationship with large scale built development/-infrastructure.</p> <p>A landscape that contains many light sources and essentially suffers from widespread light pollution.</p>	<p>A busy landscape with frequent visual and/or aural intrusion and nearby relationship with large scale built development/-infrastructure.</p> <p>A landscape that contains frequent light sources and suffers from light pollution.</p>	<p>A partially tranquil landscape with limited visual and/or aural intrusion, some relationship with built development/-infrastructure may be present.</p> <p>A landscape that contains some light sources.</p>	<p>A tranquil landscape with limited visual and/or aural intrusion, some relationship with built development/-infrastructure may be present. A landscape that contains few light sources.</p>	<p>A very tranquil, wild or remote landscape with little or no sense of visual or aural intrusion.</p> <p>A landscape that contains very few light sources and provides dark skies.</p>

Very Low Susceptibility to Change	Low Susceptibility to Change	Medium Susceptibility to Change	High Susceptibility to Change	Very High Susceptibility to Change
Overall Judgement of Susceptibility to Change from Commercial and Transport Infrastructure Development				
Very Low susceptibility – receptor largely reflects very low criteria above.	Low susceptibility – receptor largely reflects low criteria above.	Medium value – receptor largely reflects medium criteria above.	High susceptibility – receptor largely reflects high criteria above.	Very High susceptibility – receptor largely reflects very high criteria above.

A1.16 Table A1-3 provides an indication of the criteria by which the overall sensitivity of the landscape resource is judged within this assessment and considers both value and susceptibility independently.

Table A1-3: Assessment of landscape sensitivity

Receptor value	Susceptibility of landscape receptor				
	Very High	High	Medium	Low	Very Low
Very High	Very High	Very High/High	High	High/Medium	Medium
High	Very High/High	High	High/Medium	Medium	Medium/Low
Medium	High	High/Medium	Medium	Medium/Low	Low
Low	High/Medium	Medium	Medium/Low	Low	Low/Very Low
Very Low	Medium	Medium/Low	Low	Low/Very Low	Very Low

A1.17 For visual receptors, judgements of susceptibility and value are closely interlinked considerations. For example, the most valued views are those that people go and visit because of the available view, and it is at those viewpoints that their expectations will be highest and thus most susceptible to change.

A1.18 Table A1-4 provides an indication of the criteria by which the overall sensitivity of a visual receptor is judged within this assessment and considers both value and susceptibility independently.

Table A1-4: Visual receptor sensitivity

Category	Visual receptor criteria
Very high	<p>Designed view (which may be to or from a recognised heritage asset or other important viewpoint), or where views of the surroundings are an important contributor to the experience. Key promoted viewpoint, e.g. interpretative signs. References in literature and art and/or guidebooks tourist maps. Protected view recognised in planning policy designation.</p> <p>Examples may include views from residential properties, especially from rooms normally occupied in waking or daylight hours; national public rights of way, e.g. National Trails and nationally designated countryside/landscape features with public access, which people might visit purely to experience the view; and visitors to heritage assets of national importance.</p>

Category	Visual receptor criteria
High	<p>View of clear value but may not be formally recognised, e.g. framed view of high scenic value, or destination hill summits. It may also be inferred that the view is likely to have value, e.g. to local residents.</p> <p>Examples may include views from recreational receptors where there is some appreciation of the landscape, e.g. golf and fishing; local public rights of way, access land and National Trust land, also panoramic viewpoints marked on maps; road routes promoted in tourist guides for their scenic value.</p>
Medium	<p>View is not promoted or recorded in any published sources and may be typical of the views experienced from a given receptor.</p> <p>Examples may include people engaged in outdoor sport other than appreciation of the landscape, e.g. football and rugby, or road users on minor routes passing through rural or scenic areas.</p>
Low	<p>View of clearly lesser value than similar views experienced from nearby visual receptors that may be more accessible.</p> <p>Examples may include road users on main road routes (motorways/A roads) and users of rail routes or people at their place of work (where the place of work may be in a sensitive location). Also views from commercial buildings where views of the surrounding landscape may have some limited importance.</p>
Very low	<p>View affected by many landscape detractors and unlikely to be valued.</p> <p>Examples may include people at their place of work, indoor recreational or leisure facilities or other locations where views of the wider landscape have little or no importance.</p>

A1.19 The tables above offer a template for assessing overall sensitivity of any landscape or visual receptor as determined by combining judgements of their susceptibility to the type of change or development proposed, and the value attached to the landscape as set out at paragraph 5.39 of GLVIA3. However, the narrative in this report may demonstrate that assessment of overall sensitivity can change on a case-by-case basis.

A1.20 For example, a high susceptibility to change and a low value may result in a medium overall sensitivity, unless it can be demonstrated that the receptor is unusually susceptible or is in some particular way more valuable. A degree of professional judgement applies in arriving at the overall sensitivity for both landscape and visual receptors.

MAGNITUDE OF CHANGE

A1.21 The magnitude of any landscape or visual change is determined through a range of considerations particular to each receptor. The three attributes considered in defining the magnitude are:

- Scale of change;

- Geographical extent; and
- Duration and reversibility/proportion.

A1.22 Receptor locations from which views of the proposed development are not likely to occur will receive no change and therefore no effect. With reference to the ZTV and site survey, the magnitude of change is defined for receptor locations from where visibility of the proposed development is predicted to occur.

A1.23 Table A1-5 provides an indication of the criteria by which the size/scale of change at a landscape or visual receptor is judged within this assessment.


Table A1-5: Landscape and visual receptor magnitude of change criteria

Category	Landscape receptor criteria	Visual receptor criteria
Very high	Total loss of or major alteration to key elements/features/ characteristics of the baseline condition. Addition of elements which strongly conflict with the key characteristics of the existing landscape.	There would be a substantial change to the baseline, with the proposed development creating a new focus and having a defining influence on the view.
High	Notable loss or alteration to one or more key elements/features/ characteristics of the baseline condition. Addition of elements that are prominent and may conflict with the key characteristics of the existing landscape.	The proposed development will be clearly noticeable, and the view would be fundamentally altered by its presence.
Medium	Partial loss or alteration to one or more key elements/features/ characteristics of the baseline condition. Addition of elements that may be evident but do not necessarily conflict with the key characteristics of the existing landscape.	The proposed development will form a new and recognisable element within the view which is likely to be recognised by the receptor.
Low	Minor loss or alteration to one or more key elements/features/characteristics of the baseline landscape. Addition of elements that may not be uncharacteristic within the existing landscape.	The proposed development will form a minor constituent of the view being partially visible or at sufficient distance to be a small component.

Category	Landscape receptor criteria	Visual receptor criteria
Very low	Barely discernible loss or alteration to key elements/features/characteristics of the baseline landscape. Addition of elements not uncharacteristic within the existing landscape.	The proposed development will form a barely noticeable component of the view, and the view whilst slightly altered would be similar to the baseline situation.

A1.24 Table A1-6 provides an indication of the criteria by which the geographical extent of the area affected is judged within this assessment.

Table EDP A1-6: Geographical extent criteria

	Landscape receptors	Visual receptor criteria
	Largest	Large scale effects influencing several landscape types or character areas.
		Effects at the scale of the landscape type or character areas within which the proposal lies.
		Effects within the immediate landscape setting of the site.
		Effects at the site level (within the development site itself).
	Smallest	Effects only experienced on parts of the site at a very localised level.
		Direct views at close range with changes over a wide horizontal and vertical extent.
		Direct or oblique views at close range with changes over a notable horizontal and/or vertical extent.
		Direct or oblique views at medium range with a moderate horizontal and/or vertical extent of the view affected.
		Oblique views at medium or long range with a small horizontal/vertical extent of the view affected.
		Long range views with a negligible part of the view affected.

A1.25 The third, and final, factor, in determining the predicted magnitude of change is duration and reversibility. Duration and reversibility are separate but linked considerations. Duration is judged according to the defined terms set out below, whereas reversibility is a judgement about the prospects and practicality of the particular effect being reversed in, for example, a generation. The categories used in this assessment are set out below:

Duration

- Long term (20 years+);
- Medium to long term (10 to 20 years);

- Medium term (5 to 10 years);
- Short term (1 year to 5 years); or
- Temporary (less than 12 months).

Reversibility

- Permanent with unlikely restoration to original state, e.g. major road corridor, power station, urban extension, etc.;
- Permanent with possible conversion to original state, e.g. agricultural buildings, retail units;
- Partially reversible to a different state, e.g. mineral workings;
- Reversible after decommissioning to a similar original state, e.g. wind energy development; or
- Quickly reversible, e.g. temporary structures.

SIGNIFICANCE OF EFFECT

A1.26 The purpose of the EIA process is to identify the significant environmental effects (both beneficial and adverse) of Development proposals. Schedule 4 to the EIA Regulations specifies the information to be included in all environmental statements, which should include a description of:

"The likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development".

A1.27 In order to consider the likely significance of any effect, the sensitivity of each receptor is combined with the predicted magnitude of change to determine the significance of effect, with reference also made to the geographical extent, duration and reversibility of the effect within the assessment. Having taken such a wide range of factors into account when assessing sensitivity and magnitude at each receptor, the significance of effect can be derived by combining the sensitivity and magnitude in accordance with the matrix in Table A1-7.

Table EDP A1-7: Level of effects matrix

Overall Sensitivity	Overall Magnitude of Change				
	Very High	High	Medium	Low	Very Low
Very High	Substantial	Major	Major/- Moderate	Moderate	Moderate/- Minor

Overall Sensitivity	Overall Magnitude of Change				
	Very High	High	Medium	Low	Very Low
High	Major	Major/- Moderate	Moderate	Moderate/- Minor	Minor
Medium	Major/- Moderate	Moderate	Moderate/- Minor	Minor	Minor/- Negligible
Low	Moderate	Moderate/- Minor	Minor	Minor/- Negligible	Negligible
Very Low	Moderate/- Minor	Minor	Minor/- Negligible	Negligible	Negligible/- None

A1.28 In certain cases, where additional factors may arise, a further degree of professional judgement may be applied when determining whether the overall change in the view will be significant or not and, where this occurs, this is explained in the assessment.

DEFINITION OF EFFECTS

A1.29 Taking into account the levels of effect described above, and with regard to effects being either adverse or beneficial, the following table represents a description of the range of effects likely at any one receptor.

Table EDP A1-8: Definition of Effect.

Category	Definition of adverse effects	Definition of beneficial effects
Substantial	Typically, the landscape or visual receptor is highly sensitive with the proposals representing a high adverse magnitude of change. The changes would be at complete variance with the landscape character and would permanently diminish the integrity of a valued landscape or view.	The removal of substantial existing incongruous landscape or visual elements and the introduction or restoration of highly valued landscape elements or built form which would reinforce local landscape character and substantially improve landscape condition and visual amenity.
Major	Typically, the landscape or visual receptor has a high to medium sensitivity with the proposals representing a high to medium adverse magnitude of change to the view or landscape resource. Changes would result in a fundamental change to the landscape resource or visual amenity.	The removal of existing incongruous landscape/visual elements and the introduction or restoration of some valued landscape or visual elements would complement landscape character and improve landscape condition, and improve the local visual amenity.

Category	Definition of adverse effects	Definition of beneficial effects
Moderate	Typically, the landscape or visual receptor has a medium to low sensitivity with the proposals representing a high to medium magnitude of change. The proposals would represent a material but non-fundamental change to the landscape resource or visual amenity.	The removal of some existing incongruous landscape elements and/or the introduction or restoration of some potentially valued landscape elements which reflect landscape character and result in some improvements to landscape condition and/or visual amenity.
Minor	Typically, the landscape or visual receptor has a low sensitivity with the proposals representing a medium to low magnitude of change. The proposals would result in a slight but non-material change to the landscape resource or visual amenity.	Some potential removal of incongruous landscape features or visual amenity, although more likely the existing landscape and/or resource is complemented by new landscape features or built features compliant with the local landscape and published landscape character assessments.
Negligible	Typically, the landscape or visual receptor has a low or very low sensitivity with the proposals representing a very low magnitude of change. There would be a detectable but non-material change to the landscape resource or visual amenity	The proposals would result in minimal positive change to the landscape or visual resource, either through perceptual or physical change, and any change would not be readily apparent but would be coherent with ongoing change and process, and coherent with published landscape character assessments.
None	Typically, the landscape receptor has a very low sensitivity with the proposals resulting in no loss or alteration to the landscape resource or change to the view. There would be no detectable change to the landscape resource or visual amenity.	There would be no detectable positive or negative change to the landscape resource or visual amenity.

A1.30 Effects can be adverse (negative), beneficial (positive) or neutral. The landscape effects will be considered against the landscape baseline, which includes published landscape strategies or policies if they exist. Changes involving the addition of large scale man-made objects are typically considered to be adverse as they are not usually actively promoted as part of published landscape strategies. Accordingly, the assessment of landscape

effects as a result of these aspects of the proposed development will be assumed to be adverse, unless otherwise stated within the assessment.

A1.31 Visual effects are more subjective as people's perception of development varies through the spectrum of negative, neutral and positive attitudes. In the assessment of visual effects, the assessor will exercise objective professional judgement in assessing the level of effects and, unless otherwise stated, will assume that all effects are adverse, thus representing the worst-case scenario.

CUMULATIVE EFFECTS

A1.32 Cumulative effects generally occur where there may be simultaneous or sequential visibility of two or more developments of the same type and scale, or where the consideration of other schemes would increase an effect identified. Where other similar schemes are in the planning system and made known to the applicant, or are under construction, these are considered in conjunction with the proposed scheme.

Annex 2.0 ◆ RELEVANT EXTRACTS FROM LOCAL POLICY

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Annex 3.0 ◆ RELEVANT EXTRACTS FROM LANDSCAPE CHARACTER ASSESSMENTS

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Annex 4.0 ◆ LOCAL LANDSCAPE CHARACTER AREAS

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