

17 Landscape and Visual

Introduction

- 17.1 This chapter of the PEIR provides a preliminary assessment of the Landscape and Visual aspects of the OMSSD project. The boundary of the OMSSD project DCO application is shown on Figure 17.1 – OMSSD project Site Location Plan. The focus of this preliminary assessment is on the likely significant environmental effects arising on the regional / district and local level landscape character; topography, land use and vegetation; the historic and cultural landscape; changes to the character and amenity of the range of visual receptors (as identified through a selection of a number of key representative viewpoints as shown on Figures 17.18, 17.19 and 17.20) during the construction and operational phases. The preliminary assessment has been undertaken by fabrik landscape consultants.
- 17.2 This chapter summarises the LVIA assessment methodology, as fully described in Appendix 17.1; describes the baseline conditions at the OMSSD project site and in the surrounding area; any additional mitigation measures (over and above those designed into the scheme) adopted for the purposes of the preliminary assessment; a preliminary consideration of the likely significant effects; and the preliminary likely residual effects after the additional mitigation measures have been employed. The LVIA will also take account of the specific topic requirements set out in section 5.11 Landscape and Visual Impacts of the National Policy Statement for Ports (NPSfP) (2012)⁵⁴⁰ and any other relevant guidance.
- 17.3 This chapter (and its associated appendices, figures and tables) is intended to be read as part of the wider PEIR with particular reference to Chapter 3 and Figure 3.1 which describes the OMSSD Project, Chapter 7 – Terrestrial Ecology, Chapter 18 – Lighting and Chapter 19 – Historic Environment.

Definition of the Study Area

- 17.4 The study area expands to 8km radius from the centre of the OMSSD project site based on the factors described in the following paragraphs and has been agreed with the Landscape Consultant to Essex County Council.

Desktop Study

- 17.5 The overarching approach to defining the study area is to provide an integrated assessment of the landscape and visual receptors considering cultural heritage matters, but also cross referencing to ecological matters and in the context of planning policy and guidance. A preliminary desk study was undertaken to establish the physical components of the local landscape and to identify the boundaries to the study area and therefore the broad Zone of

⁵⁴⁰ DfT (2012) National Policy Statement for Ports, section 5.11, pp. 62 – 65.

Theoretical Visual Influence (ZTVI) associated with the OMSSD project site. A digital ZTVI will be prepared as part of the OMSSD ES once the parameters are defined. An interim bare earth ZTVI has been prepared using Google Earth Pro Viewshed tool to provide a broad understanding of the zone of visibility of the proposed development. Refer to Figure 17.16 – The Zone of Theoretical Visibility which is based on the tallest of the proposed storage tanks at 29m in height above ground level to reflect the worst-case scenario. Ordnance Survey (OS) maps and digital data have been utilised to identify local features relating to topography, drainage patterns, land use, existing settlement patterns, movement corridors and any historic landscape features. In addition, aerial photography was used to supplement the OS information. This data informed the field survey by providing a basis for mapping the significant landscape features. Web based research has also been used to collect information on the historic and cultural landscape of the OMSSD project site and the study area.

- 17.6 A review of the landscape related designations (including ecological and heritage designations); features of landscape importance; landscape character (at the national and county levels); and the definitive Rights of Way network has been carried out.
- 17.7 Landscape planning policy objectives, design guidance and health and safety regulations, which are likely to influence the location or design of the proposed development, along with any special landscape values or attributes (that may have justified the planning designations) have been identified. The desk study has identified future trends and forces for landscape change where they may be important in relation to the proposed development.
- 17.8 During the initial desk-based assessment a series of key representative viewpoints were identified and verified in the field. The location of these viewpoints was agreed with the Landscape Consultant to Essex County Council during the meeting on the 2nd October 2020. (Note: the final location of viewpoint 35 is yet to be verified in field following further site visit scheduled in March 2021 and in readiness for the OMSSD ES).
- 17.9 The sources of baseline data included:
- Google and Bing maps for aerial photography;
 - Oblique aerial photography (including Google Streetview and Google Pro);
 - Natural England website (for national level landscape character);
 - Essex County Council website (for county level landscape character and definitive Rights of Way mapping);
 - Kent County Council (for county landscape character);
 - magic.gov.uk (for ecological and heritage designations).

Field Work

- 17.10 A landscape and visual survey of the baseline situation was originally undertaken on 23rd, 24th and 26th March 2019 and updated on 20th and the 23rd March 2020. This was carried out to understand the OMSSD project site and its immediate setting; the local topography;

existing land uses; landscape elements, features and vegetation structure; the broad Zone of Visual Influence; and to confirm the magnitude of visibility. The landscape and visual survey will be further updated in March 2021 to inform the final OMSSD ES.

- 17.11 The photographic record and visual assessment therefore represent the worst-case winter view prior to leaves emerging. Photographs were taken at 1.4m height above ground with a Nikon DSLR camera with a 35mm lens (and a 2/3rds sensor) to achieve an equivalent 52.5mm focal length.
- 17.12 The visibility was good during the time of the site visits.
- 17.13 The field study was then used to confirm the physical components and structure of the wider landscape of the study area; and to verify the preliminary range of local level landscape character areas.

Assessment Methodology

- 17.14 The methodology for the LVIA is drawn from the Landscape Institute and the Institute of Environmental Management and Assessment's Third Edition of the 'Guidelines for Landscape and Visual Impact Assessment' (GLVIA3⁵⁴¹). The methodology employed in this LVIA, including criteria tables, is set out fully at Appendix 17.1. The criteria tables have been generated by the consultant based on the information contained in GLVIA3 and are regularly updated to reflect new guidance, best practice and testing through the appeals process. Recommendations set out by the Landscape Consultant to Essex County Council have been incorporated. The assessment of effects as prepared in this PEIR chapter has been prepared in accordance with these tables. The comments received in the Scoping Opinion have been addressed where relevant for this PEIR document and will be further addressed in the preparation of the OMSSD Environmental Statement (ES).
- 17.15 The assessment of landscape and visual effects considers the OMSSD project enabling, construction and operational phases of the OMSSD project and relative to the maturation of the existing vegetation and any new on-site landscaping.
- 17.16 The photography has been prepared in accordance with the Landscape Institutes Visual Representation of Development Proposals, Technical Guidance Note 06/19⁵⁴². The preparation of any Visually Verified Montages (VVMs) which are to be included in the OMSSD ES will also be prepared in accordance with this guidance. The location of the Visually Verified Montages (VVMs) has been agreed with the Landscape Consultant to Essex County Council (ECC).

⁵⁴¹ Landscape Institute and Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment (3rd edn.). Routledge.

⁵⁴² Landscape Institute (2019) Visual Representation of Development Proposals, Technical Guidance Note 06/19 published on 17 September 2019

- 17.17 As an overview of the process, landscape and visual assessments are separate, although linked, procedures. The baseline landscape assessment has recorded and analysed the existing landscape (through both desktop and field survey), in terms of its constituent elements, features, characteristics, historical and cultural associations, condition, the way the landscape is experienced and the value / importance of that particular landscape and its elements. The baseline assessment has identified any potential changes likely to occur in the local landscape or townscape which will change the characteristics of either the OMSSD project site or its setting (including current perceived tranquillity). A night-time character assessment has also been carried out and has been co-ordinated with the findings of Chapter 18 – Lighting of this PEIR.
- 17.18 The visual baseline has established the area in which the existing Oikos Facility and the proposed OMSSD project may be visible; the different groups of people who may experience views of the proposed development; the places where they will be affected; the degree of openness of the view and whether transient, serial or static; and the nature, character and amenity of those views. The visual baseline has been determined again using a mixture of desk based and field studies and analysis based on an area of study from a range of viewpoints, which have been selected using a defined set of criteria (refer to Appendix 17.1 for the LVIA criteria tables). The viewpoints are those shown on Figures 17.18, 17.19 and 17.20 following discussion with the landscape consultant to Essex County Council.
- 17.19 The selection of key representative viewpoints from a range of visual receptors have been identified and determined using a defined set of criteria (which is set out in the LVIA Methodology at Appendix 17.1). The following visual receptors have been included in the visual assessment as representative viewpoints:
- Private residential dwellings and views from Listed Buildings, collected as representative viewpoints;
 - Transient views from public viewpoints such as roads and associated pavements and Public Rights of Way (PRoW);
 - Transient and serial views from vessels travelling on the River Thames Estuary;
 - Receptors at visitor attractions (including Hadleigh Country Park, Benfleet Down, Pitsea viewing point, holiday parks, Thorney Bay Beach, the Lobster Smack public house and its associated garden space);
 - Receptors using public open space and open access land (including Hadleigh Country Park, West Canvey Marsh Nature Reserve, Halstow Marshes and Wooden Park Playground).
- 17.20 Landscape effects derive from either direct or in-direct changes to the physical landscape, which may give rise to changes to the individual landscape components which in turn affects the landscape character and potentially changes how the landscape is experienced and valued.
- 17.21 Visual effects relate to the changes that arise in the composition, character and amenity of the view as a result of changes to the physical landscape elements.

17.22 Predictions of the landscape and visual effects arising from the OMSSD project have systematically:

- Combined the value of the receptor with the susceptibility to the proposed change to determine the sensitivity of the receptor.
- Combined the size, scale, geographic extent, duration of the proposals and their reversibility in order to understand the magnitude of the OMSSD project.
- Combined the sensitivity of the each of the receptors and the magnitude of effect to determine the significance of the effect;
- In accordance with best practice, presented the landscape and visual effects in a factual, logical, well-reasoned and objective fashion;
- Indicated any additional mitigation measures proposed over and above those designed into the OMSSD project to prevent/avoid, reduce, offset, remedy, compensate for the effects (mitigation measures) or which provide an overall landscape and visual enhancement wherever possible to the OMSSD project plans, if applicable and where feasible relative to operational requirements;
- Set out any assumptions considered throughout the assessment of effects; and
- Set out any residual effects, i.e. those effects taking into account any additional mitigation measures in place over and above those designed into the OMSSD project.

17.23 Effects and residual effects may be beneficial or adverse, direct or indirect, residual, permanent or temporary long-term, temporary medium-term, temporary short-term. They can also arise at different scales (national, regional, local or site level) and have different levels of significance (major, moderate, minor, negligible or neutral / no change).

Determining Significance of Effects

17.24 The two principal criteria determining the significance of effects are the sensitivity of the receptor and the magnitude of the impact. Table 17.1 below provides the significance of effects matrix which, together with well-reasoned and balanced professional judgement, will be used to determine the likely significant effects of the OMSSD project.

17.25 Where landscape effects are judged to be of moderate negative significance and above, additional mitigation or compensatory measures will be considered.

Table 17.1: Significance of effects matrix

Magnitude of impact (degree of change)	Landscape / Visual receptor Sensitivity			
	High	Medium	Low	Negligible
Major	Major	Moderate - Major	Moderate	Minor
Medium	Moderate - Major	Moderate	Moderate - Minor	Negligible
Low	Moderate	Moderate - Minor	Minor	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

Consultation

- 17.26 The consultation comments in the Scoping Opinion, together with further comments from the Landscape Consultant to Essex County Council (following receipt of the Scoping Opinion) are summarised in Table 17.2 below.

Table 17.2 Summary of consultation to date

Consultee	Date	Summary of Comments	How comments are addressed in this Chapter / How comments will be addressed in the OMSSD ES
Planning Inspectorate	May 2020	<p>ID 4.11.2</p> <p>Representative Viewpoints and methodology:</p> <p>The Scoping Report states that consultation with Castle Point Borough Council and Essex County Council is yet to be undertaken although viewpoints have already been identified.</p> <p>The Applicant should ensure that the viewpoints and the methodology for assessment are appropriate through consultation with the relevant consultees before carrying out any LVIA assessment. The baseline should be presented visually as well as written in the ES.</p>	<p>The key representative viewpoints and methodology documents were submitted to the landscape consultant to Essex County Council for comment on the 1st September 2020 via email.</p> <p>Comments have been received on the LVIA methodology throughout September and October 2020 and incorporated into this PEIR document accordingly and for taking forward into the OMSSD ES.</p> <p>A further digital meeting between the Landscape Consultant to Essex County Council and the Oikos consultant team occurred on 2 October 2020. It was agreed to include a further viewpoint - no. 35. The field survey work for this is yet to be carried out and therefore is not included in the PEIR, but will be included in the OMSSD ES LVIA Chapter.</p> <p>All the agreed viewpoints will be included in the ES and LVIA Chapter.</p>
Planning Inspectorate	May 2020	<p>ID 4.11.3</p> <p>3D Visual Montages and detailed design:</p> <p>The Applicant proposes to undertake the assessment in line with the Third Edition of the 'Guidelines for Landscape and Visual Impact Assessment' (GLVIA3). This should include all structures associated with the Proposed Development, inclusion of aspects of design of the Proposed Development and 3D wire lines and full photomontages to ensure a robust assessment.</p>	<p>Verified Visual Montages (VVMs) to Type 4 (photo wire – survey / scale verifiable) in accordance with LI Technical Guidance will be prepared as part of the OMSSD ES LVIA Chapter.</p> <p>The locations for the VVM's have been confirmed by the Landscape Consultant to Essex County Council via email on 8 February 2021.</p>
Planning Inspectorate	May 2020	ID 4.11.4	The criteria/matrices are included in the methodology for the LVIA.

Consultee	Date	Summary of Comments	How comments are addressed in this Chapter / How comments will be addressed in the OMSSD ES
		<p>Criteria/matrices for landscape value, visual baseline, visual receptor value criteria:</p> <p>The Scoping Report states a number of times that following a mixture of field and desk-based studies, criteria will be used to determine certain values, baselines and what determines the landscape and visual effects.</p> <p>The ES should clearly set out all criteria/matrices used in the assessment, explain how it has been applied and reference its source.</p>	<p>The detailed methodology can be found in Appendix 17.1.</p> <p>This methodology will also be used for the OMSSD ES LVIA Chapter.</p> <p>The OMSSD ES LVIA Chapter will make reference to the methodology criteria and matrices and will explain how these have been applied and source referenced.</p>
<p>Planning Inspectorate</p>	<p>May 2020</p>	<p>ID 4.11.5</p> <p>Night-time character assessment:</p> <p>The Scoping Report indicates that a night-time character assessment will be prepared in co-ordination with the lighting assessment but does not provide any further information as to how these will interact. The ES should cross-reference the Landscape and Visual Chapter and the Lighting Chapter and explain how the lighting and night-time character assessments interact.</p>	<p>This will be addressed both in the OMSSD PEIR and the ES LVIA Chapter.</p> <p>The landscape night-time character assessment is to be read in conjunction with OMSSD ES Chapter 18 – Lighting.</p>
<p>Planning Inspectorate</p>	<p>May 2020</p>	<p>ID 4.11.6</p> <p>Assumptions and limitations:</p> <p>Any assumptions and limitations that have been made throughout the assessment should be clearly explained in the ES.</p>	<p>This has been addressed in the ‘Limitations and Assumptions’ section of this PEIR Chapter.</p> <p>It will also be included in the OMSSD ES LVIA Chapter in more detail.</p>
<p>Planning Inspectorate</p>	<p>May 2020</p>	<p>ID 4.11.7</p> <p>Data sources:</p> <p>The assessment in the ES should explain how the Essex Green Infrastructure Strategy (2020) and the Landscape Character Assessment of the Essex Coast (2005) have been taken into account.</p>	<p>Relevant extracts of these documents have been provided in the baseline landscape assessment section accordingly.</p> <p>It will also be included in the OMSSD ES LVIA Chapter in more detail.</p>
<p>Essex County Council</p>	<p>May and October 2020</p>	<p>Advisory changes on the table of significance of effects</p>	<p>This has been fully adopted and incorporated in the methodology. Refer to Appendix 17.1 - Methodology. This methodology is used for both the PEIR and the OMSSD ES LVIA Chapter.</p>

Consultee	Date	Summary of Comments	How comments are addressed in this Chapter / How comments will be addressed in the OMSSD ES
		<p>Reference to the following documents:</p> <ol style="list-style-type: none"> 1. Essex Green Infrastructure Strategy (2020). It aims to enhance the urban and rural environment, through creating multi-functional GI that delivers multiple benefits to people and wildlife. It meets ECC's aspirations to improve green space in our towns, cities and villages, especially close to areas of deprivation. 2. Landscape Character Assessment of the Essex Coast (2005). Although much of the site is developed and classed as urban, this document provides a more detailed assessment of the surrounding landscape characteristic features and the key opportunities and threats. 	<p>This has been addressed under Planning Policy and Guidance and Landscape Character Context section in this chapter.</p> <p>It will also be included in the OMSSD ES LVIA Chapter.</p>
		<p>Viewpoints:</p> <p>We cannot agree the viewpoint locations until a Zone of Visual Influence (ZVI) and Landscape Baseline Map have been submitted. We would also like to undertake a site visit to determine whether there are any additional viewpoints or visually verified montages required.</p>	<p>Essex County Council and Oikos Consultant team attended a digital meeting on the 2 October 2020, to run through the relevant data determining the ZVI and the proposed VVM locations. A project specific digital ZVI will be prepared for the ES. The VVM locations have been updated to include viewpoint 11 as requested at the meeting.</p> <p>The key representative viewpoints have been agreed in principle, with an additional viewpoint (viewpoint no. 35) suggested on Public Footpath 26, adjacent to the West Canvey Marsh Nature Reserve. The exact location of this is to be determined in the field and will be included in the ES LVIA Chapter. At the time of preparing the PEIR, the Government introduced a Covid national lockdown. However, it is to be noted that this is not one of the viewpoints which is subject to being a VVM.</p>

Consultee	Date	Summary of Comments	How comments are addressed in this Chapter / How comments will be addressed in the OMSSD ES
		<p>Further information: Regarding the study area, methodology, receptors and mitigation. When required, the landscape consultant to the County Council will undertake site visits alongside the applicant to review viewpoint locations and visualisation types.</p>	<p>This will be included in the OMSSD ES LVIA Chapter.</p> <p>The full LVIA methodology has been issued to the Landscape Consultant and planning officer of Essex County Council on the 1st September 2020. Comments have been received throughout the course of September 2020 with further discussions on the 2nd October 2020 digital meeting. The revised LVIA Methodology, including the requested further information, has been issued to the Landscape Consultant to the Council accordingly. No further comments have been received.</p>
<p>Natural England</p>	<p>May 2020</p>	<p>Local landscape character: Natural England would wish to see details of local landscape character areas mapped at a scale appropriate to the development site as well as any relevant management plans or strategies pertaining to the area. The EIA should include assessments of visual effects on the surrounding area and landscape together with any physical effects of the development, such as changes in topography.</p> <p>The EIA should include a full assessment of the potential impacts of the development on local landscape character using landscape assessment methodologies. We encourage the use of Landscape Character Assessment (LCA), based on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Assessment in 2013. LCA provides a sound basis for guiding, informing and understanding the ability of any</p>	<p>A local level landscape character assessment has been carried out and is included in the baseline landscape assessment of the PEIR. This has been issued to the Landscape Consultant to Essex County Council and Castle Point Borough Council for approval on 5 January 2021. Following a site visit by the Landscape Consultant to Essex County Council, confirmation was received in February 2021 that the local level landscape character assessment is suitable.</p> <p>The assessment of landscape and visual effects are covered in this PEIR Chapter under the Preliminary Consideration of Likely Impacts and Effects section. They will also form part of the OMSSD ES LVIA chapter.</p> <p>This has been addressed in this PEIR Chapter under the Preliminary Consideration of Likely Impacts and Effects section.</p> <p>It will also be included in the OMSSD ES LVIA Chapter in more detail.</p>

Consultee	Date	Summary of Comments	How comments are addressed in this Chapter / How comments will be addressed in the OMSSD ES
		location to accommodate change and to make positive proposals for conserving, enhancing or regenerating character, as detailed proposals are developed.	
		<p>High quality design:</p> <p>In order to foster high quality development that respects, maintains, or enhances, local landscape character and distinctiveness, Natural England encourages all new development to consider the character and distinctiveness of the area, with the siting and design of the proposed development reflecting local design characteristics and, wherever possible, using local materials. The Environmental Impact Assessment process should detail the measures to be taken to ensure the building design will be of a high standard, as well as detail of layout alternatives together with justification of the selected option in terms of landscape impact and benefit.</p>	<p>Due to the nature of the infrastructure project, there are specific requirements relating to the design of the new infrastructure and the use of colour. As such, the colour and shape, will be aligned with the existing tanks present on the Oikos Facility and which form part of the industrial coastal character. Further details are included in this PEIR chapter and will also be included in the OMSSD ES LVIA chapter.</p>
		<p>Cumulative effects:</p> <p>The assessment should also include the cumulative effect of the development with other relevant existing or proposed developments in the area. In this context Natural England advises that the cumulative impact assessment should include other proposals currently at Scoping stage. Due to the overlapping timescale of their progress through the planning system, cumulative impact of the proposed development with those proposals currently at Scoping stage would be likely to be a material consideration at the time of determination of the planning application.</p>	<p>This will be included in the OMSSD ES LVIA Chapter and agreed with the statutory consultees by the ES Co-ordinator.</p>
		<p>National Landscape Character:</p> <p>The assessment should refer to the relevant National Character Areas which can be found on our website. Links for Landscape Character Assessment at a local</p>	<p>This has been addressed in this Chapter under the Landscape Character Context section. It will also be included in the OMSSD ES LVIA Chapter.</p>

Consultee	Date	Summary of Comments	How comments are addressed in this Chapter / How comments will be addressed in the OMSSD ES
		level are also available on the same page.	
Landscape Consultant to Essex County Council	February 2021	Confirmation received regarding the locations for key representative viewpoints, VVM's and local level landscape character assessment.	No further action required, as information agreed.

Implications of Legislation, Policy and Guidance

17.27 The LVIA for the PEIR has been undertaken within the context of relevant planning policies, guidance documents and legislative instruments. These are summarised below.

Legislative Framework

17.28 The applicable legislative framework is summarised as follows:

- European Landscape Convention (ELC, 2000)⁵⁴³;
- Section 85 of the Countryside and Rights of Way (CROW) Act 2000⁵⁴⁴;
- Section 89 of the CROW Act 2000 (as amended by the NERC Act 2006⁵⁴⁵); and
- Section 62(2) of the Environment Act 1995.

Planning Policy and Guidance

17.29 The OMSSD project site lies on the south of Canvey Island, its southern boundary skirts around the coastal defence wall along Public Footpath 6 and the River Thames Estuary mudflats.

17.30 The Green Belt (primarily a planning designation, but where the openness has a visual dimension, so is therefore a matter to be considered in the LVIA) lies to the west beyond Haven Road. There are no planning designations that relate to the landscape setting to the Green Belt. Land to the north of the OMSSD project site abuts an area designated under Castle Point Borough Council Local Plan as a Green Lung - a local wildlife site (Brick House Farm Marsh). The OMSSD project site does not lie within a landscape designation at the national or local level, nor does it lie within a strategic viewing corridor identified in planning policy.

⁵⁴³ European Landscape Convention

⁵⁴⁴ Countryside and Rights of Way Act 2000

⁵⁴⁵ Natural Environment and Rural Communities Act 2006.

- 17.31 In terms of ecology related statutory designations in the local area (and that have been scoped into Chapter 7 – Terrestrial Ecology), these include Hole Haven Creek Site of Special Scientific Interest (SSSI) to the west; with Canvey Wick SSSI, Pitsea Marsh SSSI and Vange and Fobbing Marshes SSSI to the north-west of the OMSSD project site; Canvey Lake SSSI lies to the north of the OMSSD project site; Benfleet and Southend Marshes Special Protection Area (SPA) / Ramsar / SSSI lies to the north- east; and the mudflats to the south of the OMSSD project site across the Thames Estuary are designated as Thames Estuary and Marshes SPA / Ramsar / SSSI. Leigh National Nature Reserve lies to the north-east and is encompassed by the Benfleet and Southend Marshes SSSI boundary. Refer to Figure 17.2 which shows the location and extent of ecological designations types.
- 17.32 In terms of non-statutory designations, these include the Local Wildlife Sites (LWS) of Canvey Village Marsh Local Wildlife Site to the west; Brick House Farm Marsh to the north; Northwick Farm and Sea Wall to the north-west; West Canvey Marshes to the north-west; and Thorney creek Fleet to the north-east of the OMSSD project site. The location of the LWSs are shown on Figure 17.4.
- 17.33 In terms of the designated heritage assets, the Lobster Smack public house and the former coastguard cottages Nos 1 and 1A Haven Road are all Grade II Listed Buildings which lie immediately to the west of the OMSSD project site. The locations of these listed buildings are shown on Figure 17.2. Other designated heritage assets include Halstow Marshes Decoy Pond Scheduled Monument, to the south of the study area in Kent.
- 17.34 The landscape to the north of the OMSSD project site is proposed to change with the introduction of a new east to west road corridor, extending Roscommon Way from the west, connecting with Thames Road to the east, but which continues to extend further east.
- 17.35 For further details on ecological designations and heritage assets and associated policy and guidance refer to Chapter 7 – Terrestrial Ecology and Chapter 19 – Historic Environment of this PEIR.
- 17.36 The preliminary landscape and visual impact assessment contained in this PEIR (and the ES) will cross refer to these chapters. The implications of the designations and related policies outlined below has been considered through the iterative assessment process.
- 17.37 Planning policies relevant to the landscape and visual matters are set out below:
- National Policy Statement for Ports (NPSfP⁵⁴⁶), including the following sections:
 - Section 5.11: Landscape and visual impacts states that: *“Port development can sometimes have a negative impact on the characteristics and visual amenity of the landscape...The impact can be the result of the physical character of the port development as well as its introduction of light pollution and noise to areas that may otherwise have been tranquil.”* It goes onto to state that: *“Within a defined site, adverse landscape and visual effects may*

⁵⁴⁶ Department for Transport (2012) National Policy Statement for Ports

be minimised through appropriate siting of infrastructure within that site, design including colours and materials, and landscaping schemes, depending on the size and type of proposed projects. Materials and designs of buildings should always be given careful consideration.”

- Section 5.12: Historic environment; and
- Section 5.13: Land use including open space, green infrastructure and Green Belt.
- Overarching Energy National Policy Statement (EN-1⁵⁴⁷)
 - Chapter 5.9 Landscape and Visual: it states that: *“Landscape effects depend on the existing character of the local landscape, its current quality, how highly it is valued and its capacity to accommodate change. All of these factors need to be considered in judging the impact of a project on landscape. Virtually all nationally significant energy infrastructure projects will have effects on the landscape. Projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints the aim should be to minimise harm to the landscape, providing reasonable mitigation where possible and appropriate.”*
- Whilst the National Planning Policy Framework (February 2019) is not strictly applicable to Nationally Strategic Infrastructure Projects under the Planning Act 2008, the following sections are pertinent to this LVIA and are cited for context:
 - Section 2: Achieving sustainable development;
 - Section 13: Protecting Green Belt land;
 - Section 14: Meeting the challenge of climate change, flooding and coastal change;
 - Section 15: Conserving and enhancing the natural environment;
 - Section 16: Conserving and enhancing the historic environment; and
- National Planning Practice Guidance⁵⁴⁸, including the following sections:
 - Design: Paragraph: Paragraph:007 Reference ID: 26-007-20191001;
 - Green Belt: Paragraph: 001 Reference ID: 64-001-20190722;
 - Historic Environment: Paragraph: 013 Reference ID: 18a-013-20190723; and
 - Natural Environment: Paragraph: 036 Reference ID: 8-036-20190721

⁵⁴⁷ Department of Energy and Climate Change (2011) Overarching National Policy Statement for Energy (EN-1)

⁵⁴⁸ Ministry of Housing, Communities & Local Government (2019) Planning Practice Guidance. Available at: <https://www.gov.uk/government/collections/planning-practice-guidance>

- Essex Green Infrastructure Strategy⁵⁴⁹: This document is heavily focused on nature conservation aspects. However, there are some proposals pertinent to the OMSSD project site, which are outlined below:
 - *“Strategically identify priority areas for the creation or improvement of green infrastructure to enhance local landscape character.”* (Table 2)
 - *“Encourage better management of green infrastructure to benefit locally native species, focussing on recognised nature conservation priorities.”* (Table 2)
- Castle Point Borough Council Adopted Local Plan 1998⁵⁵⁰, including the following sections which are pertinent to landscape and visual matters (Figure 17.3):
 - EC2: Design, this policy sets out that a high standard of design for new buildings is expected and that the scale, density, siting, design, layout and external materials of any development should not harm the character of its surroundings; and that the appearance and treatments of spaces around buildings is to be enhanced by appropriate hard and soft landscape;
 - EC8: Green Lung, which is a specific policy relating to the area to the north of the OMSSD site and between Haven Road and Thorney Bay Caravan Site and which is to be protected from development that would adversely affect its open character or amenity value;
 - EC16: Protection of Landscape, this policy sets out that those new developments that have a significant adverse visual impact on the surrounding landscape will not be permitted. In particular, the prominence of the development in terms of its scale, siting and external materials, alongside the visual relationship of the development to the open countryside, are key considerations;
 - EC22: Retention of Trees, Woodland and Hedgerows, which sets out that in new developments these features are to be retained wherever possible, where loss of existing tree cover and hedgerows is to be minimised and that all trees and shrubs to be retained are to be suitably protected throughout the construction period; and
 - EC23: Tree and Shrub Planting, which seeks the improvement of the physical environment through the planting of native trees and shrubs (in appropriate cases).

⁵⁴⁹ Essex Green Infrastructure Strategy, a strategy that champions for high quality green space and green infrastructure in Essex, 2020

⁵⁵⁰ The current Local Plan was adopted in November 1998. It was saved in its totality until 28th September 2007. Since that date only certain policies are still in place, These will be replaced by policies in the New Local Plan in due course.

- The New Castle Point Local Plan, Pre-Submission Plan, 2018-2033, December 2019, was submitted to the Secretary of State on 2 October 2020 for examination. The following draft policies are considered relevant:
 - GB1: Green Belt Strategy (the land to the west of the OMSSD project site remains as Green Belt);
 - EC4: Canvey Port Facilities (the OMSSD project site, and the area to the east are identified as Canvey Port Facilities);
 - NE4: Local Wildlife Site (land to the north and east is defined as a Local Wildlife Site);
 - NE3: The South Canvey Green Lung (land to the north is identified as South Canvey Green Lung);
 - TP1: Transport Strategy (an east to west 'transport improvement area relating to the extension of Roscommon Way', through the southern section of the South Canvey Green Lung and Wildlife Site);
 - DS1: General Design Principles;
 - DS2: Strategic Policy – Landscaping; and
 - NE6: Protecting and Enhancing the Landscape and Landscape Features.
- Technical standards and guidelines:
 - Guidelines for Landscape and Visual Impact Assessment (GLVIA) Third Edition, 2013⁵⁵¹;
 - Visual Representation of Development Proposals, Technical guidance note 06/19⁵⁵²; and
 - Landscape Character Assessment: Guidance for Scotland and England, 2002⁵⁵³, and
 - An Approach to Landscape Character Assessment, 2014.⁵⁵⁴
- In addition to the landscape industry LVIA guidance documents, the following guidance documents will be considered in the preparation of the scheme design and the landscape and visual impact assessment:
 - National Design Guide (2019)⁵⁵⁵;

⁵⁵¹ Landscape Institute and Institute of Environmental Management and Assessment, Guidelines for Landscape and Visual Impact Assessment (GLVIA), 2013

⁵⁵² Landscape Institute, Visual Representation of Development Proposals, LI Technical Guidance Note 06/19, published on 17 September 2019

⁵⁵³ Scottish Natural Heritage and the Countryside Agency, Landscape Character Assessment: Guidance for Scotland and England, 2002.

⁵⁵⁴ Natural England (2014), An Approach to Landscape Character Assessment, 2014.

⁵⁵⁵ National Design Guide October 2019, available at <https://www.gov.uk/government/publications/national-design-guide>.

- Essex Design Guide: relevant to landscape design matters (updated July 2019)⁵⁵⁶;
- Essex Landscape Character Assessment, Final Report (2003)⁵⁵⁷;
- Essex Thames Gateway Historic Environment Characterisation (2007)⁵⁵⁸;
- Kent County Council Landscape Character Assessment (2004)⁵⁵⁹
- Castle Point Borough Council Urban Design Characterisation (2013)⁵⁶⁰;
- Green Belt Landscape Assessment, Character Area 28 (September 2010)⁵⁶¹;
- Landscape Character Assessment of the Essex Coast (2005)⁵⁶².

Preliminary Description of the Existing Environment

Landscape Related Designations

17.38 The landscape, heritage and ecological designations are shown on Figure 17.2 – Landscape Related Designations. As set out earlier, the Oikos Facility is an established industrial site and does not lie within a designated landscape at a national, regional or local level, nor does it form part of the setting to a national or regional landscape designation. There are no strategic views from, across or towards the OMSSD project site identified in planning policy terms. The boundary of the designated Green Belt lies along the western boundary of Haven Road which separates the Oikos Facility and this designation. The northern boundary abuts the IAA vehicle services site which separates the Oikos facility from the local Green Lung designation, which, in addition to the ecological interest, is designated to provide a buffer between the industrial installations and the residential area of Canvey Island. This area is protected from development which would adversely affect its open character or amenity value. The southern boundary of the OMSSD project site includes the jetties and extends to the River Thames Estuary. A number of Ancient Woodlands are present predominantly in the northern and southern sections of the wider study area. However, there are no Ancient Woodlands surrounding the existing Oikos Facility.

⁵⁵⁶ The Essex Design Guide, available online at <https://www.essexdesignguide.co.uk/>

⁵⁵⁷ Chris Blandford Associates (2003) Essex & Southend-on-Sea, Replacement Structure Plan Review, Essex Landscape Character Assessment, Final report

⁵⁵⁸ Essex County Council (2007) Essex Thames Gateway Historic Environment Characterisation, 2007

⁵⁵⁹ Jacobs Babbie for Kent County Council (2004) The Landscape Assessment of Kent, October 2004

⁵⁶⁰ Castle Point Borough Council Urban Design Characterisation, May 2013

⁵⁶¹ Green Belt Landscape Assessment For Castle Point Borough Council, September 2010,

⁵⁶² Landscape Character Assessment of the Essex Coast, commissioned by SAIL (Schema d'Aménagement Integre du Littoral and Essex County Council.

- 17.39 In terms of heritage assets, there are a number of Scheduled Ancient Monuments (SAM's) and Listed Buildings scattered across the wider study area and both within the settled areas and landscape beyond. Hadleigh Castle, a designated Scheduled Monument and Grade I Listed Building, is a ruined fortification overlooking the Thames Estuary south of Hadleigh in the northern part of the study area. The closest Listed Buildings lie immediately west of the OMSSD project site. These include nos. 1 and 1A, 2 to 8 (consecutive) Haven Road (Grade II); and the Lobster Smack public house (Grade II). The Oikos Facility forms part of the contextual setting to these Listed Buildings. Refer to Figure 17.2 – Landscape Related Designation Map and Figure 17.5 Landscape Features Map. There are no Scheduled Ancient Moments between the Oikos Facility and the settled area of Canvey Island to the north, Halstow Marshes Decoy Pond Scheduled Monument lies to the south of the study area in Kent.
- 17.40 In terms of ecological designations, the coastal edges and waterways are designated as either Ramsar and / or Sites of Special Scientific Interest (SSSI). The nearest ecological designation (an SSSI) to the OMSSD project lies to the west beyond the Lobster Smack public house. A National Nature Reserve lies to the north-east of the OMSSD project, set within a wider Ramsar and SSSI designation. These designations in relation to the Oikos Facility are shown on Figure 17.2.

Overview of the Contextual Landscape

Topographic Context

- 17.41 The topographic profile of the study area which forms the setting to the OMSSD project is shown on Figure 17.11 –Topography Plan of the Study Area.
- 17.42 Canvey Island is separated from the mainland to the north and west by Benfleet, East Haven and Vange creeks, and faces the Thames Estuary to the east and south. The topography of the study area is heavily influenced by the River Thames Estuary corridor and its associated watershed ridgelines to the north and south. The River Thames flows west to east through the study area. The landform broadly slopes south from the ridgeline at Belfairs Nature Reserve at Hadleigh at approximately 80m AOD towards the generally flat coastal plain adjacent to the River Thames Estuary at approximately 10m AOD. The landform then rises from the Thames Estuary to a ridgeline to the south, near Hoo Peninsula, at approximately 65m AOD.
- 17.43 The North Sea flood of 1953 devastated the island and consequently is now protected by an extensive sea wall, completed in 1982. It is approximately 24 km long and surrounds 75% of the island's perimeter terminating with flood barriers spanning Benfleet Creek to the north and East Haven Creek in the west. The drainage system for the Island consists of sewers, culverts, natural and artificial dykes and lakes which feed various pumping stations and gravity sluices that discharge the water into the Thames and creeks.
- 17.44 The landscape value is judged to be **Low - Medium**.

Land Cover and Land Use Context

- 17.45 The land cover and land use of the study area which form the setting to the OMSSD project is shown on Figure 17.12 – Land Use Map.
- 17.46 The study area represents a wide range of land uses. Oil storage terminals / depots and ports are common, forming a distinctive and urbanising character along the coastal waters edge to the River Thames, creating a working landscape. These are interspersed with creeks, waterways, settlement, former mineral extraction / landfill sites (at Pitsea) a range of open marsh lands (including nature reserves) mud flats and woodland blocks predominantly to the north-east within the country parks. Beyond this coastal edge lies a combination of mixed farmland, and settlement (containing both residential and commercial uses).
- 17.47 The main settlements in the study area include South Benfleet, Hadleigh, Southend-on-Sea and Canvey Island to the north, large retail parks, commercial warehouses and industrial parks are principally associated with the settlement edges for ease of access.
- 17.48 Settlement is sparse in the Hoo Peninsula to the south and includes primarily small villages linked by typical countryside road network. Vast open marshlands, nature reserves and mud flats sweep across the water edge of Hoo Peninsular by the River Thames Estuary to the south of the study area.
- 17.49 Caravan Parks are also characteristic of the study area, mainly located along the riverside in Canvey Island and Hoo Peninsula to the south.
- 17.50 Recreational landscapes are present across the study area, close to the settlement edges and include golf courses, rugby clubs and football clubs.
- 17.51 In the emerging Castle Point District Council Submission Draft Local Plan, a west to east corridor has been identified across the farmland to the north of the OMSSD project site as a 'transport improvement area' (as shown on Figure 17.4).
- 17.52 The landscape value of this receptor is judged to range between **Low** and **Medium** (the latter for marshlands, nature reserves and mud flats).

Public / Communal Open Space

- 17.53 In addition to the publicly accessible shoreline and the range of formal and informal open space within and on the edges of the settlements, the study area contains a number of country parks and Nature Reserves either side of River Thames Estuary. These include Cliffe Pools Nature Reserve, High Halstow National Nature Reserve, West Canvey Marsh Nature Reserve, Canvey Lake Nature Reserve, Wat Tyler Country Park and Hadleigh Country Park.
- 17.54 The landscape value of this receptor is judged to be **High**.

Settlement Pattern and Built Form

- 17.55 The settlement pattern and built form arrangement within the study area and which forms the contextual setting to the OMSSD project are shown on Figure 17.12 – Land Cover of the Study Area.
- 17.56 South Benfleet to the north and north-west display a distinct pattern of compact and domestic scale residential neighbourhoods interspersed with parks and play fields; Although the settlements display a relatively dense urban grids, there are some large parks weaving between the settlements, namely Hadleigh Country Park, Belfairs Park and Wat Tyler Country Park.
- 17.57 Developments in the 20th century have produced a marked contrast between the environments in the east and west of Canvey Island. The eastern half of the Island is predominantly allocated to domestic scale settlement, including a small holiday camp and seafront; while the western half of the island is mainly farmland, marshes and industrial areas. The marshes in the west include West Canvey Marshes and the Canvey Wick nature reserve. Canvey Wick is located on the site of the abandoned and incomplete oil refinery to the west of Roscommon Way (for location see annotation no.6 on Figure 17.2 Landscape Related Designations).
- 17.58 The settlement of Canvey Island to the north of the OMSSD project site has a long history of occupation and land use. The current urban area was developed at the early 20th century with small scale plotlands, followed by major expansion in the second half of the 20th century. The pre-existing features, such as the creeks and embankments are preserved during the developments.
- 17.59 The scale, mass and shapes of the fuel storage tanks, operational buildings and cranes are one of the key characteristics of the study area, in particularly at the former Coryton refinery to the west of the OMSSD project site, where chimneys and large pylons interrupt the skyline and the Calor Gas Terminal to the east.
- 17.60 With the exception of former oil refinery sites, which impose a grid structure over the landscape, the settlement pattern is often organic and constrained by the infrastructure and the creeks.
- 17.61 Settlements to the south of the study area near Hoo Peninsula are often small and nucleated, often set within a treebelt edge but with vast open landscape beyond.
- 17.62 Residential buildings are predominantly two storeys with pitched roofs. Retail and industrial buildings on the settlement edge range in scale and mass but are predominantly 2-3 storeys in height.
- 17.63 The landscape value of this receptor is judged to be **Low**.

Movement Corridors

- 17.64 The location and alignment of movement corridors of the study area and which form the setting to the OMSSD project are shown on Figure 17.12 – Land Cover in the Study Area.

- 17.65 The railway line from London to Shoeburyness broadly forms the northern edge of the settlement of Southend-On-Sea, Benfleet and Basildon and passes through Hadleigh Marsh in the study area.
- 17.66 The River Thames Estuary provides a principle shipping channel in the study area. Inland, the A13 is the main movement corridor between the inner London and the Southend-On-Sea via South Benfleet, with local roads extending into and connecting the settled areas across the landscape. Canvey Way and Canvey Road are the two main roads coming off from A13, leading to the OMSSD project site and Canvey Island. Roscommon Way skirts around the commercial, retail and industrial areas to the north-west of the OMSSD project site, connecting with Canvey and Haven Road. Beyond the main settled areas, road corridors are sparse in the intervening landscape due to the creeks and associated nature reserves.
- 17.67 Haven Road connects the OMSSD project site with Roscommon Way and Canvey Road to the west.
- 17.68 Road networks to the south of the River Thames Estuary comprise predominantly of country lanes network providing west to the east connections. These include Cooling Road, Main Road, Malmaynes Hall Road and Grain Road. Beyond these routes, access across the landscape, particularly to the north, is limited to a small number of single tracked lanes and unclassified narrow roads.
- 17.69 The landscape value of these receptors is judged to be **Low**.

Public Rights of Way

- 17.70 The range of Public Rights of Way present across the study area are shown on Figure 17.13 – Public Rights of Way Map.
- 17.71 A number of Public Rights of Ways (PRoW) cross the study area, including footpaths, bridleways and long-distance recreation routes which either pass through the settlement, or connect the settlement with the landscape, local road network and the water's edge beyond.
- 17.72 On the north side of the River Thames, Footpath 26 lies west of the OMSSD project site adjacent to the Lobster Smack public house. It skirts along the sea wall leading to West Canvey Marsh; Footpath 8 is a relatively short path, which wraps around the southern edge of the OMSSD project site; Footpath 5 starts from the eastern corner of the OMSSD project site and extending towards the Leigh Beck settlement area. Bridleway 49 is a short local route, following along Roscommon Way.
- 17.73 To the south of the River Thames, the Kentish Thames Walk follows the estuary edge. This route starts from Dartford and terminates at Allhallow-On-Sea beyond the study area to the south east.
- 17.74 Public footpaths in the contextual landscape of the study area are often through the Nature Reserves or along the seawalls and bunds or levees. However, some of the footpaths were not well connected between one and other, some were blocked off with private gates during the site visits.

- 17.75 The landscape value of these receptors is judged to be **high** (for the long-distance route) to **low** (local routes).

Contextual Skyline

- 17.76 The features which inform the contextual skyline in views across the study area are shown on Figure 17.11 – Topography Plan of the Study Area.
- 17.77 To the south and north of the River Thames Estuary, the visual horizon is formed by the watershed ridgelines. To the north, this includes built form on the ridgeline. At a local level, the fuel storage tanks along the coastline, including Oikos Facilities and Coryton Calor Gas Centre, cranes and pylons are detracting features which often rise above the natural horizon.
- 17.78 The landscape value of this receptor is judged to be **Low**.

Landscape and Built Features

- 17.79 The landscape and built features of the local area around the OMSSD project are shown on Figure 17.15 – Landscape Feature Map.
- 17.80 The primary landscape features of the study area consist of the tributary creeks and waterways flowing into the River Thames, together with the associated mud flats and large, organic shaped water bodies. The vast open, flat landscape; the small, occasional woodland blocks; the organic field pattern the watershed ridgelines near South Benfleet and the Hoo Peninsula are all distinctive landscape features of the local area.
- 17.81 The landscape value of these landscape features is judged to be **Medium**.
- 17.82 In terms of built features, the Listed Buildings of Lobster Smack public house to the west of the OMSSD project site is two storey height with pitched roof, and a row of former coast guard cottages on Haven Road, all of which are Grade II.
- 17.83 Labworth Café, to the east of the study area, was built in 1930's by Ove Arup (a Danish-English engineer who founded Arup Group Limited), is a Grade II Listed Building, which had the connections with the construction of the Sydney opera house.
- 17.84 In the north-east of the study area, adjacent to the settlement of Hadleigh is the ruins of Hadleigh Castle, with its associated dam and mill, which are designated as Scheduled Monuments.
- 17.85 The landscape value of these built features is judged to be **High**.

Detracting Features

- 17.86 Detracting features within the study area comprise the range of oil and gas tanks; the derelict workshops, the tall metallic chimney; and cranes; a number of jetties; and pylons. These are all dominant features along the northern shoreline to the River Thames Estuary. The large-scale commercial vessels using the River Thames Estuary are also visual detractors albeit temporary in nature. However, these features are also characteristic of the area.

- 17.87 The landscape value of this collection of features is judged to be **Low**.

Cultural Landscape

- 17.88 The following information has been extracted from web-based research.
- 17.89 Canvey Island was mainly agricultural land until the 20th century, when it became one of the fastest-growing seaside resorts during the Victorian era where its air was promoted as having healing properties. This started in 1899, after the Black Monday floods, when entrepreneur Frederick Hester bought Leigh Beck Farm, and started what was to be called Southview Park estate. The properties sold very quickly so Frederick bought more plots of land, selling them as dream homes for London's Eastenders. Hester built the first promenade, a pier and a magnificent winter garden and palace, which he planned to cover six miles (but only covered a mile), as well as a monorail system (initially horse-drawn then later electric). Hester marketed Canvey as 'Ye Old Dutch Island', giving many of the new roads Dutch-sounding names and enticing potential buyers with free rail tickets. The project started well with thousands of plots sold, but by 1905 had fallen apart due to materials not being delivered and issues with land ownership with the laying of the monorail. A new seafront was developed in the 1930s, with Canvey Casino – an amusement arcade and park – opening as the first building on what would become Eastern Esplanade. Since then further amusements, a cinema, the pioneering Labworth Café (which is further described below) the Monico pub and nightclubs such as the Goldmine were built. Canvey Island remained a popular holiday and weekend destination until the cheap foreign package holiday became popular in the 1970s.
- 17.90 During the Second World War the island was a part of the General Headquarters Line, which included a line of concrete pillboxes constructed as a part of the defence against the expected German invasion. Concrete barges were used extensively just off the south coast of the Island, partly as a sea-barrier and also as a mounting point for anti-aircraft guns; one of which was beached on the east end of the island and remained for many years as a point of interest for visitors and a play area for many generations of the island's children. It has since been demolished by the Island Yacht Club as it was considered dangerous.
- 17.91 The southern area of the Canvey Island West ward at Hole Haven has predominantly existed as a petrochemical site since the first construction of an oil terminal in 1936. Canvey Island was the site of the first delivery in the world of liquefied natural gas (supplying the whole of the country) by container ship and later became the subject of an influential assessment on the risks to a population living within the vicinity of petrochemical shipping and storage facilities. This site closed in 1994.
- 17.92 The Lobster Smack public house (a Grade II Listed Building) has been the subject of several Charles Dickens books, and is believed to have been portrayed as the Inn in the book 'Great Expectations'. Refer to Figure 17.15 Landscape Features Plan which shows the location of the Lobster Smack.
- 17.93 There have been numerous bare-knuckle boxing matches associated with the Lobster Smack public house during the 1850's. This included some significant fights such as that

between Tom Sayers and Aaron Jones on the 6th January 1857 which lasted for over three hours and finally declared a draw.

- 17.94 A row of cottages along Haven Road (No. 1 and 1A, 2 – 8, Grade II Listed Buildings) were previously used as coast guard accommodation. Refer to Figure 17.15 Landscape Features Plan which shows the location of these buildings.

- 17.95 Hadleigh Castle, designated Scheduled Monument and Grade I Listed Building, is a ruined fortification overlooking the Thames Estuary from the south of the Hadleigh. Built during the reign of Henry III by Hubert de Burgh after 1215, then significantly expanded and remodelled by Edward III. It was designed to defend against a potential French attack, as well as providing the King with a grand residence near London. However, the Castle was often subjected to subsidence and led to it now being ruined. Refer to Figure 17.2 Landscape Related Designations for location (annotated as Listed Building 4).

- 17.96 Labworth café (Grade II Listed Building) lies in the eastern section of the study area, is a modernist reinforced concrete building overlooking the Thames Estuary at Labworth Beach (refer to annotated Listed Building no. 5 on Figure 17.2 Landscape Related Designations plan for location). The name is taken from Labworth farm that stood on the site of the café prior to the redevelopment of the area. It was built to resemble the bridge of the Queen Mary by Ove Arup. Building commenced in 1932 as Canvey Island became a booming seaside resort due to its close proximity to London. The Labworth cafe first opened its doors to tourists in 1933. As traditional British summer holidays slowly fell out of fashion, the building became neglected and was almost demolished in the 1970's during the construction of Canvey's sea defences. It was saved and incorporated into the sea wall defences by altering the building and creating an earth barrier behind it. Today the building houses The Labworth Cafe on the lower floor and the Labworth Restaurant above.

- 17.97 The Dutch Cottage Museum adjacent to Canvey Road within Canvey Island settlement was originally the family home of the Dutch engineer Cornelius Vermuyden, who drained the fens in Canvey Island. Numerous Dutch workers and their families settled there, and they built rather unusual octagonal cottages of which two still survive and which are Grade II Listed Buildings. Refer to annotation no. 3 on Figure 17.2 Landscape Related Designations plan for location of the Listed Buildings).

- 17.98 The value of the cultural landscape is judged to be **High**.

- 17.99 Table 17.3 summarises the value of the contextual landscape receptors.

Table 17.3: Summary of Contextual Landscape Receptor and Value

Contextual Landscape Receptor	Value
Topographic Context	Low - Medium
Land Cover and Land Use Context	Low - Medium
Public / Communal Open Space	High
Settlement Pattern and Built Form	Low
Movement Corridor	Low

Contextual Landscape Receptor	Value
Public Rights of Way	High - Low
Contextual Skyline	Low
Landscape and Built Features	Medium and High
Detracting Features	Low
Cultural Landscape	High

Landscape Character Context

Introduction

- 17.100 The term 'landscape' commonly refers to the view or appearance of the land as perceived by people. Landscape applies to any natural, rural, urban, peri-urban areas, in land water and seascape areas.
- 17.101 Landscape character is the combination of both natural / physical, cultural / social and perceptual / aesthetic influences, which give rise to a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse, and which define the 'sense of place'. The landscape is not therefore simply a visual phenomenon.
- 17.102 Individual landscape receptors and elements all influence landscape character. The following sections set out the landscape character framework of the study area from the national and regional level through to county and district scale based upon existing character assessments undertaken by Natural England, the Essex County Council, Kent County Council and the Castle Point Borough Council. The descriptions provide information on the characteristics of the contextual landscape to the OMSSD project site.

National Level Landscape Character

- 17.103 The extent of the national level landscape character area is shown on Figure 17.5 – Extract of National Character Map Area 81.
- 17.104 Natural England has divided the landscape characters of England into 159 distinct natural areas⁵⁶³ which provide environmental information and guidance in decision making for the public.
- 17.105 The OMSSD project site and the study area lie wholly within National Character Area 81: Great Thames Estuary. The key characteristics pertinent to the study area are described as:

⁵⁶³ National Character Area profiles, available online at <https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles>

- *“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;*
- *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;*
- *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.”*

17.106 The Statements of Environmental Opportunity (SEO) for this LCA pertinent to the area are identified as follows:

- *“SEO 4: Encourage a strategic approach to development that is informed by and makes a positive contribution to local character, incorporates green infrastructure which provides ecosystem services where they are needed most, and promotes recreation and addresses climate change, while maintaining important open mosaic and coastal habitats, and historic and geological features.”*

17.107 Landscape opportunities are identified as including:

- *“Manage estuarine habitats including intertidal sand and mudflats, salt marsh, sand dunes, shingle, shell and sand banks, and subtidal sand and mud, supporting their adaptability to sea-level rise and maintaining opportunities for natural regeneration and allowing natural processes to continue unimpeded where appropriate, and identifying possibilities for creation of compensation habitats in other locations where they will be lost to coastal squeeze;*
- *Plan to create new landscapes that include sustainably managed broadleaved woodlands that provide a setting to urban areas, as well as existing disused industrial land and mineral/waste sites, to significantly enhance landscape character and help to protect the tranquil and open character of the estuary;*
- *Plan strategic and local networks of green infrastructure as part of ongoing development to make a positive contribution to climate change, biodiversity, geodiversity and recreation within urban areas of the NCA.”*

17.108 The value of this landscape receptor is judged to be **Low - Medium**.

County Level Landscape Character: Essex

- 17.109 An extract of the county level landscape character plan LCA G3 is shown on Figure 17.6.
- 17.110 The Essex Landscape Character Assessment 2003⁵⁶⁴ has been prepared by Chris Blandford Associates. The study area straddles three areas within two counties. The OMSSD project site lies to the southern edge of the Landscape Character Area (LCA) G3: South Essex Coastal Towns. The mudflat and part of the Thames Estuary lie within the LCA F1: Thames Estuary; the landscape and villages to the south of the River Thames Estuary, lie within LCA Hoo Peninsula and Eastern Thames Marshes in the Landscape Assessment of Kent, October 2004.
- 17.111 The overall character of LCA G3 - South Essex Coastal Towns is described as: *"...an area of very mixed character, but unified by the overall dominance of urban development, with frequent views of an urban skyline. The major towns spread over gently undulating or flat land, but locally extend over prominent ridgelines and hillsides as well. A distinctive steep sided south facing escarpment between Hadleigh and Basildon retains significant areas of open grassland, as well as a patchwork of small woods, including woods on former plotlands and small pastures. Contrasting flat coastal grazing marsh lies to the south. In some parts such as south of Hadleigh, and around Hockley, the urban form is softened by very large woodlands and the Roach Valley is largely undeveloped. However, many residential and industrial edges with areas of adjacent open arable farmland are hard and abrupt with few hedgerows and woodlands remaining."*
- 17.112 The key characteristics pertinent to the OMSSD project site in the above assessment are described as follows:
- *"Large areas of dense urban development;*
 - *Extensive flat coastal grazing marshes in the south adjacent to the Thames Estuary;*
 - *Particularly complex network of major transportation routes;*
 - *Pylon routes visually dominate farmland in the A130 corridor."*
- 17.113 The landscape features described in this LCA and pertinent to the OMSSD project site are described in the above assessment as follows:
- *"Hadleigh Castle;*
 - *Pylons and overhead lines are visually prominent between Basildon and Benfleet, ...;*
 - *Oil storage depots, landfill sites near Canvey Island"*
- 17.114 The landscape condition in this area is described in the above assessment as follows:
- *"The condition of the settlement is very mixed. Poor quality intrusive commercial 'shed' development is common within the area;*

⁵⁶⁴ Chris Blandford Associates (2003) Essex & Southend-on-Sea, Replacement Structure Plan Review, Essex Landscape Character Assessment, Final report

- *The condition of the woodlands and hedgerows is moderate.”*
- 17.115 The sensitivity of this character area is described as Medium in relation to commercial / warehouse estate / port development. The published assessment summarises the landscape sensitivities of this character area as follows:
- *“Visually exposed steel escarpments;*
 - *Integrity of woodlands and hedgerow field pattern;*
 - *High intervisibility on marshlands;*
 - *Poor condition of some arable farmland at the edges.”*
- 17.116 The mudflats and part of the River Thames Estuary to the immediate south of the OMSSD project site lies within the eastern tip of the LCA F1: Thames Estuary (Refer to Figure 17.7 for Extract of Landscape Character Area LCA F1). The overall character is described in the above published assessment as: *“Large expanses of open water, and broad tidal mudflats and sands are the main influence on character. The daily rhythms of tide and changes in weather and lighting conditions mean this is also a constantly changing dynamic landscape. In the east a broad band of rough low grazing saltmarsh with an intricate pattern of narrow creeks and runnels, extends around the Hadleigh/Ray Channels, adding variety and seasonal colour to the area. The area's rich wildlife, with thousands of wading birds overwintering on the saltmarshes and mudflats, also provides interest. The towns of Southend on Sea and Canvey Island lie on the northern boundary and are prominent in views northwards from the foreshore.”*
- 17.117 The key characteristics pertinent to the OMSSD project site are described by Essex Landscape Character Assessment 2003 as follows:
- *“Very wide estuary mouth, extending out to open sea;*
 - *Extensive tidal mudflats/sands, together with some fringing saltmarsh;*
 - *Large scale landscape with a strong sense of exposure;*
 - *Expansive views in which water and sky dominate, with the outline of the Kent coast sometimes visible in the distance.”*
- 17.118 The landscape condition in this area described that some erosion of saltmarsh is occurring. The sensitivity of this LCA in relation to the commercial / warehouse estate / port development is High. The Essex Landscape Character Assessment summarises LCA F1 as having:
- *“High intervisibility;*
 - *Inappropriate.”*
- 17.119 However, this LCA largely covers the shorelines at Southend-on-Sea, which does not have major building development and have very few man-made structures, while the eastern portion of this character area, adjacent to the OMSSD project site has already been influenced by the former oil refinery sites and the range of caravan parks.

17.120 The value of this landscape receptor is judged to be **Medium** overall.

County Level Landscape Character: Kent

- 17.121 The Landscape Assessment of Kent, October 2004⁵⁶⁵ has been prepared by Jacobs Babbie for Kent County Council. The southern section of the study area south of the River Thames Estuary is predominantly covered by two landscape character areas, namely the Hoo Peninsula and Eastern Thames Marshes. The extent of these character areas are shown on Figure 17.8 – Extract of Landscape Character Area, Kent.
- 17.122 The landscape characteristic features of the Hoo Peninsula landscape character area are described in the above document as: *“Prominent hills and low-lying alluvial marshes; Flat/undulating farmland. Decline in orchards and mixed farmland with shelterbelts; Intensive, open farmed arable land; Intrusive influence of industrial development.”*
- 17.123 Its condition is described in the above document as: *“Isolated patches of woodland provide clusters of semi-natural habitat, but there is very little opportunity for ecological interest within the open arable fields. The occasional large brick farmhouse and the nature of the alluvial marshland augments the cultural and functional integrity of the area, but overall it is considered to be weak.”*
- 17.124 The sensitivity of the area is considered as Medium and required restoration and creation. The Landscape Assessment of Kent document states that: *“Its low hills against the surrounding marshland is an apparent feature in the open views. Views are long and visibility is high.”*
- 17.125 For the Eastern Thames Marshes landscape character area, the above document describes this area as: *“The Eastern Thames Marshes character area takes in all the lower-lying land along the northern coast of the Hoo Peninsula between the edge of Gravesend in the west and Allhallows in the east. This zone encompasses a mix of traditional grazing marsh, marshland converted to arable production, and areas dominated by mineral workings. Its particular character, however, is significantly influenced by its aspect over the Thames Estuary towards the heavily industrialised Canvey Island, with its refinery complex and port facilities. This contrasts with the generally quieter views observed from similar areas of marsh to the south.*
- 17.126 *In common with all areas of marshland, landform and geology are responsible for the very distinctive low-lying and flat character of the landscape which has developed on marine alluvium. In addition, the extraction of underlying chalk in the Cliffe area has had a significant impact on landscape character in this local area.”*
- 17.127 The characteristic landscape features in Eastern Thames Marshes are described in the above document as: *“Remote, wild, remote and quiet; Influence of sea and sky; Creeks, dykes, marsh and patches of scrub, extensive areas of cultivated marsh, a simple landscape; Overhead power lines; Wild birds and grazing animals.”*

⁵⁶⁵ Chris Blandford Associates (2004) The Landscape Assessment of Kent, October 2004

- 17.128 The landscape condition is described in the Assessment (referenced below) as: *“This is a coherent landscape which is considered to be in moderate condition. The ditches, marshland, creeks and grasslands provide a strong ecological network. However, the heritage elements, such as ditches, are in varying condition. There are many visual detractors which range from small structures on the marsh (tipping, post and wire, bird hides) to urban and industrial developments. Built development has a high negative impact on the area.”*
- 17.129 The sensitivity of the area is concluded as being High. is the Landscape Character Assessment of Kent summarises that this character area as where: *“The time depth to this landscape is extremely varied. The historic ditches and grasslands are characteristic, but there are also more recent elements such as military and industrial installations which could be considered unique, and lines of ancient tradeways which skirt the marshes. The flat landscape is the dominant element of the open view, and therefore the landscape sensitivity is very high.”*
- 17.130 The value of this landscape receptor is judged to be **Medium - High**.

Green Belt Landscape Assessment

- 17.131 The Green Belt Landscape Assessment for Castle Point Borough Council, September 2010⁵⁶⁶ indicates that the boundary to Green Belt Area 28 lies to the west of Haven Road, to the west of the OMSSD project site. Figure 17.9 shows an Extract of the Green Belt Landscape Assessment Map and therefore the area associated with the description in the following sections.
- 17.132 Green Belt Area 28 is generally described in the above document as where:
- *“On most of the area work was started to develop it as an industrial storage facility, but then abandoned. This part of the site now supports scrub, long grass and other self-seeded vegetation. The scrub varies in density, but is generally scattered. A few belts of trees have developed. In places, the grass is close-cropped by rabbits;*
 - *At the west end of area 28 is a different part which was previously used as landfill, containing visibly raised and uneven land which has been colonised by self-seeded vegetation, adding to its interest. Adjacent to this, straddling the edges of areas 28 & 23 is Northwick Farm, which contains extensive unsightly clutter. This end of area 28 is also influenced to some extent by the proximity of the oil refinery and Pitsea landfill;*
 - *The smaller east part of the area consists of fields used for grazing cattle and horses, with some fencing, a creek and some ditches and some fences. The quality of this part is degraded by adjacent industrial features on two sides and by a few sheds and clutter. An extension to Roscommon Way is being built between this part of the area and the industrial estate, which is likely to have some effect on the character. An elevated industrial jetty crosses the area nearby;*

⁵⁶⁶ Green Belt Landscape Assessment For Castle Point Borough Council, September 2010

- *The area is overlooked from a public footpath along the sea wall."*

17.133 A value is not attributed to this area, as it is covered under the land use and landscape character assessment descriptions.

Essex Thames Gateway Historic Environment Characterisation

17.134 The Essex Thames Gateway Historic Environment Characterisation report was prepared by Essex County Council in 2007⁵⁶⁷. The report reveals the sensitivity, diversity and value of the historic environment resource within the area, and also provides guidance towards positive development and management. A scoring of 1 -3 is used for these different attributes. For Sensitivity to Change, these are defined as follows:

"1 = The historic environment of the zone could accommodate medium to large scale development, however specific historic environment assets may suffer adverse effects.

2 = Medium to large scale development is likely to have a considerable impact on the historic environment character of the zone.

3 = The zones historic environment is highly sensitive to medium to large scale development."

17.135 For historic environment, these are scored as follows:

"1 = The historic environment do not lend itself to display or visitor attraction. Current knowledge gives limited potential for the historic environment to play a significant role in creating a definable and promotable identity to the area.

2 = The historic environment could does or could help define a sense of place of the area. There may be specific elements which are or could be promoted such as woodlands, castles etc.

3 = The historic environment plays or could play a key role in the zones sense of place for the local people and visitors. Contains assets which are, or could be, promoted for the benefit of local people or visitors."

17.136 The key elements to be considered relative to this landscape and visual impact assessment relate to sensitivity and the amenity value of the historic environment. Combining these scores results in the landscape value attributes. The following section sets out a summary description of the Zones, followed by the attributed scores for sensitivity and amenity value.

17.137 The study area lies across historic environmental zones 95_1, 95_2, 96_1, 96_2, 97_1 and 97_2. Figure 17.10 shows an extract of the Historic Environment Character Zones which are described in the following sections.

⁵⁶⁷ Essex County Council (2007)Essex Thames Gateway Historic Environment Characterisation, 2007.

- 17.138 Zone 95_1: Canvey Island Industrial covers the OMSSD project site and its immediate surroundings. The historic landscape character is described in the above document as: *“This zone consists of a 20th century oil and gas storage site and surrounding open land, lying to the south of the built-up area of Canvey Island. The facility began operation in the 1930’s, and has gone through several phases of construction and is still in use today. Prior to this development the land use had been grazing marsh, typical of the historic use of most of Canvey Island and a number of red hills are known to exist in this zone.”*
- 17.139 The ‘sensitivity to change’ of this zone is defined as having a score of 1; and amenity value score of 1.
- 17.140 The value of this landscape receptor is judged to be **Low**.
- 17.141 Zone 95_2: Canvey Island Urban covers most of the urban area to the north of the study area. The historic landscape character is described in the above document as: *“Canvey Island has a long history of exploitation of marshland resources. The present urban area developed during the 20th century initially with small scale plotlands, with more substantial development in the 1930’s and major expansion in the second half of the 20th century. Some of the form of earlier developments and some of the pre-existing landscape features such as creeks and embankments are preserved in the present form of the urban development.”*
- 17.142 Again, the sensitivity to change of this zone is scored in the above document as 1; and amenity value as 3.
- 17.143 The value of this landscape receptor is judged to be **Medium** overall.
- 17.144 Zone 96_1: The former Coryton Oil Refinery covers part of the west of the study area. Its historic landscape character is described as: *“This zone occupies former reclaimed marshland. The refinery site has been an industrial site since 1895 when an explosives factory was built here together with a village to house the factory workers. The name Coryton derives from the Cory brothers who bought the site in 1923. Later, the site was used as an oil storage depot. The Coryton refinery was constructed by Mobil and opened in 1953. The village was demolished in the 1970s. Two major expansions of the refinery and many minor improvements have increased the refinery capacity to ten times the original volume.”* Its sensitivity to change and amenity value both being scored as 1. However, it should be noted that Coryton Refinery is no longer in operation, but still has many of its oil storage tanks remaining, despite the demolition of the process facilities.
- 17.145 The value of this landscape receptor is judged to be **Low**.
- 17.146 Zone 96_2: The former Shell Haven Oil Refinery West covers the further west of the study area. Its historic landscape character is described as: *“This zone occupies former reclaimed marshland. It is occupied by the western part of the Shell Haven oil refinery, an industrial complex built in the post-war period that forms an important part of the industrial landscape along this part of the Thames.”* It should be noted however, that Shell Haven has been replaced by a port with only a few storage tanks retained on the eastern end of the original refinery. Its sensitivity to change and amenity value is also scored as being 1.

- 17.147 The value of this landscape receptor is judged to be **Low**.
- 17.148 Zone 97_1: Hole Haven Creek East covers the land east of Hole Haven Creek to the north-west of the Site. Its historic landscape character is described as: *“This zone consists of land to the east of Hole Haven Creek. It is an area of reclaimed marshland that was enclosed as grazing marshes at an early date. A sea wall running along the eastern side of the creek was built in the 17th century, and has been repaired and rebuilt up to the present day. An oil refinery was constructed in the 1960s but never used, and was dismantled during the 1980s. Its site is now occupied by a retail centre. The northern extent of the Zone consists of made ground.”*
- 17.149 The sensitivity to change and amenity value in the document are both scored as 2.
- 17.150 The value of this landscape receptor is judged to be **Medium** overall.
- 17.151 Zone 97_2: Fobbing and Vange Marshes covers the land to the west of the Hole Haven and Vange Creeks and north of the former Shell Haven Oil Refinery. Its historic landscape character is described as: *“... bounded by Hole Haven Creek and Vange Creek to the east and the Shell Haven oil refinery to the south, consists mostly of marshland, with mudflats along the creek waterfront. This is an area of grazing marsh, small pockets of arable fields exist within the blocks of regular and irregular fields. The fields are bounded by drains and interspersed with several marshy creeks, the boundaries are mainly of medieval/post medieval origin resulting from the creation of grazing marsh, some elements of the earlier salt marsh can be discerned. There are a wide range of archaeological features including earthwork counter walls, and flood defences. Significant areas of this zone are being incorporated into the new RSPB reserve developed in south Essex as part of the Thames Gateway initiative.”*
- 17.152 The sensitivity to change of this zone is scored as 3 – sensitive to change (defined as where: “the zones historic environment is highly sensitive to medium to large scale development”); and the amenity value also as 3 (where: *“the historic environment plays or could play a key role in the zones sense of place for the local people and visitors. Contains assets which are, or could be, promoted for the benefit of local people or visitors.”*).
- 17.153 The value of this landscape receptor is judged to be **High**.

Landscape Character Assessment of the Essex Coast

- 17.154 The Landscape Character Assessment of the Essex Coast (2005)⁵⁶⁸ assesses the landscape character types and areas of the Essex coast. The OMSSD project site lies within the southern portion of the coastal study area.
- 17.155 The character type pertinent to the OMSSD project site is the Unvegetated Foreshore. The key characteristic features are described in the above document as: *“... a large-scale open*

⁵⁶⁸ Catherine Bailey, Mary McHugh and Almudena Quiralte (2005) Landscape Character Assessment of the Essex Coast, 2005

landscape with extensive views of Estuary and coast; big skies giving keen sense of the weather; sense of remoteness”.

17.156 In terms of character area, the OMSSD project site and the local study area lie within the two distinctive LCA: West Canvey / Shellhaven and Canvey Benfleet.

17.157 The key characteristic features of the West Canvey / Shellhaven LCA pertinent to the OMSSD project site are described in the Landscape Character Assessment of the Essex Coast as:

- *“This area is occupied by an oil refinery with associated oil storage and works.*
- *It is set on the Thames floodplain on the banks of the estuary, and has several jetties leading out to the water.*
- *Small pockets of arable exist within the mix of blocks of regular and irregular fields.*
- *Earthwork counter walls and other flood defences survive in places.*
- *The industrial complex at Shellhaven is prominent in views from the area.*
- *The extraction has removed the historic field structure from this area.”*

17.158 It is to be noted that the area described in the first bullet has now been replaced by a port.

17.159 The key characteristic features of the Canvey Benfleet LCA pertinent to the OMSSD project site are described in the Landscape Character Assessment of the Essex Coast as:

- *“A varied landscape between South Benfleet, Leigh and Canvey comprising reclaimed land, grazing marsh, saltmarsh, and creeks with an intricate maze of marshy islands.*
- *The area is used for recreation, with caravan sites, golf courses and country park and nature reserve.*
- *The area has an open exposed feel, with broad view of the Thames estuary, Southend, Canvey Island and north Kent.*
- *The area also contains the historic site of Hadleigh Castle which is a dominant feature.”*

17.160 The value of this receptor is judged to be ranged from **Medium** (for Canvey Benfleet LCA) and **Low** (West Canvey / Shellhaven LCA).

Local Level Landscape Character Assessment

17.161 As part of the assessment of the landscape character, a local level landscape character assessment has been carried out. Refer to Figure 17.14. This local level character assessment has been agreed with the Landscape Consultant to Essex County Council.

17.162 The local landscape character has been divided into nine areas as set out in Table 17.4 below.

Table 17.4: Summary of Local Landscape Character Areas and Value

Local Level Landscape Character Area	Key Characteristics	Landscape Value
Canvey Island Settlement	<p>Multi-period conurbation including 20th century urban expansions;</p> <p>Built form is predominantly bungalows and two storey residential dwellings and mostly of yellow and beige tone;</p> <p>The layout of the streets predominantly follows a grid pattern;</p> <p>Two Grade II Listed Buildings – the Dutch Cottages (at Haven Road and Canvey Road);</p> <p>Small isolated pocket greens (predominantly amenity grass) within the residential areas, associated with schools, the museum and the Lake;</p> <p>A network of dykes within the built-up area;</p> <p>Canvey Road forms the commercial town centre;</p> <p>Forms part of the flat coastal plain.</p>	Low
Charfleets Industrial and Retail Park	<p>Large industrial and retail premises on the flat coastal plan on the western edge of Canvey Island;</p> <p>Accessed via Roscommon Way, Northwick Road and Canvey Road, with complex transport routes;</p> <p>Large scale shed and associated lighting which dominate the skyline;</p> <p>Open views to the south and west towards the marshes with long distance views to the settlements;</p> <p>Hedgerows and individual trees are occasional features;</p> <p>Predominantly bound by dual carriageway;</p> <p>A mix of old and new industrial built form and dominance of hard surfacing;</p> <p>Absence of tree space;</p> <p>Sense of dereliction in Charfleets area, but busy and in the new industrial area around Morrisons supermarket;</p> <p>A mix of materials, such as timber, concrete, metal containers and poor quality sheds.</p>	Low

Local Level Landscape Character Area	Key Characteristics	Landscape Value
Brick House Coastal Farmland	<p>Comprises two parcels: The parcel adjacent to the Brick House Farm, which is designated as Local Wildlife Site but is predominantly pastureland (and which is subject to the future west to east transport improvement corridor; the southern strip of this parcel forms part of the OMSSD project); and the parcel to the west of Haven Road which is designated as Green Belt and Local Wildlife Site and currently contains emerging industrial buildings scattered scrub, long grass and other self-seeded vegetation;</p> <p>Predominantly grazed by cattle and horses, but includes a creek, remnant hedgerows, masts and some ditches;</p> <p>Views out from this area are influenced by the settlement edge to the north and the industrial coastline to the south;</p> <p>Timber post and rail fencing predominantly define the field boundaries;</p> <p>Derelict sheds and remnants of building materials present on the area west of Haven Road;</p> <p>Open views to the Canvey Island settlement edge to the north and the settlement beyond;</p> <p>A sense of industrial development encroaching into the fields.</p>	Low
IAA Vehicle Services / Car Storage	<p>A large vehicle service yard with grass and mud track surface, accessed from Haven Road;</p> <p>Security gate and fencing surrounding the area;</p> <p>Open views to Canvey Island settlement edge and settlement beyond.</p>	Low
Industrial Coastal Infrastructure	<p>Predominantly 20th century oil and gas storage site along the River Thames Estuary;</p> <p>Sewage treatment work to the east of this area;</p> <p>Coastal footpaths along the bund adjacent to the seawall;</p> <p>This area comprises a range of detracting features, including oil and gas tanks, refinery work buildings, tall chimneys, cranes and pylons;</p> <p>Distant views to the settlements to the north;</p> <p>Includes internal bunds and embankments to the adjacent sea wall;</p> <p>Presence of security lighting;</p> <p>Rows of trees on the edge of the Calor site;</p> <p>Fire water lagoons (essential to the operation of the site) are a principal feature;</p> <p>Managed amenity grassland area east of the main operational area of the Calor site, within the security fencing.</p>	Low
Coastal Scrub / Grassland Mosaic Regeneration	<p>Previously mineral extraction area and now landfill, containing visibly raised and uneven land which has been colonised by self-seeded vegetation;</p> <p>Small, very dispersed woods in low lying marshes;</p> <p>Remnants of security fencing from previous uses;</p> <p>Open views to the surrounding areas;</p> <p>Flat coastal marshes.</p>	Low

Local Level Landscape Character Area	Key Characteristics	Landscape Value
Haven Quays Residential and Caravan Park	Two storey residential, including a row of former coastguard cottages (Grade II Listed Buildings) and static caravan park area accessed off Haven Road; Lobster Smack public house (Grade II Listed Building) and associated car park to the west of this area; Long distance views out of the area are generally limited by the combination of built form, oil tanks, vegetation, sea wall and associated embankment.	Low - Medium
Thorney Bay Caravan Park:	Large caravan park, with predominantly single storey holiday homes; Concord Rangers Football Club lies at the north western corner,	Low
Thames Estuary	The wide corridor of the River Thames. Extensive tidal mudflats and sands, together with some fringe saltmarsh to the west by the Hole Haven Creek; A strong sense of openness; Jetties extend out to the River.	Low - Medium

17.163 Table 17.5 below summarises the value of the tiers of landscape character.

Table 17.5: Summary of Landscape Character Receptor and Value

Landscape Character Receptor	Value
National	Low - Medium
County Level Landscape Character: Essex	Medium
County Level Landscape Character: Kent	Medium – High
Essex Thames Gateway Historic Environment Characterisation	High – Low
Landscape Character Assessment of the Essex Coast	Medium - Low
Local Level Landscape Character	Medium - Low

Night-Time Character and Lighting

17.164 A lux level lighting assessment has been carried out and is described in Chapter 18 – Lighting. The overall night-time scene of the immediate local landscape beyond the Oikos Facility comprises clustered areas of lighting associated with settled areas / industrial coastline and the linear road corridors. Beyond these lit areas the landscape is predominantly dark.

17.165 The following areas are lit by either white or sodium lighting, including street lighting and decorative / security / flood / façade mounted luminaries and indoor lighting as follows:

- The navigational lighting associated with the operation of the jetties and as required in the Thames Estuary;
- The Lobster Smack public house;

- The settlements to the north of the Oikos Facility within the study area, namely Canvey Island and South Benfleet;
- The nearby dwellings and associated street lighting to the west of the Oikos Facility; and
- The road corridors.

17.166 In addition, vessels on the Thames Estuary and cars on the road network form moving light sources across the landscape.

17.167 The value of the night-time character of the local area is judged to be **Low**.

OMSSD Project Site Landscape Description

Introduction

- 17.168 The OMSSD project site includes two parcels. The main area lies within the existing operational Oikos Facility which is bound by IAA Vehicle Services to the north and east. To the south lies the flood defences and sea wall, along which lies public footpath 8 and the River Thames Estuary beyond, Haven Road, the caravan park, the two storey dwellings of Haven Quays and the Lobster Smack public house lie to the west of the Oikos Facility, with the grazing and marsh lands beyond. The second parcel (Calor Road Site, leading to the Calor LPG import terminal, for ecological improvement and enhancement works), lies to the north of the IAA Vehicle Services, includes the HGV access road to the Calor LPG import terminal and a narrow strip of the Brick House Farm grazing fields.
- 17.169 The main OMSSD project site is accessed via the existing main vehicular access to the Oikos Facility off Haven Road which is contained by both internal and perimeter security fencing. The Calor Road Site is accessed via Howards Way.
- 17.170 An initial internal landscape and visual survey of the OMSSD project area was initially carried out on 26 March 2019 and updated on 19 March 2020. A further landscape and visual survey are scheduled for March 2021 for inclusion in the OMSSD ES.

Topography

- 17.171 The Oikos Facility sits on the broadly flat landscape. Levels within the OMSSD project site between approximately 1.0m to 2.5m AOD. Most of the level changes in the immediate setting to the Oikos relate to the man-made structures, for example, the sea wall to the south of the Oikos Facility and the OMSSD project site, the wall to the western boundary, the internal low bunds / retaining walls around the compounds in the eastern and south-eastern edge of the Oikos Facility.
- 17.172 The landscape value if the OMSSD project site topography is judged to be **Low**.

Land Cover

- 17.173 The Oikos Facility is an existing, well established operational harbour facility for the import of liquid bulk products. The Oikos Facility is wholly industrial and comprises a series of fuel

storage tanks in the northern section, with a main office building to the south-western corner, associated hard standing for parking, circulation and other operational infrastructure, including road loading bays north of the main vehicular access. Between the existing tanks and the workshop / office building an area has been cleared that previously housed storage tanks and on which the new fuel storage infrastructure as part of the OMSSD project is being proposed.

- 17.174 A total of six waterbodies are present within the Oikos Facility, comprising three man-made ponds, two of which are fire water storage lagoons (which are essential infrastructure to the operational of the facility) and three ditches.
- 17.175 The Calor Road Site comprises predominantly grassland, scrubs, ponds and ditches, with fringing vegetation.
- 17.176 The landscape value of the land cover within the OMSSD project site is judged to be **Low**.

Vegetation

- 17.177 Vegetation (comprising predominantly of native scrub such as buddleia and hawthorn brambles) is limited to the north and eastern edge of the Oikos Facility, and the Calor Road site to the north.
- 17.178 Self-sown scrubs and ruderal grassland are present to the eastern edge of the Oikos facility, with semi-improved grassland in the centre, south and south-east of the Oikos Facility.
- 17.179 Emergent fringe vegetation and reeds are also present around the waterbodies / fire water lagoons and ditches within the Oikos Facility with some regenerative grass patches present across the facility.
- 17.180 Two existing ecological mitigation areas are present within the Oikos Facility (known as Mitigation Area 1 and 2 or MA1 and MA2) which are located to the east of the existing Compound 4 and to the east of the existing Compound 5 in the south east corner of the Oikos Facility respectively. These mitigation areas were created as a result of the previous deep water jetty development at the Oikos facility (CPBC planning permission ref: 16/0106/FUL). Further information on these mitigation areas and the vegetation types is set out in Chapter 7 – Terrestrial Ecology of this PEIR.
- 17.181 The landscape value of the Oikos Facility vegetation is judged to be **Low**.

Built Form

- 17.182 The Oikos Facility historically contained 92 variously sized fuel storage tanks. These were approximately 17m in height. The Oikos Facility currently contains 26 tanks (in Compounds 2, 4, 5 and 10 to the north). These are all painted white and include the Oikos logo and livery blue colour (see the oblique aerial photo on the front cover of Appendix 17.2). A total of 18 tanks in the southern section of the Oikos Facility and their associated infrastructure have now been removed although a number of redundant storage tanks remain and will be removed as part of the site preparation works for the OMSSD project. A chimney stack lies to the southern edge of the Oikos Facility.

- 17.183 A single storey red brick office building sits at the south-west corner of the Oikos Facility.
- 17.184 Individual and disused single storey sheds, workshops and other infrastructure are still evident across the Oikos Facility.
- 17.185 There are three jetties associated with the Oikos Facility operations which are all located beyond the seawall to the south, but only Jetty 1 and 2 are operational.
- 17.186 The pipelines and infrastructure which serve the Oikos jetties are taken over the footpath and the seawall.
- 17.187 The value of the existing built form is judged to be **Low**.

Landscape Features and Skyline

- 17.188 The only landscape feature within the OMSSD project site are the fire water storage lagoons in the south-eastern corner of the Oikos Facility and the OMSSD project site.
- 17.189 The redundant fuel storage tanks, chimney stack and the sea wall are the dominant built features of the Oikos Facility, which inform the skyline and represent the characteristic coastal feature in this part of the River Thames Estuary and which prevent wider views out of the Oikos Facility.
- 17.190 The value of the landscape features and the skyline are judged to be **Low**.

Movement Corridors

- 17.191 The main access gate of the Oikos Facility is off Haven Road to the west. A central road extends from the main gate to the east and broadly splits the landside of the Oikos Facility into two parts: the operational side to the north and the predominantly disused and vacant facilities and grounds to the south. The office building is accessed via a site road (known as West Road), which runs along the western boundary of the facility. A secondary / emergency access is located further north from the main access along the western boundary, also accessed from Haven Road. There is a connection via Howards Way into the adjacent Calor LPG import terminal on the eastern boundary of the facility.
- 17.192 The value of this receptor is judged to be **Low**.

Detracting Features

- 17.193 The detracting feature of the Oikos Facility include those redundant infrastructure elements from the previous operational areas, in particular, the redundant built forms and infrastructure within the Oikos Facility and the disused Marine Loading Arm on Jetty 1.
- 17.194 The operational fuel storage tanks form the principle detracting features of the Oikos Facility, but also form part of the characteristic feature of the coastal industry.
- 17.195 The value of these range of receptors are judged to be **Low**.

Landscape Character

17.196 The character of the Oikos Facility is that of a secure industrial operational fuel storage area with associated gantries, pipelines, jetties and low-quality buildings.

17.197 The value of this receptor is judged to be **Low**.

Night-Time Character and Lighting

17.198 An assessment of the luminance of the existing Oikos Facility is described in Chapter 18 – Lighting and concludes for the Oikos Facility that this has an ‘ambient level of luminance typical of an E3 or E4 Environmental Zone (i.e. that of medium to high district brightness) when considered against the public levels of lighting beyond the Oikos facility.

17.199 The following areas are lit by either white or sodium lighting in the study area, including security / flood / façade mounted luminaries / navigational and indoor lighting as follows:

- The main entrances to the Oikos Facility;
- The gatehouse, office and reception buildings within the Oikos Facility;
- The parking areas;
- The fuel storage tanks; and
- The jetties.

17.200 The value of the night-time character and lighting is judged to be **Low**.

17.201 Table 17.6 that follows summarises the value of the Oikos Facility landscape receptors.

Table 17.6: Summary of Landscape Receptor and Value

Site Landscape Receptor	Value
Topography	Low
Land Cover	Low
Vegetation Pattern	Low
Built Form	Low
Landscape Feature and Skyline	Low
Movement Corridor	Low
Detracting Features	Low
Landscape Character	Low
Night-time Character and Lighting	Low

Baseline Visual Assessment

Introduction

- 17.202 The extent to which the Oikos Facility and therefore the OMSSD project site is visible from the surrounding landscape is based on grading of degrees of visibility. This is determined from a visual inspection of the Oikos Facility and OMSSD project site, the views in and out, its existing features and its context from publicly accessible locations.
- 17.203 Seasonal change in existing evergreen and deciduous plant material will affect the available views. Typically, views will be different through the seasons with a greater sense of enclosure in the summer months when deciduous trees are in leaf.
- 17.204 In those views from the north and the west where views of the existing fuel storage tanks have been identified, the seasonal change in the vegetation often results in more of these facades being visible, albeit filtered through the stems of the intervening vegetation. However, the seasonal change in vegetation is not predicted to change the degree of openness attributed to the receptor from that defined in the winter months and therefore does not alter the degree of visual influence associated with the existing fuel storage tanks.
- 17.205 The principal views of the OMSSD project site were determined in the field, with particular emphasis on checking potential visual receptors using public footpaths, open spaces (and within designated and protected areas) principal vehicular routes and those within residential areas. Representative viewpoints were identified which were considered to be of particular significance in terms of providing a range of views of the OMSSD project site and where the OMSSD would have the potential to affect their character and quality based on the methodology set out in Appendix 17.1.
- 17.206 A landscape and visual survey of the baseline situation was undertaken on 20th and the 23rd March 2020, the photographs for the key representative viewpoints are contained in Appendix 17.2, Appendix 17.3 and Appendix 17.4. The locations of the viewpoints and degree of openness attributed to the representative viewpoints are included on the visual summary plans (Figures 17.18, 17.19 and 17.20).

Views Out of Oikos Facility and the OMSSD project site

- 17.207 The locations of viewpoints taken within the Oikos Facility and the OMSSD project site are shown on Figure 17.17, with associated photos contained in Appendix 17.2.
- 17.208 Views out from the southern portion of the Oikos Facility and the OMSSD project site, from where the proposed tanks would be located, to the north are predominantly truncated by the existing fuel storage tanks (Compounds 2, 4, 5 and 10) and site equipment. With the exception in some locations of distant views of the dwellings around Benfleet and Hadleigh area which occur where there are unobstructed views to the north. Refer to internal viewpoints S2, S4, S5 and S7 in Appendix 17.2.
- 17.209 Views out from the OMSSD project site to the east are predominantly truncated by temporary work sheds, overhead pipe works on OMSSD project site and the adjacent Calor LPG import

terminal to the east. The adjacent IAA Vehicular Services site is apparent through the Oikos Facility security fence. Refer to internal viewpoints S7 and S15 in Appendix 17.2.

- 17.210 Views out from the Oikos Facility and the OMSSD project site to the south are predominantly truncated by the raised seawall structure outside the Oikos Facility and the OMSSD project site boundary and the disused sheds. However, the top section of vessels and jetty cranes often appear within the views rising above the seawalls. Refer to internal viewpoints S3, S8 and S14 in Appendix 17.2.
- 17.211 The views out of the Oikos Facility and the OMSSD project site to the west are of the adjacent two storey residential dwellings on Haven Quays, the Lobster Smack public house, and the row of former coast guard houses (both Grade II Listed Buildings) with a continuous concrete wall at approximately 6m height providing a degree of screening.
- 17.212 The following paragraphs set out the character and amenity of the views relative to the receptor types and are to be read in conjunction with Figure 17.18 which shows the Local Key Representative Viewpoint Locations; Figure 17.19 which shows the Middle Distance Key Representative Viewpoint Locations; Figure 17.20 which shows the Long Distance Key Representative Viewpoint Locations; and the associated photos all contained in Appendices 17.2, 17.3, and 17.4.

Residential Receptors

- 17.213 Refer to representative viewpoints 6, 7, 8 (local distance, as shown on Figure 17.18), 12, 13, 14, 15 (middle distance, as shown on Figure 17.19) and 23, 26 (long distance, as shown on Figure 17.20) in Appendix 17.2, 17.3, and 17.4.
- 17.214 Open and close proximity views of the OMSSD project site occur from the residential dwellings to the immediate west of the OMSSD project site at Haven Quays. These are over the intervening concrete wall and so are predominantly from the first floor. The character and amenity of the view is informed by the industrial nature of the Oikos Facility and its associated operations. Refer to viewpoints 6, 7 and 8 and Figure 17.18 in Appendix 17.2.
- 17.215 Open but oblique views of the OMSSD project site occur for those receptors on Haven Road. The character and amenity of these views comprise principally the existing fuel storage tanks, security lighting columns and overhead pipe works, evident above and between the layers of low-lying scrub on the northern bankside. These views are limited to the immediate local environs. Refer to viewpoints 2, on Figure 17.18 in Appendix 17.2, and viewpoints 12 and 13 and Figure 17.19 in Appendix 17.3.
- 17.216 Partial, distant views of the OMSSD project site occur from the high ground at the residential area to the north of the study area between Benfleet and Hadleigh. The existing fuel storage tanks of the Oikos Facility are discerned through layers of vegetation across the Hadleigh Ray and the urban core of Canvey Island. The Oikos Facility and the OMSSD project site forms a small part of the wider panorama, a panorama which comprises of the industrial coastline farmland, woodlands, vegetation and settlement. Refer to viewpoints 23 and 26 and Figure 17.20 in Appendix 17.4.

17.217 The value of the views experienced by this group of receptors is judged to be **Low**.

Transient Receptors from Roads and Associated Pavements

- 17.218 Refer to representative viewpoints 1, 2, 8, 9 (local distance, as shown on Figure 17.18), viewpoints 12, 13, 14, 15, 16, 19 (middle distance, as shown on Figure 17.19) and viewpoints 21, 22, 23, 26, 29 and 31 (long distance, as shown on Figure 17.20) in Appendices 17.2, 17.3, and 17.4.
- 17.219 Open views of part of the Oikos Facility and the OMSSD project site occur from Haven Road and Haven Quays through the metal security fences. The character and amenity of the view predominantly is that of the storage tanks in the existing compounds, namely compounds 2, 4, 5 and 10 and their associated infrastructure. Refer to viewpoints 2 and 8, and Figure 17.18 in Appendix 17.2, and viewpoints 19 and 21 and Figure 17.19 in Appendix 17.3.
- 17.220 For those transient receptors on Roscommon Way, views gradually diminish when moving away from the Oikos Facility and the OMSSD project site due to the intervening vegetation and temporary erected advertisement boards to the south of Roscommon Way. Partial views of the Oikos Facility occur at the junction between Haven Road and Canvey Road through the intervening built form, the degree of openness of the views widens when approaching the Oikos Facility. Refer to viewpoints 1, 2 and 8 and Figure 17.18 in Appendix 17.2.
- 17.221 Open views of the OMSSD project site with low-lying vegetation to the north and east of the Oikos Facility occur from at the southern section of Thames Road. However, views of the Oikos Facility diminish rapidly when moving further north joining Long Road, due to the intervening built form. Refer to viewpoint 16 and Figure 17.19 in Appendix 17.3.
- 17.222 Partial views of the Oikos Facility occur from the distance, such as the Canvey Way to the north-west of the Oikos Facility, where the existing fuel storage tanks to the north and north-west of the OMSSD project site are discerned beyond the West Canvey Marsh Nature Reserve. From Vicarage Hill to the north beyond Hadleigh Ray, the Oikos Facility forms a small part of the wider panorama of the industrial coastline of the River Thames Estuary; Refer to viewpoints 22 and 23 and Figure 17.20 in Appendix 17.4.
- 17.223 Partial, distant views of the Oikos Facility occur from the countryside road networks, such as Common Lane, Cooling Road, Main Road and Church Street to the south of the Thames Estuary. The Oikos Facility is discerned either through the vegetation gaps or rising above the vegetation and forming a small part of the characteristic coastal industrial panorama along the River Thames. Refer to viewpoints 29, 31 and 32 and Figure 17.20 in Appendix 17.4.
- 17.224 The value of the view experienced by this group of receptors is judged to be **Low**.

Transient Receptor Using Public Rights of Way (PRoW)

- 17.225 Refer to representative viewpoints 1 to 7, 10, 11 (local distance, as shown on Figure 17.18) and 17 to 21 (middle distance, as shown on Figure 17.19) and viewpoints 24, 27, 28, 30, 33,

34 to 36 (long distance, as shown on Figure 17.20) in Appendix 17.2, 17.3, and 17.4. Public Rights of Way are shown on Figure 17.13.

- 17.226 Open views of the Oikos Facility occur for those receptors using Footpath 8 to the immediate south of the Oikos Facility. The amenity and character of the view comprise the existing fuel storage tanks in the northern section of the Oikos Facility, security light columns, work buildings on one side, seawalls and jetties on the other side. These views occur as part of the serial vision and experience along this route, which also includes the residential dwellings at Haven Quays and the Lobster Smack public house (a Grade II Listed Building) and the IAA vehicle storage area and Calor LPG import terminal to the east.
- 17.227 Partial views of the Oikos Facility occur for the transient receptors using Footpath 26 adjacent to the Lobster Smack and continue further west of the Oikos Facility. The existing fuel storage tanks and Jetty 1 are visible in the context of marsh land, industrial buildings and a large-scale disused jetty. Refer to viewpoint 20 (as shown on Figure 17.19 in Appendix 17.3).
- 17.228 For those transient receptors using Footpath 7 (east of the Oikos Facility) partial views of the Oikos Facility are experienced. The storage tanks in Compound 4 are discerned amongst the facilities at the Calor site behind the vegetation. These views diminish further east along this path at Leigh Beck. Refer to viewpoints 17, 18 and 27 as shown on Figures 17.19 to 17.20 in Appendix 17.3 and 17.4.
- 17.229 Partial views of the Oikos Facility occur for the range of transient receptors using Bridleway 49 by Roscommon Way through the intervening vegetation and the temporary earth work bunds to the south of the road. However, the views diminish gradually when moving away from the Oikos Facility. Refer to viewpoints 1, 2, 19 and 21 as shown on Figures 17.18 and 17.19 in Appendix 17.2 and 17.3.
- 17.230 The range of transient receptors using the long-distance Kentish Thames Walk along the coastline experience partial, distant views of the Oikos Facility across the Thames Estuary. The Oikos Facility forms a small part of the wider panorama which comprises of large cranes, fuel storage tanks, cargo containers, jetties, chimney to the west of the Oikos Facility and Calor LPG import terminal to the east, with ridgeling forming the background near the settlement edge of Benfleet and Hadleigh. Refer to viewpoints 28 and 30 as shown on Figure 17.20 in Appendix 17.4.
- 17.231 Views of the Oikos Facility are truncated from the Footpath 191 in Fobbing adjacent to the Fobbing Marsh and Footpath 24 adjacent to the school recreational ground due to the combination of intervening built form and vegetation. Refer to viewpoints 33 and 34, as shown on Figure 17.20 in Appendix 17.4.
- 17.232 A number of the PRow were either blocked off or inaccessible, during the time of the 2020 site visit, for example, the footpath at the north of Cliffe settlement edge and Footpath 191 by the A104 roundabout leading to Fobbing Marsh were privately gated; and Footpath 14 at the end of Wharf Road at Fobbing leading around Fobbing Marsh is again, privately gated. Access to these paths will be reviewed as part of the 2021 updated landscape and visual survey work for the OMSSD ES.

- 17.233 The value of the view experienced by this group of receptors is judged to range between **Medium** (long distant routes) to **Low** (local routes).

Transient Receptors Using River Thames Estuary

- 17.234 Refer to viewpoints 28 and 30 as shown on Figure 17.20 in Appendix 17.4.
- 17.235 Receptors on the vessels using the River Thames are predicted to experience open views of the Oikos Facility, where the Oikos Facility sits within the context of the characteristics industrial coastline panorama, and therefore forms part of the sequential views, which includes the large cranes, chimney, oil storage tanks at the Coryton site; and the storage tanks, workshop building at Calor site.
- 17.236 The value of this receptor is judged to be **Low**.

Receptors at Visitor Attraction Points

- 17.237 There are several visitor attractions points in the wider landscape context, these include Hadleigh Country Park, Benfleet Downes, Pitsea Observatory, Allhallows Leisure Park, Thorney Bay Beach, Thorney Bay Residential Caravan Park, the Lobster Smack public house and its associated garden space.
- 17.238 Refer to representative viewpoints 7, 17 (local distance, as shown on Figure 17.18 in Appendix 17.2 and middle distance as shown on Figure 17.19 in Appendix 17.3 respectively) and viewpoints 24, 25, 27, 28 and 36 (long distance, as shown on Figure 17.20) in Appendix 17.4.
- 17.239 Partial views of the Oikos Facility occur adjacent to the Lobster Smack public house (a Grade II Listed Building) public house and its associated garden space through the intervening residential built form at Haven Quays, which forms the foreground of the views. The overhead pipelines, fuel storage tanks, jetties and metallic chimney within the Oikos Facility are rising above the residential built forms. Refer to viewpoint 7 and Figure 17.18 in Appendix 17.2.
- 17.240 From the top of Hadleigh Country Park, the Oikos Facility is discerned at the distance, beyond the Canvey Island settlement core and the Benfleet Downes and the Hadleigh Country Park landscape in the foreground. Refer to viewpoint 25 and Figure 17.20 in Appendix 17.4.
- 17.241 Views of the Oikos Facility from the Pitsea Observatory are partial and distant and filtering through the vegetation. Refer to viewpoint 36 and Figure 17.20 in Appendix 17.4.
- 17.242 Partial views of the Oikos Facility occur from the promenade by the Thorney Bay Beach. The existing compounds are discerned through the vegetation to the east of the Oikos Facility. Similarly, partial views of the Oikos Facility occur from the holiday camp site to the north-west of Thorney Bay. Refer to viewpoints 17 and 27 and Figures 17.19 and 17.20 in Appendix 17.3 and 17.4 respectively.

- 17.243 Partial, distant views of the Oikos Facility occur from the Haven Allhallows Leisure Holiday Park. The Oikos Facility forms a small part of the coastal oil refinery industrial feature. Refer to viewpoint 28 and Figure 17.20 in Appendix 17.4.
- 17.244 The value of the view experienced by this group of receptors is judged to range between **High to Medium**.

Receptors Using Public Open Space and Open Access Land

- 17.245 The public open space and the open space land within the study area include Hadleigh Country Park, West Canvey Marsh Nature Reserve, Halstow Marshes and Wooden Park Playground.
- 17.246 Refer to representative viewpoints 22, 24, 25, 27, 30 and 35 (long distance as shown on Figure 17.20) in Appendix 17.4.
- 17.247 An assessment from viewpoint 35 in West Canvey Marsh will be included in the OMSSD ES LVIA Chapter.
- 17.248 Views of the Oikos Facility from Halstow Marshes towards the water edge are partial and distant. The Oikos Facility is discerned as a small part of the panorama view of the industrial coastal edge. Refer to viewpoint 30 and Figure 17.20 in Appendix 17.4.
- 17.249 Views of the Oikos Facility from the Wooden Park are predicted to be partial, with some of the compounds being visible beyond the holiday homes and the vegetation, in the context of Calor LPG import terminal. Refer to viewpoint 27 and Figure 17.20 in Appendix 17.4.
- 17.250 The value of the view experienced by this group of receptors is judged to be **Medium**.

Receptors at their Place of Work

- 17.251 Places of employment include the Lobster Smack public house to the immediate west of the Oikos Facility, industrial and retail parks to the north-west and the Brick House Farm to the north.
- 17.252 Views from the Lobster Smack are predicated to be through the intervening residential built form at Haven Quays, which forms the foreground of the views. The overhead pipelines, fuel storage tanks, jetties and metallic chimney within the Oikos Facility are rising above the residential built forms. Refer to viewpoint 7 and Figure 17.18 in Appendix 17.2.
- 17.253 In terms of the industrial area, partial views of the Oikos Facility occur from the employment facilities to the immediate north of Roscommon Way. Refer to viewpoint 19 and Figure 17.19 in Appendix 17.3. Views of the Oikos Facility from the retail park facilities, such as Morrisons, are anticipated to be truncated due to the vegetation. Refer to viewpoint 21 and Figure 17.19 in Appendix 17.3.
- 17.254 Views of the Oikos Facility from Brick House Farm are anticipated to be open. The character and amenity of these views comprise principally the existing oil storage tanks, security lighting columns and overhead pipe works, evident above and between the layers of low-

lying scrub on the northern bankside. These views are limited to the immediate local environs. Refer to viewpoint 14 and Figure 17.19 in Appendix 17.3.

17.255 The value of this collection of receptors is judged to be **Low**.

17.256 Table 17.7 below summarises the value of the different visual receptor types.

Table 17.7 Summary of Visual Receptor and Value

Visual Receptor	Value
Residential Receptor	Low
Transient Receptors from Roads and Associated Pavements	Low
Transient Receptors Using Public Rights of Way	Medium - Low
Transient Receptors Using River Thames Estuary	Low
Receptors at Visitor Attraction Points	High - Medium
Receptors Using Public Open Space and Open Space Land	Medium
Receptors from Places of Employment	Low

Environmental Change without the OMSSD Project

17.257 As set out in Chapter 3, it is the intent, even without the OMSSD project progressing, for operational reasons, that Oikos will relocate the ecological mitigation area currently present within the Oikos Facility to an area off-site to the north. Should the proposed OMSSD project not be implemented for any reason, there would be little change to the existing OMSSD project site landscape and no additional ecological or landscape improvements would take place over and above the relocation of existing habitat types. As such there would be no readily perceptible change to the existing landscape character of the OMSSD project site or local area; nor any change to the character and amenity of the range of visual receptors identified in the baseline assessment.

Preliminary Consideration of Likely Impacts and Effects

Site Preparation Stage

Identification and Description of Changes Likely to Generate Effect

17.258 The key elements considered in this preliminary landscape and visual impact assessment during the site preparation stage are set out below and are to be read in conjunction Chapter 3 and Figure 3.2. The assessment is based on the worst-case scenario.

- The establishment of the construction compound to the north of the current office building up to the site security building and will include an acoustic screen along the western edge of this area from the outset.
- The demolition, dismantling and removal of any remaining built elements from the southern part of the OMSSD project site, such as the 23 residual redundant tanks, bunded compounds, infrastructure and buildings associated with the historic use of this part of the facility. This operation will result in a series of stockpile areas.
- The removal and infilling of the existing fire water lagoons (which is to follow from the implementation of a new or temporary firewater system).
- The removal of approximately 10,800m³ the contaminated soil and topsoil strip / skim of upper 100mm (including vegetation layer) alongside the levelling of the OMSSD project site to create the development platforms. The removal of this material off-site.
- The site preparation stage will form the first package of the overall construction phase. The construction phase is predicted to last for approximately 24 months overall.

17.259 As part of the OMSDD project, Oikos includes an area of ecological improvement and enhancement works at the Calor Road Site to the north of the IAA Vehicle Services. It is assumed that the ecological mitigation works would be carried out as part of the construction stage. This involves the creation of new mounds (typically at 1m high); clearing / thinning of some existing scrub; and seed sowings.

17.260 Further works beyond the OMSDD project area to provide appropriate Biodiversity Net Gain is currently being considered. At the time of writing the PEIR, the land options being investigated for the provision of this include the land to the north of the Oikos facility at Brickhouse Farm and land within the Roscommon Way road corridor to the north west of the Oikos facility.

17.261 As an alternative, or potentially in addition to the above, Oikos are also investigating the possibility of making a financial contribution to an existing scheme or programme of ecological enhancement works.

17.262 As such, until there is certainty on the ecological measures proposed and where, the assessment of effects on the landscape resource has not been considered in this LVIA Chapter.

Assessment of Likely Significance of Effect at Site Preparation Stage

17.263 There are no landscape or visual mitigation measures proposed at the site preparation stage.

Contextual Landscape Elements

17.264 A description of the contextual landscape beyond the OMSSD project site boundary is provided in the baseline assessment to explain how the OMSSD project site sits in its landscape context. The baseline therefore describes the contextual topographic setting, land cover setting, public and communal open space, settlement pattern and built form,

movement corridors, public rights of way, contextual skyline, landscape and built features, detracting features, cultural landscape, and night-time character.

- 17.265 During the site preparation stage, the changes are limited to those predominantly within the OMSSD project site within the wider Oikos Facility. There will be no change to the majority of the contextual landscape elements and features. Therefore, the magnitude of change and significance of effect for these receptors are judged to be **Neutral**.

National Landscape Character

- 17.266 The OMSSD project site lies wholly within the National Character Area 81: Great Thames Estuary. The value of this receptor area as a whole is judged to be **Low - Medium**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Medium - Low**. The magnitude of change is considered to be **Negligible**, as the site preparation stage relates to a very small parcel of the LCA.
- 17.267 The site preparation stage is likely to be direct, temporary and short-term. This stage will see the clearance of the redundant infrastructure, but within the context of the existing operational Oikos Facility. The significance of effect is therefore predicated to be **Negligible** to the wider landscape character as a whole.

County Level Landscape Character

- 17.268 At this level, the OMSSD project site lies wholly within the Landscape Character Area G3: South Essex Coastal Towns in the Essex Landscape Character Assessment. The value of this receptor area as a whole is judged to be **Medium**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Medium - Low**. The magnitude of change is considered to be **Negligible**, as the site preparation stage relates to a very small part of the LCA and within an existing working landscape, on the edge of the coastal industrial area.
- 17.269 The site preparation stage is likely to be direct, temporary and short-term. This stage will see the clearance of redundant infrastructure in the context of the existing fuel storage facilities. The effect is predicted to be of **Negligible** significance on the wider character area overall.
- 17.270 Similarly, the effects to the LCAs in Kent will be **Neutral**.

Essex Thames Gateway Historic Environment Characterisation

- 17.271 The OMSSD project site and its immediate setting lie within Zone 95_1. The value of this receptor is judged to be **Low**; the susceptibility to the proposed change to be **Low**; and therefore, the sensitivity of this area is **Low** (as the assessment recognised it could accommodate medium to large scale development). The magnitude of the proposed change is predicted to be **Low**, where the site preparation stage will not significantly alter the historic landscape characters and the perceptual qualities at this level. The magnitude of change is predicted to be **Negligible**, with a resulting significance of effect will be of **Negligible**. The significance of the effects to the historic landscape zones beyond the one within which the OMSSD project site sits will be **Neutral**.

Landscape Character of the Essex Coast

- 17.272 The OMSSD project site and the local study area lie within two LCAs: West Canvey / Shellhaven and Canvey Benfleet. The value of this receptor area as a whole is judged to be **High - Medium**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Medium - Low**. The magnitude of change is considered to be **Negligible**, as the site preparation stage relates to a very small parcel of the LCA and the perceptual quality of the two LCA will not be altered.
- 17.273 The site preparation stage is likely to be direct, temporary and short-term. The effect is predicted to be of **Negligible** significance as a whole. This stage will continue to see the characteristic features, such as the range of fuel related facilities and associated infrastructure along the coast, with the farmland and settlement beyond remaining unaltered.

Local Level Landscape Character

- 17.274 There will be a loss of existing characteristic industrial features, an increase in construction related elements (such as contractor's cabins, stockpile mounds and acoustic screening) together with an increase in activity within the Industrial Coastal Infrastructure LCA. The value of this receptor is **low**; the susceptibility to the proposed change is **low**; its landscape sensitivity is **low**. The magnitude of change is **low**. This stage will see direct, temporary and short-term effects of **Minor Adverse** significance.
- 17.275 There will be no change to the landscape setting to the LCAs beyond the OMSSD project site where the setting will continue to be that of industrial, albeit with a perceived increase in activity. Effects on the wider LCAs will therefore be **Neutral**.

OMSSD Project Site Topography

- 17.276 Due to the OMSSD project site's coastal location, the OMSSD project site levels generally reflect the flat coastal plain, with man-made interventions of bunds around the tanks. The site preparation stage will see the removal of the remnant infrastructure, stripping of the top layer of vegetation and soil and the ground levelling in readiness for construction. Temporary stock piles will also be present throughout this stage.
- 17.277 This stage will also see the creation of microclimatic landform at the Calor Road Site to the north of the Oikos Facility.
- 17.278 The value of the OMSSD project site topography receptor is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to be **Negligible**, as the site preparation stage relates to levelling up mainly the southern portion of the OMSSD project site in readiness for construction and where the variation in change of level is not predicted to be significant. The presence of stock piled material will be a temporary element.
- 17.279 The site preparation stage is likely to be direct, temporary and short-term. The effect is predicted to be of **Negligible** significance on the overall topography of the OMSSD project site. The broad topography will remain and continue to include man-made elements.

- 17.280 With the exception of best practice in terms of storing any topsoil / subsoil and redundant materials, there are no additional mitigation measures proposed at this stage.

OMSSD Project Site Land Cover

- 17.281 With the proposed change on the site preparation stage, the land cover of the OMSSD project site will continue to be perceived principally as an operational fuel storage facility with its associated infrastructure.
- 17.282 The value of the OMSSD project site land cover receptor is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to be **Negligible**, therefore, the effect is predicated to be of **Negligible** significance, as the northern portion of the OMSSD project site will remain operational and unaltered, the southern portion of the OMSSD project site will see the start of a change and an increased activity arising from the removal of the redundant elements, but essentially where the OMSSD project site remains part of the industrial landscape.
- 17.283 Accordingly, no additional mitigation measures are proposed.

OMSSD Project Site Vegetation Pattern

- 17.284 The site preparation stage will involve the removal of some the top layer of vegetation, including existing self-sown scrub and grassland, as replaced with species targets sowing in the ecology mitigation area to the north of Oikos Facility.
- 17.285 The value of the OMSSD project site vegetation pattern receptor is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to be **Low**, as the proposed change will involve a small portion of change to the eastern section of the OMSSD project site only relative to this receptor. The effect on this receptor initially is predicated to be of **Minor adverse** significance.
- 17.286 However, as a new ecological mitigation area will be created in tandem with this loss, effects have been minimised and reduced to **Negligible** overall.

OMSSD Project Site Built Form

- 17.287 The value of the OMSSD project site built form receptor is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to be **Low**. The site preparation stage will see the removal of the redundant infrastructure, including the disused workshops. This change will be direct, temporary and short-term, therefore, the effect is predicted to be of **Minor Adverse** significance.
- 17.288 No additional mitigation measures are proposed.

OMSSD Project Site Landscape Features and Skyline

- 17.289 This stage will see the removal of the existing fire water lagoons and associated vegetation. The key features of the operational part of the OMSSD project site will continue to dominate the skyline within the Oikos Facility. The value of the OMSSD project site landscape features and skyline is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to be **Low**. The site preparation stage is likely to be direct, temporary and short-term, therefore, the effect is predicted to be of **Minor Adverse** significance due to the loss of the ponds.
- 17.290 No additional mitigation measures are proposed.

OMSSD Project Site Movement Corridors

- 17.291 During the site preparation stage, it is anticipated that the layout of the internal movement corridors of the OMSSD project site will remain unchanged. The value of the OMSSD project site movement corridor is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to be **Neutral**. The site preparation stage is likely to be direct, temporary and short-term, therefore, the effect is predicted to be of **Neutral** significance.
- 17.292 No additional mitigation measures are proposed.

Detracting Features

- 17.293 The proposed changes involve removing the redundant built form and infrastructure on the landside OMSSD project site. However, the principal features will remain on the Oikos Facility. The value of the OMSSD project site detracting features is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to be **Medium**. The site preparation stage is likely to be direct, temporary and short-term, therefore, the effect is predicted to be of **Minor Beneficial** significance arising as a result of removing existing detracting features.
- 17.294 No additional mitigation measures are proposed.

Landscape Character

- 17.295 The value of this receptor is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to be **Low**. The Site preparation stage will see the removal of the low-quality derelict buildings and any redundant infrastructure to the south of the OMSSD project site. Therefore, the effect is predicted to be of **Minor Beneficial** significance.

Night-Time Character and Lighting

- 17.296 The existing lit environs of the Oikos Facility will continue during the site preparation stage. Therefore, the significance of effect is predicated to be **Neutral**.

Anticipated Visual Effects

- 17.297 Whilst a description of the character and amenity of the representative views is included in the baseline assessment, in terms of assessment of effects, where there are no views of the Oikos Facility, these have been discounted from the impact assessment. Therefore, the following key representative viewpoints are not taken forward for consideration in the impact assessment: 21, 24, 26, 29, 33, 34 and 36 provided in Appendices 17.3 and 17.4.
- 17.298 Furthermore, the effects from the proposed change for the site preparation stage will be further limited to those visual receptors in the close proximity of the OMSSD project site predominantly. Views from the north and part of the west and east of the OMSSD project site will continue to see the operational tanks and its associated infrastructure. Views from the south will continue to see the three jetties sitting in the context of the existing fuel storage tanks and operational infrastructure. Therefore, key representative viewpoint 28 and 30 are not taken forward for consideration.
- 17.299 Therefore, for the site preparation stage, the following key representative viewpoints are considered 1 to 10, 12 to 16 and 19.
- 17.300 No additional mitigation measures are proposed relative to the visual receptors.
- 17.301 The proposed works at this stage would not result in the closing down of any views as seen from within the Green Belt area to the west of the OMSSD project site. Refer to viewpoints 19, 20 and 35 from within the Green Belt area.

Views out of the Oikos Facility

- 17.302 The OMSSD Project Site Description section set out where views out of the Oikos Facility and the OMSSD project site occur across the landscape to the ridgeline horizon. These views are not protected in policy terms.

During the site preparation stage, views out of the Oikos Facility as experienced by Oikos employees and visitors will largely remain unchanged, as the existing operational infrastructure will continue to dominate the views and that views to the ridgeline to the north will remain.

Residential Receptors

- 17.303 It is anticipated that residential receptors from Haven Quays will perceive and see the proposed changes during the site preparation stage where open views of the Oikos Facility and the OMSSD project site occur. This will include the increased activities, including machinery and traffic movements within the OMSSD project site. The value of the residential receptor is judged to be predominantly **Low**, with those in the Listed Buildings being **High**; the susceptibility to the proposed change is **Medium**; therefore, the sensitivity of this group of receptors will vary between **Low - High**. The magnitude of change is considered to be **Low**. The site preparation stage is likely to be direct, temporary and short-term, but essentially not significantly altering the character and amenity of the view experienced by this group of receptors. The character and amenity of the views will continue to comprise the

principal elements of the existing operational infrastructure and security lighting, but will perceive the increase in activity and associated construction elements and associated paraphernalia as part of the existing industrial scene. The magnitude of effect is predicted to be **Low**, and the significance of effect is predicted to be of **Minor Adverse** significance at this stage.

Transient Receptors from Roads and Associated Pavements

- 17.304 It is predicted that the site enabling works will not be perceived from the transient receptor from roads and the associated pavements. Therefore, the significance of effects will be **Neutral**.

Transient Receptor Using Public Rights of Way (PRoW)

- 17.305 For the transient receptors using Footpath 7 and 26, the proposed changes at the site preparation stage will not be discerned, due to the combination of the surrounding former oil refinery facilities and the built form of the Lobster Smack public house and adjacent dwellings. Footpath users in the immediate setting will see an increase in the activity within the OMSSD project site, a cleared southern portion of the OMSSD project site set against the context of the existing operational tanks at the northern portion of the OMSSD project site.
- 17.306 The most significant impact will be on those receptors in close proximity to the OMSSD project site, namely from Footpath 8. This group of receptors will experience the operations associated with the removal of the redundant elements to the south of the OMSSD project site. However, the character and amenity of these views will remain predominantly unaltered where that of the industrial oil site and the associated infrastructure, including the jetties, will still remain the key elements of the views, albeit with increased activities evident within the OMSSD project site.
- 17.307 Views from the Kentish Thames Walk in Kent, south of the River Thames Estuary, will remain unchanged due to the distance of the views. The OMSSD project site will continue to form part of the open coastal industrial panorama.
- 17.308 The value of the transient receptors using Public Rights of Way is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to be **Low**. The site preparation stage is likely to be direct, temporary and short-term, therefore, the effect is predicted to be of **Minor Beneficial** significance, when the redundant elements (part of the detracting features) are removed.

Transient Receptors Using River Thames Estuary

- 17.309 The principal components of the character and amenity of the views from the River Thames Estuary are predicted to be remain unaltered from the proposed changes to the site preparation stage. Whilst one of the jetties is proposed to be removed, overall, the jetties and the existing operational tanks will continue to be apparent, over the intervening sea wall and as part of the serial vision experienced on the journey along the Thames.

- 17.310 The value of this group of receptors is judged to be **Low**. The susceptibility is **Low**; therefore, the sensitivity is **Low**. The magnitude of change is considered to be **Negligible**, therefore, the significance of effect is predicated to be **Negligible**.

Receptors at Visitor Attraction Points

- 17.311 There will be no change to the character and amenity of the view for those receptors visiting the Lobster Smack public house, where these operations are predicted to be screened by the intervening dwellings at Haven Quay.
- 17.312 The proposed changes of the site preparation stage will not be discerned from the majority of receptors at the visitor attraction points including Hadleigh Country Park, Benfleet Downes, Allhallows Leisure Park. Effects on these receptors will therefore be **Neutral**.
- 17.313 Site preparation works may be just perceived for those receptors from Pitsea Observatory, Thorney Beach and Thorney Bay Residential Caravan Park to the south of the River Thames. However, the significance of effect will be **Neutral** overall, as the character and amenity will not significantly change.

Receptors Using Public Open Space and Open Access Land

- 17.314 The proposed internal OMSSD project site changes of the site preparation stage will not be discerned from the majority of the public open space and open space land, but may be discerned from the Wooden Park playground, albeit that the character and amenity of the view will not significantly alter.
- 17.315 The value of this group of receptors is judged to be **Medium**. The susceptibility is **Medium**; therefore, the sensitivity is **Medium**. The magnitude of change is considered to be **Negligible**, therefore, the significance of effect is predicated to be **Negligible**.
- 17.316 The assessment from West Canvey Marsh from viewpoint 35 is to be included in the ES LVIA Chapter.

Receptors at their Place of Work

- 17.317 The proposed internal OMSSD project site changes of the site preparation stage will not alter the character of the views from the range of the receptors at their place of work, including those who work at the Lobster Smack public house, the retail and industrial park, and Brick House Farm.
- 17.318 The value of this group of receptors is judged to be **Low**. The susceptibility to the changes is **Low**; therefore, the sensitivity is **Low**. The magnitude of change is considered to be **Negligible**, therefore, the significance of effect is predicated to be **Negligible**.
- 17.319 The receptors currently working at the OMSSD project site have not included as these operations are anticipated.
- 17.320 The following table sets out a summary of the landscape and visual effects of the site enabling stage.

Table 17.8: Summary of Landscape and Visual Effects For Site Preparation Stage

Receptor	Value	Significance of Effect
Contextual Landscape Receptor		
Topographic Context	Low - Medium	Neutral
Land Cover and Land Use Context	Low - Medium	Neutral
Public / Communal Open Space	High	Neutral
Settlement Pattern and Built Form	Low	Neutral
Movement Corridor	Low	Neutral
Public Rights of Way	High - Low	Neutral
Contextual Skyline	Low	Neutral
Landscape and Built Features	Medium and High	Neutral
Detracting Features	Low	Neutral
Cultural Landscape	High	Neutral
Landscape Character Receptor		
National	Low - Medium	Negligible
County Level Landscape Character: Essex	Medium	Negligible
County Level Landscape Character: Kent	Medium - High	Neutral
Essex Thames Gateway Historic Environment Characterisation	High - Low	Neutral
Landscape Character Assessment of the Essex Coast	Medium - Low	Negligible
Local Level Landscape Character	Medium - Low	Minor Adverse (OMSSD project site / Neutral (wider landscape)
Oikos Facility Landscape Receptor		
Topography	Low	Negligible
Land Cover	Low	Negligible
Vegetation Pattern	Low	Minor Adverse
Built Form	Low	Minor Adverse
Landscape Feature and Skyline	Low	Minor Adverse
Movement Corridor	Low	Neutral
Detracting Features	Low	Minor Beneficial
Landscape Character	Low	Minor Beneficial
Night-time Character and Lighting	Low	Neutral
Visual Receptor		
Residential Receptor	Low	Minor Adverse

Receptor	Value	Significance of Effect
Transient Receptors from Roads and Associated Pavements	Low	Neutral
Transient Receptors Using Public Rights of Way	Medium - Low	Minor Beneficial
Transient Receptors Using River Thames Estuary	Low	Negligible
Receptors at Visitor Attraction Points	High - Medium	Neutral
Receptors Using Public Open Space and Open Space Land	Medium	Neutral
Receptors from Places of Employment	Low	Negligible

Construction Stage

Identification and Description of Changes Likely to Generate Effect

17.321 The key elements considered in this landscape and visual impact assessment during the construction phase are as follows (refer to Chapter 3 for further details):

- The construction activities will take place entirely within the Oikos Facility (i.e. wholly within the OMSSD project site boundaries). The areas along the western boundary edges of the OMSSD project site will continue to be used for material laydown and contractor facilities.
- The delivery of equipment and infrastructure from the sea for the jetty works.
- The delivery of equipment and infrastructure from the road (via the main entrance) for the landside works, such as storage tanks, construction materials and removal of excavated material as set out below. The secondary gate is anticipated to continue to be used as the exit for the road loading facilities.
- In the local area, the HGV construction traffic and, where practicable, construction worker traffic, will be routed to and from the Oikos Facility via Haven Road, Roscommon Way, Canvey Road (A130) and then the A13.
- The movement of plant machinery around the OMSSD project site (including the use of cranes).
- The construction of the new fire water system and the associated pump house.
- Construction of compounds and storage tanks, including earthworks and re-profiling to create development platforms and civil works, such as levelling each individual compound area, compound drainage elements, piling of tanks and bund wall foundation, the construction of impermeable tank compound floors, installation of gravel compound floor.
- Construction works within the compounds, such as tanks, pipe networks, pumping systems and the associated utility systems, such as lighting and any other temporary facilities.

- Construction of the small extension to the existing office.
- Installation work associated with the additional marine infrastructure on Jetties 1 and 2 (alongside the dredged berth pocket) to enable additional bulk liquid products to be imported and exported at the Oikos facility, including), gantries and overhead pipelines. Construction of pipework and pump manifolds.
- Construction of road loading bays and associated infrastructure.
- Creation of new / amended site access roads.
- Amendments to the internal access roads and arrangements at the main vehicular entrance.
- The implementation of the new operational lighting (on a phased basis).
- Construction of new workshop building.
- Construction of car parking area, lorry parking area and associated facilities.
- The construction of the compressor house, new incomer substation, switch rooms, firewater pumphouse and HGV mess facilities. That the existing visual porous security fencing and the solid acoustic fencing remains in place for the duration of the construction phase.
- The construction phase will occur over a 24 months period, with a sequential approach to becoming operational.
- Implementation of new native coastal planting within the western part of the Oikos Facility. This may include hedgerow(s), shrubs and coastal gravel garden mix, which will provide a biodiversity and visual amenity benefit. Overall, this will provide a landscape enhancement to the OMSSD project site.

17.322 The above will result in a graduated change of land use for the southern part of the OMSSD project site from a disused area of the site to that of a construction site with the construction of the various elements of the OMSSD project.

Assessment of Likely Significance of Effect at Construction Stage

- 17.323 At the time of preparing this preliminary assessment, the programme and detail of the construction operations, together with the location of the contractor's compound are not known. However, the location, height and colour of the contractor's cabins and compounds are to be as visually recessive as possible. They shall also be located along the OMSSD project site boundaries or in a position to minimise landscape and visual impacts wherever possible.
- 17.324 A Construction Environment Management Plan (CEMP) is envisaged to be prepared to outline the significant environmental issues on the site, and the environmental management framework to which the applicant and its contractors must adhere to whilst working on the OMSSD project site.

Contextual Landscape Elements

- 17.325 During the construction stage, the changes are limited to within the OMSSD project site, and there will be no change to the majority of the contextual landscape elements. Therefore, the significance of effects for these receptors are judged to be **Neutral**.

National Landscape Character

- 17.326 The OMSSD project site lies wholly within the National Character Area 81: Great Thames Estuary. The value of this receptor area as a whole is judged to be **Low- Medium**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Medium - Low**. The magnitude of change is considered to be **Negligible**, as the construction stage relates to a very small parcel of the LCA and is predicted to not significantly alter the key characteristics of this area, principally that of an industrial coastline area.

County Level Landscape Character

- 17.327 The OMSSD project site lies wholly within the Landscape Character Area G3: South Essex Coastal Towns in the Essex Landscape Character Assessment. The value of this receptor area as a whole is judged to be **Medium**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Medium - Low**. The magnitude of change is considered to be **Negligible**, as the construction stage relates to a very small parcel of the LCA and on the edge of the coastal industrial area and would be perceived as part of this working industrial landscape.
- 17.328 The construction stage is likely to be direct and indirect, temporary and medium-term. The effect is predicted to be of **Negligible** significance.
- 17.329 In terms of the LCA in Kent, the constructions works proposed take place outside of the LCA. Therefore, the significance of effects will remain **Neutral**.

Essex Thames Gateway Historic Environment Characterisation

- 17.330 The OMSSD project site and its immediate setting lie within Zone 95_1. The sensitivity of this area is valued as **Low** in general (where it has been assessed as an area that could accommodate medium to large scale development). The magnitude of the proposed change is considered to be **Negligible**, where the construction stage will not significantly alter the historic landscape characteristics and the perceptual qualities at this level. The effects are anticipated to be direct, indirect, temporary and medium-term and of **Negligible** significance. The significance of the effects to the remaining historic landscape zones beyond this immediate area will be **Neutral**.

Landscape Character of the Essex Coast

- 17.331 The OMSSD project site and the local study area lie within two LCAs: West Canvey / Shellhaven and Canvey Benfleet. The value of this receptor area as a whole is judged to be **High - Medium**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of

this receptor is **Medium - Low**. The magnitude of change is considered to be **Negligible**, as the construction stage relates to a very small parcel of the LCA and the perceptual quality or key characteristics of the two LCA will not be altered.

- 17.332 The construction stage is likely to be direct, temporary and medium-term. However, the effect is predicted to be of **Negligible** significance as a whole. This stage will continue to see the characteristic features, such as the industrial and working landscape along the coast and banks of the Estuary.

Local Level Landscape Character

- 17.333 The most significant effect will see the intensification of activity and the emerging new characteristic elements in the Canvey Industrial Coastal Infrastructure LCA.
- 17.334 The value of this receptor is judged to be **Low**; the susceptibility is **Low**, therefore, the sensitivity to the proposed changes is **Low**. The magnitude of change is **Low**. The effects are likely to be direct, indirect, temporary and medium-term and predicated to be **Minor Adverse** considering the increase in activity perceived in this character area and where the site accommodates a range of construction activities.
- 17.335 The construction works will see the completion and establishment of the ecology mitigation zone to the southern section of the Brick House Coastal Farmland LCA.
- 17.336 The value of this area is judged to be **Low**; the susceptibility to the proposed change is **Low**, therefore, the sensitivity to the proposed change is therefore **Low**. The magnitude of change is **Negligible** at this stage, as the initial change will have occurred at the site enabling stage and where the character of the proposals is consistent with this character area. The significance of effects is predicated to be **Negligible** on this character area overall.
- 17.337 The effects to the remaining LCAs will remain unchanged at this stage. There will be an indirect change to the landscape setting of the Canvey Island Settlement; IAA Vehicle Services; Coastal Scrub / Grassland Mosaic Regeneration; and the River Thames Estuary LCAs where their setting will remain that of industrial, but will include the temporary construction activities. Effects on these and the wider character areas is predicted to be **Neutral** overall.

Night-time Character

- 17.338 It is predicted that there will be an increase to the existing lighting intensity currently perceived on site during the construction phase, relative to specific tasks, but will not significantly alter the existing night-time character. Refer to Chapter 18 – Lighting for further detail and proposed measures.

OMSSD project site Topography

- 17.339 Due to the OMSSD project site's coastal location, the OMSSD project site levels generally reflect the flat coastal plain, with man-made interventions of bunds around the tanks. The construction stage will see the sequential implementation of the earthworks associated with

the creation of the bunds; the excavation works associated with the implementation of underground drainage and utilities; and the associated stockpiling of materials to the boundaries of the OMSSD project site. The most significant change to the internal topography will be the formation of the new bund walls associated with the new compounds. However, these changes will occur in localised areas, where the overall topographic profile and characteristic topographic features of the OMSSD project site will remain unaltered during the construction cycle.

- 17.340 The changes on the Calor Road Site to the north of Oikos Facility would have been implemented during the site preparation stage.
- 17.341 The value of the OMSSD project site topography receptor is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to be **Low**. The effects are likely to be direct, temporary and medium-term on the existing topographic profile of the OMSSD project site. The overall effects therefore judged to be at worst **Minor Adverse** significance due to the introduction of a series of new raised elements in the predominantly flat landscape.
- 17.342 With the exception of best practice in terms of storing material (keeping stockpile levels as low as possible to maintain their aerobic conditions and to minimise their visual impact) there are no additional mitigation measures proposed.

OMSSD project site Land Cover

- 17.343 The land use of the northern portion of the OMSSD project site will remain unchanged. The southern portion of the OMSSD project site will see the change from disused area, firewater lagoons and associated scrub and grassland vegetation to a construction site and associated activities which will extend out into the Thames Estuary. The implementation of planting to the west of the Oikos Facility will also take place at the latter part of the construction stage.
- 17.344 The value of the OMSSD project site land cover receptor is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to be **Low**, therefore, the effect is predicated to be at worst **Minor Adverse** significance on the southern section of the OMSSD project site only where the construction stage will replace the current uses within this part of the OMSSD project site, while the northern portion of the OMSSD project site will remain operational. The construction stage will see the emerging new elements of the storage tanks, workshop and associated facilities, in the context of the existing operational infrastructure.
- 17.345 No additional mitigation measures are proposed.

OMSSD project site Vegetation Pattern

- 17.346 It is assumed that the existing OMSSD project site vegetation, comprising existing self-sown vegetation and grassland will have been removed and the sowings will start establishing in the Calor Road Site during the site preparation stage. At the end of the construction stage, the implementation of the new native planting to the west of Oikos Facility will take place.

17.347 The value of this receptor is judged to be Low; the susceptibility to the proposed change is Low; therefore, the sensitivity of this receptor is Low. The magnitude of change is considered to be Low, considering the low level nature of the native planting, skirting around the western edge. The effect therefore is predicted to be **Minor Beneficial** significance overall which will occur at the end of the construction phase.

OMSSD project site Built Form

17.348 During the construction stage, there will be no change to the existing built form, but this phase will see the commencement and emergence of the new built form and the facilities, including the 9m height workshop (with PV panels), terminal office extension (including additional PV panels to the roof), storage tanks in the compounds ranging from 22-29m (maximum) height, gantries and new marine loading arms on the jetties.

17.349 The value of the OMSSD project site built form receptor is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Low**. There will be no change to the existing built form within the OMSSD project site, so the effects on the existing elements will be **Neutral**. However, the proposals will see the emergence and introduction of new elements characteristic of the existing OMSSD project site to the southern section of the OMSSD project site. The sensitivity of this receptor is judged to be low and the magnitude of change, considering the emerging new structures in the southern section of the OMSSD project site is therefore considered to be **Medium**. The construction stage is likely to be direct, temporary and medium-term, therefore, the effect is predicted to be of **Minor adverse** significance in the interim, as the characteristic elements start to emerge.

17.350 No additional mitigation measures are proposed.

OMSSD project site Landscape Features and Skyline

17.351 The construction stage will see the emerging of the new storage tanks and associated infrastructure, in the context of the existing facilities.

17.352 The value of the OMSSD project site landscape features and skyline is judged to be **Medium**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Medium - Low**. The magnitude of change is considered to be **Low**, as the operations may introduce new elements such as cranes to the skyline, but the built form will not have been completed. The construction stage is likely to be direct, temporary and medium-term, therefore, the effect is predicted to be of **Minor Adverse** significance, relative to the introduction of cranes to the skyline, visible above the existing tanks and associated infrastructure. Overall, the existing infrastructure will continue to dominate the skyline, together with the new elements.

17.353 No additional mitigation measures are proposed.

OMSSD project site Movement Corridors

- 17.354 During the site preparation stage, it is anticipated that the principle internal movement corridors of the OMSSD project site will remain broadly the same with a main road running across the centre of the OMSSD project site from the west to the east, but improved to meet the necessary regulations. West Road will remain the access to the new workshop and the terminal office.
- 17.355 Alterations are proposed to the internal road configuration will form part of the construction activities.
- 17.356 The value of the OMSSD project site movement corridor is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to be **Neutral**, as there are no changes proposed to the arrangement of routes within the OMSSD project site. The construction stage is likely to be direct, temporary and short-term, therefore, the effect is predicted to be of **Neutral** significance.
- 17.357 No additional mitigation measures are proposed.

Detracting Features

- 17.358 The construction stage will see the emerging infrastructure within the OMSSD project site. The value of the OMSSD project site detracting features is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to be **Neutral** as whilst the construction stage brings further detractors into the OMSSD project site, such as cranes, there will be no change to the existing detractors. Effects are therefore considered to be **Neutral** overall.

Landscape Character

- 17.359 The construction stage will see the increase of activities within the OMSSD project Site and the emerging infrastructure.
- 17.360 The value of this receptor is judged to be **Low**; the susceptibility to the proposed change is **Low**. The magnitude of change is considered to be **Medium** at this stage. Therefore, the sensitivity of this receptor is **Low – Medium** and the effects are considered to be **Minor Adverse** significance.

Night-Time Character and Lighting

- 17.361 It is anticipated that there will be an increase to the intensity of lighting within the OMSSD project site relative to the construction area. The potential on-site lighting (which often tends to be mobile and focused on providing the widest cover of light from the fewest possible locations, in order to minimise the maintenance and installations) can result in the increase in glare, light intrusion and sky glow.
- 17.362 The value of the night-time character at the OMSSD project site level is considered to be **Low**; the susceptibility to be proposed change is **Low**. The magnitude of change is

considered to be **Medium** at this stage. Therefore, the sensitivity of this receptor is Low – Medium, with a Low magnitude of change and therefore an overall change of **Minor Adverse** significance on the night-time character of the OMSSD project site, considering the potential increase in lighting intensity to the southern section of the OMSSD project site. This is likely to be a direct, temporary, becoming permanent (towards the end of the construction stage).

- 17.363 The principal contractor(s) will ensure that, as part of the CEMP, suitable control mechanisms are identified to minimise nuisance / disturbance associated with temporary construction lighting as a secondary measure. As these are not known at this stage, the worst-case scenario is set out above.

Anticipated Visual Effects

- 17.364 In terms of assessment of visual effects, where there are no views of the OMSSD project site, these have been discounted from the impact assessment. Therefore, the following key representative viewpoints are not taken forward for consideration in the impact assessment: 21, 24, 26, 29, 33, 34 and 36 on Figures 17.19 and 17.20 in Appendices 17.3 and 17.4.
- 17.365 No additional mitigation measures are proposed.
- 17.366 The construction operations stage would not result in the closing down of any views as seen from within the Green Belt area to the west of the OMSSD project site. Refer to viewpoints 20 and 35 and Figures 17.19 and 17.20 respectively from within the Green Belt area.

Views out of the OMSSD project site

- 17.367 During the construction stage, views out of the OMSSD project site (for those working, or visiting the Oikos Facility) to the north will remain unchanged but will see the emerging infrastructure come forward to the views.
- 17.368 Similarly, views to the east will see the construction activities on the OMSSD project site and the emerging infrastructure.
- 17.369 Views to the south will see the existing infrastructure with the construction activities, the emerging facilities and the seawall at the background.
- 17.370 Views to the west will see the construction activities with emerging built form, with the Haven Quay residential dwellings as the background.

Residential Receptors

- 17.371 During the construction stage, the most significant effect would occur on those receptors at Haven Quays to the west of the OMSSD project site. The views are often open, but where the character and amenity of the view is informed by the industrial structures associated with the OMSSD project site. The range of OMSSD project site activities, including the establishment of the contractor's compound; the implementation of site hoardings; stripping of the contaminated soil; and the progression of the construction activities will be readily discerned from this group of receptors in the context of the existing operational facility. The

implementation of the proposed planting along the western edge of the Oikos Facility may also be discerned by this group of receptors from Haven Quays.

- 17.372 The character and amenity of these close proximity views would change from that an existing industrial facility to that of a construction site to the south, where the emerging built form would be perceived along with an increase in activity within the OMSSD project site, potentially together with the construction activity associated with the implementation of the marine infrastructure perceived beyond the seawall.
- 17.373 The value of the view experienced by the residential receptors is judged to be **Low-High**, the susceptibility to change is **Medium** (although it is in close proximity, it is an existing operational site); therefore, the sensitivity of this group is **Medium** overall. The magnitude of change is considered to be **Medium**, considering the increase in site activities and the new storage tanks beginning to emerge. Effects on this group of receptors is therefore predicted to be **Moderate Adverse**.
- 17.374 Partial views of the construction activities are predicted to occur for the residential receptors on Haven Road. The construction stage will see temporary elements such as the cranes over and above the intervening tanks on the northern part of the OMSSD project site and an increase in vehicle movements across the OMSSD project site. There will be no views to the jetties due to the combination of built form and topography. Views of the OMSSD project site are obscured by the residential built form once moving further north on Haven Road into the built up settlement of Canvey Island.
- 17.375 The construction activities of the OMSSD project site from the rest of the residential receptors, namely the residential dwellings from Vicarage Hill are predicted to be discernible, albeit the construction work will form as a very small part of the wider panorama views of the OMSSD project site are anticipated to be obscured due to the intervening vegetation and built form. Cranes may be evident as construction proceed over and between the intervening built form and vegetation.
- 17.376 The value of the view experienced by the residential receptors on the edge of Canvey Island and Vicarage Hill are judged to be **Low**, the susceptibility to the proposed change is **Low** therefore the sensitivity of this group is **Low**. The magnitude of change is considered to be **Negligible**. The amenity and character of the view will not significantly change for those receptors to the north, north-west and north-east of the OMSSD project site where the construction operations would take place behind the intervening storage tanks on the northern part of the Oikos Facility.

Transient Receptors from Roads and Associated Pavements

- 17.377 The most significant effects will occur on the range of receptors travelling along Haven Road and in close proximity to the OMSSD project site. The range of OMSSD project site activities, including the progression of the construction activities will be readily discerned from this group of receptors in the context of the existing operational facility and beyond the security fencing and over the acoustic fencing. The main access gate improvement work will also be visible from Haven Road when approaching the OMSSD project site. The construction activities will be temporary and will see the emerging infrastructure forming part of the

industrial site character perceived for those transient receptors using along Haven Road. The views are transient and often diminish gradually moving northward along Haven Road due to the intervening built form and the existing infrastructure within the OMSSD project site. The proposed planting within the OMSSD project site may be discernible for these transient receptors, between the intervening boundary fencing.

- 17.378 The construction activities will also be discernible from Deepwater Road, but filtered through the existing vegetation. The character and amenity of the views will not alter significantly that the existing facility will continue to form the principle of the views, but where the views are likely to include new elements such as cranes.
- 17.379 The work associated with the construction compounds and the activities are predicted to be readily evident by the transient receptors in local distance but are less perceptible for those receptors in the distance, where the OMSSD project site forms a small part of the wider panorama and where elements such as cranes are likely to be visible as a small part of the wider panorama of the industrial coastline.
- 17.380 Transient receptors using Roscommon Way are predicted to see some of the temporary construction elements, such as cranes, but forming a small element to the view in between, or rising above, the intervening storage tanks and the local contextual elements, such as bunds and advertisement boards. The marine infrastructure will not be visible from these receptors.
- 17.381 Views of elements such as cranes may just be perceptible from Canvey Way, Vicarage Hill and the Main Road from the south side of the River Thames Estuary but essentially will form as a very small part of the panorama along the industrial coast.
- 17.382 The value of the view experienced by this group of receptors is judged to be **Low**; the susceptibility to the proposed change is **Low**; and the sensitivity of this group of receptors therefore is also **Low**. The magnitude of change is considered to be **Low**. The character and amenity of the view will change to include the construction activities and the emerging of new facilities but forming part of the existing operational site. These changes would be perceived in the local and the wider receptors, but the most significant effects will occur on those transient receptors from Haven Road and Roscommon Way approaching the OMSSD project site. The effect is predicted to be direct, temporary (albeit seeing the commencement of a permanent change), medium-term of **Minor Adverse** significance where the character and amenity of the view will remain that principally of a fuel storage facility, with additional construction elements visible.

Transient Receptor Using Public Rights of Way (PRoW)

- 17.383 Similar to the findings on the transient receptors using Roscommon Way, footpath users of Bridleway 49 will see the construction activities of the OMSSD project site in part of the views and in the context of the existing operational fuel storage facility. The work associated with the construction compounds and the activities, together with other construction elements will be readily evident by the transient receptors from these locations.

- 17.384 For the transient receptors using Footpath 7 and 26, the construction work, including the associated construction elements, such as cranes, will be visible in the local distance approaching towards the OMSSD project site, adjacent to the Lobster Smack public house. Views of the OMSSD project site diminish gradually when moving further away from the OMSSD project site, where the construction works are predicated to form part of the existing industrial scene along the coast, together with the emerging infrastructure to the south of the OMSSD project site and the marine side.
- 17.385 The most significant impact will be on those transient receptors in close proximity to the OMSSD project site, namely from Footpath 8 which lies on the bund adjacent to the sea wall and is therefore elevated above the OMSSD project site level. This group of receptors will experience the full-scale construction of the southern section of the OMSSD project site in the context of the existing tanks beyond. Works will include earthwork formation, the creation of development platform, transportation of materials, HGV parking on OMSSD project site and all other activities associated with the construction process, together with the implementation of the proposed planting along the Western Road. Similarly, these receptors will experience the installation process associated with the new Marine Loading Arms, with gantries and overhead pipelines crossing above the footpath.
- 17.386 There will be long distant views of the cranes within the OMSSD project site from the Kentish Thames Walk in Kent, south of the River Thames Estuary. However, the character and amenity of the views will remain unchanged due to that the construction works will only forms a very small part of the wider panorama of the industrial coastline.
- 17.387 The value of the transient receptors using Public Rights of Way is judged to be **Medium** (long distant routes) **to Low** (local routes); the susceptibility to the proposed change is **Low** (for those at the distance) and **Medium** (for those in the close proximity of the OMSSD project site); therefore, the sensitivity of this receptor is **Medium - Low**. The magnitude of change is considered to be **Low** (for the distant receptors) and **Medium** (for those in the close proximity of the OMSSD project site); The construction stage is likely to be direct, temporary and medium-term, therefore, the effect is predicted to be of **Minor Adverse** significance for those distant transient receptors, and **Moderate Adverse** to those at the close proximity of the OMSSD project site due to the increased activity and where the construction activities will form a new element to the view, albeit an existing industrial character.

Transient Receptors Using River Thames Estuary

- 17.388 The character and amenity of the views experienced from those transient receptors travelling along the River Thames Estuary will not be altered significantly during the construction stage. The jetties and the existing operational tanks along the coastline will continue to dominate the views looking into the OMSSD project site with new crane elements visible as part of the industrial coastline.
- 17.389 The value of the transient receptors using the River Thames Estuary is judged to be **Low**; the susceptibility to the proposed change is **Low**, due to the rapid nature of the views; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to

be **Low** overall. The construction stage is likely to be direct, temporary and medium-term, therefore, the effect is predicted to be of **Minor Adverse** significance.

Receptors at Visitor Attraction Points

- 17.390 The most significant effects will occur from those to the immediate context of the OMSSD project site. The construction activities and its associated elements are predicted to be discerned by those receptors visiting from the Lobster Smack public house and its garden area. However, the construction stage will be temporary and will see the emerging infrastructure forming part of the existing operational OMSSD project site.
- 17.391 Partial and distant views of the construction activities are anticipated to occur from Thorney Bay Beach and Thorney Bay Residential Caravan Park. This group of receptors are predicated to experience the tall elements of the construction equipment, such as the cranes and the emerging infrastructure, but in the context of the existing operational facility and in the context of the wider industrial coastline.
- 17.392 The construction activities and structures are not predicted to be readily perceived from the Hadleigh Country Park looking across Benfleet Downes, and from Allhallows Leisure Park looking across the River Thames Estuary, where the character and amenity of the view towards the industrial coastline, which includes crane structures, will remain unchanged.
- 17.393 The value of the receptors at the visitor attraction points is judged to range from **Medium - High**; the susceptibility to the proposed change is **Medium- Low**; therefore, the sensitivity of this receptor is **Medium – Low**. The magnitude of change is considered to be **Negligible** (for the distant receptors) and **Medium** (for those in the close proximity of the OMSSD project site); The construction stage is likely to be direct, temporary and medium-term, therefore, the effect is predicted to be of **Negligible** significance for those at the distance, and at worst **Minor Adverse** to those at the close proximity of the OMSSD project site.

Receptors Using Public Open Space and Open Space Land

- 17.394 For the receptors using public open space and open space land, there will be distant and partial views of the construction work of the OMSSD project site, including the construction of the marine infrastructure, from the Hadleigh Country Park and Halstow Marshes.
- 17.395 Partial views of the OMSSD project site occur from the Wooden Park playground, where receptors experience the tall elements from the construction operations, such as the cranes, but will see the emerging infrastructure, such as the new storage tanks, gantries and overhead pipelines.
- 17.396 The assessment from viewpoint 35 in West Canvey Marsh is to be included in the OMSSD ES LVIA Chapter.
- 17.397 The value of this group of receptors is judged to range from **Medium -High**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Medium** overall. The magnitude of change is considered to be **Negligible** (for the distant receptors) and **Low** (for those in the close proximity of the OMSSD project site); The construction stage is likely

to be direct, temporary and medium-term, therefore, the effect is predicted to be of **Negligible** significance for those at the distance, and **Minor Adverse** to those at the close proximity of the OMSSD project site, considering the introduction of new elements visible above the skyline.

Receptors at their Place of Work

- 17.398 For the receptors at the industrial, retail park and the Lobster Smack public house, views of the OMSSD project site will be partial and in the context of the existing operation.
- 17.399 The value of this receptor is judged to be **Low**; the susceptibility is **Low**, therefore, the sensitivity to the proposed change is **Low**. The magnitude of change is **Negligible**. The construction works are likely to be direct, temporary and medium-term, the significance of effects is predicated to be **Negligible**.
- 17.400 Those who work at the land around the Brick House Farm will see the construction activities and the associated elements, with emerging fuel storage tanks, but in the context of the existing operations.
- 17.401 The value of this receptor is judged to be **Low**; the susceptibility is **Low**, therefore, the sensitivity to the proposed change is **Low**. The magnitude of change is **Low**. The construction works are likely to be direct, temporary and medium-term, the significance of effects is predicated to be **Minor Adverse**.

Table 17.9: Summary of Landscape and Visual Effects For Construction Stage

Receptor	Value	Significance of Effect
Contextual Landscape Receptor		
Topographic Context	Low - Medium	Neutral
Land Cover and Land Use Context	Low - Medium	Neutral
Public / Communal Open Space	High	Neutral
Settlement Pattern and Built Form	Low	Neutral
Movement Corridor	Low	Neutral
Public Rights of Way	High - Low	Neutral
Contextual Skyline	Low	Neutral
Landscape and Built Features	Medium and High	Neutral
Detracting Features	Low	Neutral
Cultural Landscape	High	Neutral
Landscape Character Receptor		
National	Low - Medium	Negligible
County Level Landscape Character: Essex	Medium	Negligible
County Level Landscape Character: Kent	Medium - High	Neutral

Receptor	Value	Significance of Effect
Essex Thames Gateway Historic Environment Characterisation	High - Low	Neutral
Landscape Character Assessment of the Essex Coast	Medium - Low	Negligible
Local Level Landscape Character	Medium - Low	Minor Adverse (Canvey Island Coastal Infrastructure LCA) / Negligible (Brick House Coastal Farmland LCA) / Neutral (The rest of the LCA)
Oikos Facility Landscape Receptor		
Topography	Low	Minor Adverse
Land Cover	Low	Minor Adverse
Vegetation Pattern	Low	Minor Beneficial
Built Form	Low	Minor Adverse
Landscape Feature and Skyline	Low	Minor Adverse
Movement Corridor	Low	Neutral
Detracting Features	Low	Neutral
Landscape Character	Low	Minor Adverse
Night-time Character and Lighting	Low	Minor Adverse
Visual Receptor		
Residential Receptor	Low	Moderate Adverse (immediate context) – Negligible (wider context)
Transient Receptors from Roads and Associated Pavements	Low	Minor Adverse
Transient Receptors Using Public Rights of Way	Medium - Low	Moderate Adverse
Transient Receptors Using River Thames Estuary	Low	Minor Adverse
Receptors at Visitor Attraction Points	High - Medium	Minor Adverse
Receptors Using Public Open Space and Open Space Land	Medium	Minor Adverse
Receptors from Places of Employment	Low	Minor Adverse

Operational Stage

Identification and Description of Changes Likely to Generate Effect

- 17.402 The key elements considered in this landscape and visual impact assessment during the operational stage are as follows:
- The proposed six new compounds to tie in with the existing operations, including:
 - Four compounds 3, 6, 7 and 8 (total 10 storage tanks). Eight of the tanks will be approximately 29m in height and 45m in diameter, two tanks within compound 8 will be approximately 26m in height and 38m in diameter. The detailed size is subject to the engineer's design.
 - Compound 1 containing two smaller storage tanks. Each tank approximately 18m in height and 27.5m in diameter.
 - The colour of the proposed storage tanks will match with the existing tanks of the OMSSD project site, that is predominantly white with blue livery.
 - Possible two firewater tanks (subject to further engineering design).
 - The completion of the containment bund wall for each compound will be a maximum height follows:
 - Compound 1 of 2.8m
 - Compound 3 of 3.65m;
 - Compound 6 of 4.0m;
 - Compound 7 of 3.85m; and
 - Compound 8 of 4.15m
 - The operation of Jetty 1 and 2 and the associated movement of vessels on the Thames Estuary.
 - The operation of the road tanker loading bays to the north of the main entrance, to enable products to be distributed from the Oikos Facility by road. These will operate 24 hours a day, seven days a week and 364 days a year. Each bay will include an overhead pipeline gantry.
 - A new workshop at 40x20m and at 9m in height together with its associated parking.
 - An extension (at 3.95m in height) to the existing administration / operations office building at the south-western corner of the OMSSD project site.
 - Modifications and improvements to the internal road network within the facility.
 - Parking areas with mess facilities for HGV drivers.
 - Improvement and expansion of the current fire water system.
 - Additional improved roadways, pipe bridges, road bridges and pathways for operational and emergency services access.
 - Site wide lighting improvements.

- Upgrade on above and below ground utilities.
- Other operational infrastructure.
- The establishment of the proposed planting along the western edge of Oikos Facility.
- The off-site ecological mitigation and enhancement area.

Assessment of Likely Significance of Effect at Operational Stage

- 17.403 The Oikos Facility is designated as an upper tier of Control of Major Accident Hazards Regulations 2015 (COMAH) site. The design of the infrastructure has been influenced by in respect of both safety and environmental impacts to ensure compliance with the COMAH Regulations.
- 17.404 No additional mitigation measures are proposed / can be accommodated.

Contextual Landscape Elements

- 17.405 The operational stage will see the implementation of the proposed infrastructure on both the landside and the waterside. The proposals are in character with the existing land use pattern.
- 17.406 During the operational stage, the effects are limited within the OMSSD project site, there will be no change to the contextual landscape elements. Therefore, the significance of effects for these receptors are judged to be **Neutral** for the majority of the contextual landscape elements.
- 17.407 The relocation of the existing ecological mitigation areas to land at the Calor access road to the north will start to become established during the operational stage. Effects will have commenced at the site enabling stage and will continue into the operational phase. Effects are predicted to continue to be **Negligible** on the contextual land use during the operational stage.
- 17.408 The land use to the north of the Oikos Facility may change in the future, if the west to east road improvements are implemented, so further changes may occur on this landscape element in the future, the assessment of which is outside of the scope of this LVIA.

National Landscape Character

- 17.409 The OMSSD project site lies wholly within the National Character Area 81: Great Thames Estuary. The value of this receptor area as a whole is judged to be **Medium** overall; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Medium - Low**. The magnitude of change is considered to be **Negligible**, as the OMSSD project site will continue to form a very small parcel of the LCA and will not alter the existing key characteristics.
- 17.410 The operational stage is likely to be direct and permeant. The effect is predicated to be **Negligible** to the wider landscape character as a whole. The operational stage will see the change from an existing operational OMSSD project site to that comprising new

infrastructure, predominantly at the southern portion of the landside and the additional marine facilities to the waterside for jetties 1 and 2.

County Level Landscape Character

- 17.411 The OMSSD project site lies wholly within the Landscape Character Area G3: South Essex Coastal Towns in the Essex Landscape Character Assessment. The value of this receptor area as a whole is judged to be **High - Medium**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Medium - Low**. The magnitude of change is considered to be **Negligible**, as the OMSSD project site will continue to form a very small parcel of the LCA and on the edge of the coastal industrial area.
- 17.412 The operational stage is likely to be direct, permanent, and long-term. The effect is predicted to be of **Negligible** significance.
- 17.413 The effects to the LCA in Kent are predicted to be **Neutral**.

Essex Thames Gateway Historic Environment Characterisation

- 17.414 The OMSSD project site and its immediate setting lie within Zone 95_1. The value of this receptors is judged to be **Low** sensitivity of this area is valued as **Low** in general. The magnitude of the proposed change is considered to be **Negligible**, where the operational stage, whilst intensifying the characteristic elements within the OMSSD project site, will not significantly alter the historic landscape characters and the perceptual qualities at this level. The effects are anticipated to be direct, indirect, long-term and of **Negligible** significance. The significance of the effects to the historic landscape zones beyond the OMSSD project site will be **Neutral**.

Landscape Character of the Essex Coast

- 17.415 The OMSSD project site and the local study area lie within the two LCA: West Canvey / Shellhaven and Canvey Benfleet. The value of this receptor area as a whole is judged to be **High - Medium**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Medium - Low**. The magnitude of change is considered to be **Negligible**, as the operational stage relates to a very small parcel of the LCA and where the proposals will not significantly alter the perceptual quality of the two LCA.
- 17.416 The operational stage is likely to be direct and permanent. The effect is predicted to be of **Negligible** significance as a whole. This stage will see the new infrastructure sitting in the context of the existing, forming a small part of the existing industrial coastline.

Local Level Landscape Character

- 17.417 The most significant effects occur on the Industrial Coastal Infrastructure LCA. The operational stage will see the completion of the characteristic new fuel storage facilities sitting in the context of the existing operational site. The overall facility of the OMSSD project site will be intensified, but will effectively replace a disused and degraded section of the

OMSSD project site with new facilities, bring a positive use to the southern section of the LCA, consistent with the character in the northern part of the LCA.

17.418 The value of this LCA is judged to be **Low**; the susceptibility is **Low**, therefore, the sensitivity to the proposed changes is **Low**. The magnitude of change is **Medium**. The effects are likely to be direct, permanent and long-term and predicated to be **Moderate Beneficial**.

17.419 Whilst there will be new structures within this LCA, overall, the industrial setting to the wider LCAs will remain unchanged. Effects on the LCAs beyond the OMSSD project site are therefore predicted to be **Neutral**.

Night-time character

17.420 As set out in Chapter 18 – Lighting, it is predicted that there will be an increase in the intensity of lighting across the site, associated with the implementation of new luminaries required for area and task lighting, some of which are likely to be mounted and high level.

17.421 The value of the night-time character is judged to be **Low**; the susceptibility to the proposed change is **Low**; the sensitivity is therefore judged to be **Low**. The magnitude of change is judged to be **Low**. The effects are therefore predicted to be direct, permanent, long term and of **Minor Adverse** on the night-time character.

OMSSD project site Topography

17.422 Effects on the topography of the OMSSD project site will have commenced at the site enabling construction phase and will see the excavation and infilling of areas, with levels feathered into the existing operational part of the OMSSD project site. No further works are proposed at the operational phase. The broad OMSSD project site topographic profile will therefore remain unchanged at the operational stage across the whole OMSSD project site and will include new walls and bunds consistent with the character of the existing operational area.

17.423 As no further changes are predicted at the operational phase, effects on topography are predicted to be **Negligible**.

17.424 No additional mitigation measures are required for this receptor.

OMSSD project site Land Cover

17.425 At the end of the construction stage, the fuel storage facilities and the associated infrastructure, together with the workshop and the building extension will have been implemented. The southern portion of the OMSSD project site will change from vacant and disused infrastructure to an area that contains new operational facilities, and in the context of the existing infrastructure.

17.426 The value of the OMSSD project site land cover receptor is judged to be **Medium - Low**; the susceptibility to the proposed change is **Low** (as the OMSSD project site is currently operational, the southern area had the remnant of the previous operation); therefore, the sensitivity of this receptor is **Medium - Low**. The magnitude of change is considered to be

Medium, therefore, the effect is likely to be direct, permanent, long-term and predicated to be **Moderate - Minor Beneficial** significance, bringing the southern part of the OMSSD project site into operational use and re-using an area of brownfield land.

17.427 At this stage, no additional mitigation measures are proposed.

OMSSD project site Vegetation Pattern

17.428 The changes in vegetation to the north of the Oikos Facility at the Calor Road Site have been taken into consideration during the site preparation state. The proposed planting along the western edge of the Oikos Facility will provide a visual and ecological interest to the OMSSD project site.

17.429 The value of this receptor is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity is **Low**. The magnitude of change is considered to be Low, therefore, the effect of the proposed new planting at the operational stage is likely to be direct, permanent, long-term and predicated to be **Minor Beneficial** significance at year 1.

OMSSD project site Built Form

17.430 The operational stage will see the replacement of the redundant facilities and disused and disused part of the OMSSD project site to newly constructed fuel storage facilities (at a maximum of 29m) and their associated infrastructure, including the 9m height workshop, terminal office extension, associated gantries, in the context of the existing operation facilities. The additional marine infrastructure for Jetty 1 and 2 will also be in place at this stage.

17.431 The proposed built form will reflect the materials currently used on OMSSD project site.

17.432 The value of the existing built form on the OMSSD project site is judged to be **Low**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to be **Medium**. The operational stage is likely to be direct, permanent and long-term, therefore, the effect is predicted to be of **Minor - Moderate Beneficial** significance considering the extension of existing buildings, the replacement of the redundant built form and infrastructure on OMSSD project site with new infrastructure and the implementation of new built form, all reflecting the currently Oikos livery and therefore unifying the collection of structures. Overall the proposals continue the characteristic built form associated with this Oikos Facility, albeit taller in height than the existing.

17.433 No additional mitigation measures are required.

OMSSD project site Landscape Features and Skyline

17.434 The existing landscape features of the OMSSD project site comprising redundant storage tanks and associated infrastructure will have been removed at the site preparation stage.

17.435 At the operational stage, the new infrastructure will be read as part of the built skyline, together with the existing facilities.

17.436 The value of the OMSSD project site skyline within the OMSSD project site is judged to be **Medium**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Medium - Low**. The magnitude of change is considered to be **Negligible**, as the built features already predominantly form the skyline in the internal views. The operational stage is likely to be direct, permanent, and long-term, therefore, the effect is predicted to be of **Negligible** significance. The skyline will continue to be dominated by the characteristic industrial features.

17.437 No additional mitigation measures are required.

OMSSD project site Movement Corridors

17.438 At the operational stage, no further changes are proposed and therefore effects on this receptor are **Neutral**.

17.439 No additional mitigation measures are required.

Detracting Features

17.440 The operational stage will see the new infrastructure tie in with the existing facilities of the OMSSD project site. The proposals will not remove any of the existing detracting features of the OMSSD project site. Effects on this receptor therefore are **Neutral**.

Landscape Character

17.441 The operational stage will see the replacement of the redundant facilities and disused and contaminated part of the OMSSD project site to newly constructed oil storage facilities and the associated infrastructure tie in with the existing facilities of the OMSSD project site. The value of this receptor is judged to be **Low**; the susceptibility to be proposed change is **Low**. The magnitude of change is considered to be **Medium**. Therefore, the sensitivity of this receptor is **Medium – Low**, the effects are predicted to be **Minor Beneficial** significance. This is likely to be a direct, permanent and long-term.

Night-Time Character and Lighting

17.442 It is anticipated that the proposed infrastructure of the OMSSD project site would be lit in the same standard as the existing infrastructure and that these will alter the night-time character of the OMSSD project site. Refer to Chapter 18 – Lighting of this PEIR.

17.443 Whilst the details of the proposed lighting are subject to detailed design, at this outline stage, it is considered that the lighting will be designed in line with relevant best practice guidance, including the Institute of Lighting Professional (ILP) ‘Guidance Notes for the Reduction of Obtrusive Light’ and ICE (1997) 126: Guidelines for minimising Sky Glow, therefore lighting has to be minimised and kept at a low level as much as possible, without affecting safety and security.

17.444 The value of the night-time character at the OMSSD project site level is considered to be **Low**; the susceptibility to be proposed change is **Low**. The magnitude of change is

considered to be **Low** at this stage. Therefore, the sensitivity of this receptor is predicted to be **Minor Adverse**. This is likely to be a direct, permanent and long-term.

- 17.445 Additional mitigation measure are proposed to that continuation of monitoring and maintenance of the lighting to ensure that lighting intensity of the OMSSD project site does not increase.

Anticipated Visual Effects

- 17.446 Whilst a description of the character and amenity of the representative views is included in the baseline assessment, in terms of assessment of effects, where there are no views of the OMSSD project site, these have been discounted from the impact assessment. Therefore, the following key representative viewpoints are not taken forward for consideration in the impact assessment: 21, 24, 26, 29, 33, 34 and 36 on Figures 17.19 and 17.20 in Appendices 17.3 and 17.4.

- 17.447 No additional mitigation measures are identified for the visual receptors.

- 17.448 The operational stage would result in the completion of the additional storage tanks to the southern part of the OMSSD project site. Whilst visible from within the Green Belt to the west (refer to viewpoints 20 and 35 and Figures 17.19 and 17.20 in Appendix 17.3 and Appendix 17.4 respectively) the proposals would not close down views and open views out from the Green Belt area to the west of the OMSSD project site.

Views out of the OMSSD project site

- 17.449 During the operational stage, views to the north, east, south and west will comprise the existing and new fuel storage tanks and the associated infrastructure which is likely to reduce and funnel views out of the OMSSD project site. Views to the north, towards the ridgeline in the distance, are predicted to be reduced and further funnelled between the existing and new storage tanks.

Residential Receptors

- 17.450 For those residential receptors on Haven Quays, the character and amenity of the views will permanently change from a partially operational to a fully operational site, where there will be a general increase in activity associated with the increase storage capacity within the Oikos Facility. The operational stage will see the completion of the additional storage tanks, workshop buildings, new areas of car parking, HGV parking and associated structures associated with the loading bays, together with the extension to the terminal office building alongside its associated infrastructure, coming forward in the view. It is predicted that the jetties and the associated vessel movements will not be perceived by this group of receptors, however the additional MLAs are likely to be perceived over the intervening sea wall.
- 17.451 Views from the residential settlement edge to the north of the OMSSD project site, namely Haven Road, Deepwater Road, Thames Road and Brick House Farm, will see the additional infrastructure in place, between and over the existing tanks, including potentially the new

MLA's. Overall, the character and amenity of the view will not alter with the proposed development in place.

- 17.452 The operational stage will see additional infrastructure on OMSSD project site discerned from those residential receptors, from Vicarage Hill, albeit the changes will only form a very small part of the panorama.
- 17.453 The value of the view experienced by the residential receptors is judged to be **Low**, the susceptibility to the proposed change is **Medium**; therefore, the sensitivity of this group is **Medium - Low**. The magnitude of change is considered to be **Medium** (to those receptors in the close proximity of the OMSSD project site) and **Low** (to those within the local landscape and where the proposals are set beyond and in the context of the existing tanks). Effects arising throughout the operational stage overall are likely to be direct, permanent, and long-term.
- 17.454 The effects will be **Moderate adverse** significance (considering that the current character and amenity of the view is already influenced by the industrial nature of the OMSSD project site, but that the proposals result in an increase of tanks, traffic movements and activity within the Oikos Facility) for the immediate local receptors at Haven Quays; and **Minor Adverse** significance for those in the wider local area where views of the OMSSD project site are perceived beyond the existing intervening tanks and in the context of the industrial coastline.

Transient Receptors from Roads and Associated Pavements

- 17.455 The operational stage will see the improved main OMSSD project site access and the new infrastructure and storage tanks visible (albeit taller than existing) as part of the industrial character and amenity of the view from the transient receptors on Haven Road, in particularly those immediately adjacent to the OMSSD project site boundary. The proposed new planting may be discerned through the intervening boundary fenceline.
- 17.456 Transient receptors using Roscommon Way will also see the additional new infrastructure of the OMSSD project site at the operational stage, predominantly the tanks. Views of the proposed infrastructure are expected to become more apparent on approaching the OMSSD project site, set in the context of the existing infrastructure.
- 17.457 The new storage tanks and jetties will be perceived in the views from Canvey Way, Vicarage Hill and the Main Road on the south side of the River Thames Estuary set in the context of the existing elements on OMSSD project site. The new and existing built form will continue to form a very small part of the panorama of the industrial coastline.
- 17.458 The character and amenity of the transient receptors from the wider local road network will not alter significantly.
- 17.459 The value of the view experienced by this group of receptors is judged to be **Low**; the susceptibility to change **Low**; and the sensitivity of this group of receptors therefore is also **Low**. The magnitude of change is considered to be **Low**. The new built form, primarily the tanks, but also the additional infrastructure would be perceived in the local and the wider

receptors, over the intervening timber boundary fencing. This change will be perceived for those transient receptors from Haven Road and Roscommon Way approaching the OMSSD project site, albeit that the character and amenity of the view would not significantly alter, but where there would be a perceived increase in storage tanks within the Oikos Facility. The effect is predicted to be direct, permanent and long-term and of **Minor Adverse** significance.

Transient Receptor Using Public Rights of Way (PRoW)

- 17.460 In the operational stage, of the receptors on Bridleway 49 will perceive the new additional fuel storage facilities to the southern portion of the OMSSD project site, in the context of the existing tanks.
- 17.461 The transient receptors using Footpath 7 and 26 will see the additional infrastructure when approaching towards the OMSSD project site. The magnitude of the change will get higher when closer to the OMSSD project site and diminish gradually when moving further away from the OMSSD project site. The additional marine facilities, the jetties and the gantries across the seawall will also be apparent.
- 17.462 The most significant impact will be on those at the close proximity to the OMSSD project site, namely from Footpath 8. This group of receptors will experience the new operational infrastructure, the fuel tanks and associated buildings and infrastructure coming forward in the view. However, the character and amenity of the view will not be altered significantly, where the industrial nature of the OMSSD project site, with increased operational capacity will be visible. Along the waterside, receptors experience the full operation of the two jetties with new Marine Loading Arms, gantries and overhead pipelines crossing above the footpath.
- 17.463 Views of the OMSSD project site from the footpaths in the local and wider landscape are often partial and distant, where the OMSSD project site forms part of the industrial coastline or backdrop. With the proposed infrastructure implemented, the character and amenity of the views will remain unchanged and the OMSSD project site will continue to form a small part of the wider panorama of the coastal industry.
- 17.464 The value of the transient receptors using Public Rights of Way is judged to be **Medium** (long distant routes) **to Low** (local routes); the susceptibility to the proposed change is **Low** (for those at the distance) and **Medium** (for those in the close proximity of the OMSSD project site); therefore, the sensitivity of this receptor is **Medium - Low**. The magnitude of change is considered to be **Negligible** (for the distant receptors) and **High** (for those in the close proximity of the OMSSD project site); The operational stage is likely to be direct, permanent and long-term, therefore, the effect is predicted to be of **Negligible** significance for those at the distance, and **Moderate Adverse** to those at the close proximity of the OMSSD project site where the proposed tanks would come forward in the view. However, considering the fact that this is already an industrial site with existing tanks and associated infrastructure, the proposals present an intensification in use, but would ultimately maintain the existing industrial character and amenity of the view.

Transient Receptors Using River Thames Estuary

- 17.465 The character and amenity of the views from those transient receptors travelling along River Thames Estuary will not be altered significantly during the operational stage, albeit that there will be an increase in vessel movements around the Oikos Facility. The jetties, the newly implemented fuel storage facilities, together with the existing infrastructure will form the character and amenity of the views looking into the OMSSD project site northward and as part of the serial vision experienced which includes the industrial coastline in this stretch of the Thames.
- 17.466 The value of the transient receptors using the River Thames Estuary is judged to be **Low**; the susceptibility to the proposed change is **Low**, due to the rapid nature of the views; therefore, the sensitivity of this receptor is **Low**. The magnitude of change is considered to be **Negligible**. The significance of effect is predicted to be of **Negligible** overall.

Receptors at Visitor Attraction Points

- 17.467 For those visiting the Lobster Smack public house to the west and its garden area and will be perceived as an extension to the existing facilities, visible between and beyond the intervening residential built form.
- 17.468 The proposals are also anticipated to be visible from Thorney Bay Beach and Thorney Bay Residential Caravan Park. This group of receptors are predicated to perceive the additional fuel storage facilities as part of the existing industrial scene and coastline. The marine infrastructure is also predicted to be noticeable in these views.
- 17.469 The proposals, together with the existing facilities, will continue to form a small part of the wider panorama in views from the Hadleigh Country Park looking across Benfleet Downes, and from Allhallows Leisure Park looking across the River Thames Estuary. However, the character and amenity of the views will remain unchanged due to the distant nature of the views.
- 17.470 The value of the receptors at the visitor attraction points is judged to range from **Medium - High**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Medium** overall. The magnitude of change is considered to be **Negligible** (for the distant receptors) and **Low** (for those in the close proximity of the OMSSD project site); The operational stage is likely to be direct, permanent and long-term, therefore, the effect is predicted to be of **Negligible** significance for those at the distance, and **Minor Adverse** to those at the close proximity of the OMSSD project site where the OMSSD project will result in the increase of oil tanks perceived within the Oikos Facility, but which form part of the existing industrial setting to these visitor attractions.

Receptors Using Public Open Space and Open Space Land

- 17.471 Similarly, for the receptors using public open space and open space land, there will be distant and partial views of the entire OMSSD project site, including the marine infrastructure, from the Hadleigh Country Park and Halstow Marshes. With the new

infrastructure in place, the OMSSD project site will continue to form part of the coastal panoramic view.

- 17.472 Partial views of the OMSSD project site occur from the Wooden Park playground, where receptors experience the new storage tanks sitting within the context of the existing facilities within the OMSSD project site and the Calor Gas facility.
- 17.473 The assessment from viewpoint 35 in West Canvey Marsh is to be included in the ES LVIA Chapter. The value of this group of receptors is judged to range from **Medium - High**; the susceptibility to the proposed change is **Low**; therefore, the sensitivity of this receptor is **Medium** overall. The magnitude of change is considered to be **Negligible** (for the distant receptors) and **Low** (for those in the close proximity of the OMSSD project site); The operational stage is likely to be direct, permanent and long-term, therefore, the effect is predicted to be of **Negligible** significance for those at the distance, and **Minor Adverse** to those at the close proximity of the OMSSD project site.

Receptors at their Place of Work

- 17.474 For the receptors at the industrial, retail park off Roscommon Way and the Lobster Smack public house, views of the OMSSD project site will be partial and in the context of the existing operation.
- 17.475 The value of this receptor is judged to be **Low**; the susceptibility is **Low**, therefore, the sensitivity to the proposed change is **Low**. The magnitude of change is **Negligible**. The construction works are likely to be direct, temporary and medium-term, the significance of effects is predicated to be **Negligible**.
- 17.476 Similarly, those who work at the land around the Brick House Farm will see the additional fuel storage facilities, in the context of the existing.
- 17.477 The value of this receptor is judged to be **Low**; the susceptibility is **Low**, therefore, the sensitivity to the proposed change is **Low**. The magnitude of change is **Low**. The construction works are likely to be direct, temporary and medium-term, the significance of effects is predicated to be **Minor Adverse**.

Table 17.10: Summary of Landscape and Visual Effects For Operational Stage

Receptor	Value	Significance of Effect
Contextual Landscape Receptor		
Topographic Context	Low - Medium	Neutral
Land Cover and Land Use Context	Low - Medium	Negligible
Public / Communal Open Space	High	Neutral
Settlement Pattern and Built Form	Low	Neutral
Movement Corridor	Low	Neutral
Public Rights of Way	High - Low	Neutral
Contextual Skyline	Low	Neutral

Receptor	Value	Significance of Effect
Landscape and Built Features	Medium and High	Neutral
Detracting Features	Low	Neutral
Cultural Landscape	High	Neutral
Landscape Character Receptor		
National	Low - Medium	Negligible
County Level Landscape Character: Essex	Medium	Negligible
County Level Landscape Character: Kent	Medium - High	Neutral
Essex Thames Gateway Historic Environment Characterisation	High - Low	Negligible (OMSSD project site and its immediate setting) / Neutral (the wider area)
Landscape Character Assessment of the Essex Coast	Medium - Low	Negligible
Local Level Landscape Character	Medium - Low	Moderate Beneficial (Canvey Island Coastal Infrastructure LCA) / Neutral (the rest)
Oikos Facility Landscape Receptor		
Topography	Low	Negligible
Land Cover	Low	Moderate – Minor Beneficial
Vegetation Pattern	Low	Minor Beneficial
Built Form	Low	Moderate – Minor Beneficial
Landscape Feature and Skyline	Low	Negligible
Movement Corridor	Low	Neutral
Detracting Features	Low	Neutral
Landscape Character	Low	Minor Beneficial
Night-time Character and Lighting	Low	Minor Adverse
Visual Receptor		
Residential Receptor	Low	Moderate Adverse (immediate context) – Minor Adverse (wider context)
Transient Receptors from Roads and Associated Pavements	Low	Minor Adverse
Transient Receptors Using Public Rights of Way	Medium - Low	Moderate Adverse (close proximity) / Negligible (distant)

Receptor	Value	Significance of Effect
Transient Receptors Using River Thames Estuary	Low	Negligible
Receptors at Visitor Attraction Points	High - Medium	Minor Adverse (close proximity) / Negligible (distant)
Receptors Using Public Open Space and Open Space Land	Medium	Minor Adverse (close proximity) / Negligible (distant)
Receptors from Places of Employment	Low	Minor Adverse

Human health

- 17.478 The enjoyment of the coastal scene from the immediate adjacent footpaths, which includes the existing industrial coastline, will not significantly alter with the scheme in place. As such there will be no change to the existing health benefits of being outside and using the local footpath network with the scheme in place.
- 17.479 New native planting is proposed along the western edge of the OMSSD project site, providing visual interest to this part of the Oikos Facility. This planting may provide a minor improvement to mental wellbeing of those working and visiting the Oikos Facility.

Climate change

- 17.480 The scheme as currently proposed is not affected by climate change relative to the landscape and visual resource.

Inter-related effects

- 17.481 The interrelated effects for landscape and visual matters relates to the physical changes on the ground (including changes to the night-time character through additional lighting and proposals relating to mitigating and enhancing terrestrial ecology) which are perceived by the visual receptors. These have been assessed accordingly throughout this preliminary assessment chapter.

Mitigation Measures

- 17.482 The proposals are influenced by the COMAH regulations to ensure no operational safety and environmental impact.
- 17.483 There are no additional mitigation measures proposed relative to the lighting over and above best practice required to avoid and reduce.
- 17.484 There are no additional landscape or visual mitigation measures above those proposed within the OMSSD project scheme.

Limitations and Assumptions

- 17.485 The LVIA is based on the web-based information and published documents available at the time of the writing.
- 17.486 The LVIA shows and describes the baseline situation as of March 2020, therefore it represents the 2020 winter season. Visual effects in the summer as a result of seasonal foliage potentially filtering some views (considering vegetation both on the OMSSD project site boundaries and beyond the OMSSD project site) are therefore likely to be reduced the visual effects to a degree in the summer months.
- 17.487 The visual analysis is based on views from external spaces within the public domain and not from inside buildings or private spaces. However, comment and assessment in relation to views from private spaces have been made where appropriate and from a publicly available vantage point that is representative of that private views.
- 17.488 The assessment of effects is based on the details in Chapter 3 – the OMSSD Project and as shown on Figure 3.1 and the technical information received from Oikos.
- 17.489 Besides the seed sowing to the north of Oikos Facility for ecology mitigation area, low level native landscape planting is proposed along the western edge of the Oikos Facility. No other planting is proposed either within or outside the OMSSD project site at the time of preparing this PEIR.
- 17.490 The assessment of effects therefore is based on the worst-case scenario throughout and often shows a range of effects with some considered in balance.
- 17.491 It is envisaged that a draft Construction Environmental Management Plan (CEMP) will be prepared during the course of the assessment work and will form part of the DCO application.
- 17.492 There will be activities involving the removal of contaminated soil and topsoil (totalling approximately 10,800m³) off site, which involving Heavy Good Vehicles (HGV) in and out of the OMSSD project site during the site enabling stage.
- 17.493 Any new gantries required as part of the infrastructure for the OMSSD project will be similar to the existing gantries.
- 17.494 The colour of the new tanks will match with the existing ones to reflect the Oikos livery, i.e. predominantly white, with blue strips. By painting the tanks white, the evaporative losses from the stored products are reduced.
- 17.495 A construction compound will be located along the western OMSSD project site boundary area within the OMSSD project site.
- 17.496 The assessment of visual effects on temporary construction workers has not been included, as they are not included in the baseline scenario.

- 17.497 The construction phase of the project will be lit for security and health and safety purposes; and the proposed development will be set within the existing lit environment of the OMSSD project site during the operational phase will be lit. Any additional lighting is to be designed in accordance with best practice guidance and therefore to be as low as possible, directional into the OMSSD project site and shielded with no backwards glare.
- 17.498 The Oikos Facility is designated as an upper tier of The Control of Major Accident Hazards Regulations 2015 (COMAH) site. The design of the OMSSD project has been influenced by COMAH regulations to ensure both safety and environmental operational compliance.
- 17.499 The assessment of visual effects is based on the plan and associated text and will be reviewed and refined once the VVM's have been prepared as part of the LVIA ES Chapter.

Preliminary Conclusions on Residual Effects

- 17.500 As there are no additional mitigation measure proposed at this stage, the residual effects will remain unchanged from that described in the main body of the preliminary assessment.
- 17.501 The OMSSD project site is an existing operational site for liquid bulk harbour facilities by Oikos Storage Ltd to the south of Canvey Island. The facility has been used for marine-fed fuel and associated product storage since the 1930s. It is a key component of the UK's energy infrastructure and a long-established part of the economy and environment of Canvey Island.
- 17.502 As with the majority of development, minor adverse to minor beneficial effects occur during the site preparation stage, minor adverse to moderate adverse occur during the construction stage and moderate adverse to moderate beneficial occur during the operational stage for those receptors within the close proximity of the OMSSD project site. However, the proposed infrastructure within the OMSSD project site will be perceived as an extension to the existing infrastructure and a replacement to the redundant elements.
- 17.503 Partial and distant views of the OMSSD project site occur from the distance receptors, with the additional infrastructure on the OMSSD project site, the overall OMSSD project site will continue to form a small part of the wider coastal panorama.
- 17.504 Whilst this LVIA sets out the predicated and the worst-case landscape and visual effects, this is also to be viewed against the context of this existing operational OMSSD project site and its setting that within the wider coastal industrial landscape.

Table 17.11: Summary of Landscape and Visual Effects For All Stages

Receptor	Value	Significance of Effect		
		Enabling Stage	Construction Stage	Operational Stage
Contextual Landscape Receptor				
Topographic Context	Low - Medium	Neutral	Neutral	Neutral
Land Cover and Land Use Context	Low - Medium	Neutral	Neutral	Negligible
Public / Communal Open Space	High	Neutral	Neutral	Neutral
Settlement Pattern and Built Form	Low	Neutral	Neutral	Neutral
Movement Corridor	Low	Neutral	Neutral	Neutral
Public Rights of Way	High - Low	Neutral	Neutral	Neutral
Contextual Skyline	Low	Neutral	Neutral	Neutral
Landscape and Built Features	Medium and High	Neutral	Neutral	Neutral
Detracting Features	Low	Neutral	Neutral	Neutral
Cultural Landscape	High	Neutral	Neutral	Neutral
Landscape Character Receptor				
National	Low - Medium	Negligible	Negligible	Negligible
County Level Landscape Character: Essex	Medium	Negligible	Negligible	Negligible
County Level Landscape Character: Kent	Medium - High	Neutral	Neutral	Neutral
Essex Thames Gateway Historic Environment Characterisation	High - Low	Neutral	Neutral	Negligible (OMSSD project site and its immediate setting) / Neutral (the wider area)
Landscape Character Assessment of the Essex Coast	Medium - Low	Negligible	Negligible	Negligible
Local Level Landscape Character	Medium - Low	Minor Adverse (OMSSD project site / Neutral (wider landscape)	Minor Adverse (Canvey Island Coastal Infrastructure LCA) / Negligible (Brick House Coastal	Moderate Beneficial (Canvey Island Coastal Infrastructure LCA) / Neutral (the rest)

Receptor	Value	Significance of Effect		
		Enabling Stage	Construction Stage	Operational Stage
			Farmland LCA) / Neutral (The rest of the LCA)	
Oikos Facility Landscape Receptor				
Topography	Low	Negligible	Minor Adverse	Negligible
Land Cover	Low	Negligible	Minor Adverse	Moderate – Minor Beneficial
Vegetation Pattern	Low	Minor Adverse	Minor Beneficial	Minor Beneficial
Built Form	Low	Minor Adverse	Minor Adverse	Moderate – Minor Beneficial
Landscape Feature and Skyline	Low	Minor Adverse	Minor Adverse	Negligible
Movement Corridor	Low	Neutral	Neutral	Neutral
Detracting Features	Low	Minor Beneficial	Neutral	Neutral
Landscape Character	Low	Minor Beneficial	Minor Adverse	Minor Beneficial
Night-time Character and Lighting	Low	Neutral	Minor Adverse	Minor Adverse
Visual Receptor				
Residential Receptor	Low	Minor Adverse	Moderate Adverse (immediate context) – Negligible (wider context)	Moderate Adverse (immediate context) – Minor Adverse (wider context)
Transient Receptors from Roads and Associated Pavements	Low	Neutral	Minor Adverse	Minor Adverse
Transient Receptors Using Public Rights of Way	Medium - Low	Minor Beneficial	Moderate Adverse	Moderate Adverse (close proximity) /

Receptor	Value	Significance of Effect		
		Enabling Stage	Construction Stage	Operational Stage
				Negligible (distant)
Transient Receptors Using River Thames Estuary	Low	Negligible	Minor Adverse	Negligible
Receptors at Visitor Attraction Points	High - Medium	Neutral	Minor Adverse	Minor Adverse (close proximity) / Negligible (distant)
Receptors Using Public Open Space and Open Space Land	Medium	Neutral	Minor Adverse	Minor Adverse (close proximity) / Negligible (distant)
Receptors from Places of Employment	Low	Negligible	Minor Adverse	Minor Adverse