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11.0 LANDSCAPE AND VISUAL AMENITY

11.1 Introduction

11.1.1 This chapter of the Environmental Statement (ES) addresses the potential effects of construction, operation (including maintenance) and decommissioning of the Proposed Development on landscape character (the effects on the landscape as a resource in its own right) and visual amenity (effects on specific views and on the general visual amenity experienced by people).

11.1.2 This chapter is supported by Figures 11.1-11.19 provided in ES Volume II and Appendices 11A and 11B in ES Volume III.

11.2 Legislation and Planning Policy Context

11.2.1 The landscape and visual impact assessment takes account of the legislation relevant to landscape and visual issues, including the European Landscape Convention.

The National Planning Policy Framework 2018

11.2.2 The Ministry of Housing, Communities and Local Government published a revised National Planning Policy Framework (NPPF) in 2018. The NPPF includes policies that ensure developments are "*sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change*.'

11.2.3 Policy 15: Conserving and enhancing the natural environment recognises that the environment should be enhanced by:

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

Local Planning Policy

11.2.4 The recently adopted North East Lincolnshire Local Plan 2013 to 2032 (North East Lincolnshire Council (NELC), adopted March 2018) has been considered as part of the

landscape and visual impact assessment process. The following policies from the Local Plan are relevant to the landscape setting of the Proposed Development:

- SO9 – Design;
- Policy 40 - Developing a green infrastructure network;
- Policy 42 – Landscape; and
- Policy 43 – Greenspace and recreation.

11.2.5 A number of Supplementary planning documents are proposed to provide further guidance on specific policies set out in the Local Plan, though timetables for the preparation are still to be confirmed

11.3 Assessment Methodology and Significance Criteria

11.3.1 The landscape and visual impact assessment has been based on best practice guidance provided by the Guidelines for Landscape and Visual Impact Assessment, Third Edition (Landscape Institute and Institute of Environmental Management and Assessment (IEMA), 2013).

11.3.2 Baseline data has been gathered from a study of Ordnance Survey (OS) maps, aerial photography, site visits, publicly available documents (including landscape character assessments from local authorities) and national character mapping available from Natural England.

Impact Assessment and Significance Criteria

11.3.3 A detailed description of the assessment methodology is presented within Appendix 11A in ES Volume III and is summarised below.

11.3.4 As described in Chapter 2: Assessment Methodology, for the purposes of comparison and in order to establish a 'control' scenario against which the effects of the Proposed Development may be assessed, the baseline conditions are projected forward to produce a future 'no development' (baseline) scenario. The potential impacts of the Proposed Development upon the baseline landscape and receptor views have then been identified and any resulting effects assessed and classified. The 'worst case' development option has been selected for assessment purposes. This includes a two stream plant constructed over two (three year) phases.

11.3.5 Potential landscape and visual impacts and the resulting effects (both adverse and beneficial) have been considered for the following scenarios:

- Construction;
- Opening; and;
- Decommissioning.

11.3.6 Effects may be temporary, permanent, short-term or long-term. Landscape and visual effects may be further categorised as being either direct, i.e. originating from the Proposed Development or indirect within the Zone of Theoretical Visibility (ZTV), e.g. off-site visual impact of construction traffic.

Landscape Impact Assessment Methodology

11.3.7 In assessing and classifying the predicted effects from any likely impacts to the landscape resulting from the Proposed Development, the following criteria has been considered:

- landscape character;

- landscape sensitivity; and
- magnitude of likely impacts that may affect the landscape.

11.3.8 Landscape impacts have also been considered, including both the direct and indirect impacts of the Proposed Development upon landscape elements and features (or components), as well as the impact upon the general landscape character of the surrounding area.

11.3.9 The relationship between sensitivity and magnitude of impact allows an assessment of the relative significance of predicted landscape effects to be made. The sensitivity of the landscape to change is the degree to which a particular Landscape Character Area (LCA) or feature can accommodate changes or new features, without unacceptable detrimental effects to its key characteristics.

11.3.10 The magnitude of a predicted landscape impact relates to the size, extent or degree of change likely to be experienced as a result of the Proposed Development. The magnitude takes into account whether there is a direct impact resulting in the loss of landscape components, or a change beyond the land-take of the Proposed Development that might have an effect on the character of the area, and whether the impact is permanent or temporary.

11.3.11 Plate 11.1 below (derived from Figure 6.3 page 61, IEMA, 2011) comprises the chart used to give an approximation as to how sensitivity and magnitude can be considered together as well as professional judgement, to determine whether an effect is significant or not. For the purposes of the landscape and visual assessment, moderate and major impacts have been deemed 'significant'. Where significant environmental effects are identified, measures to mitigate these effects are proposed (where feasible) and remaining residual effects are identified.

11.3.12 A full explanation of the criteria used to assess sensitivity, magnitude of impact and classification of landscape and visual effects is presented within Appendix 11A of ES Volume III.

Visual Impact Assessment Methodology

11.3.13 The assessment of effects likely to result from visual impacts is structured by receptor groups (e.g. residents, users of Public Rights of Way (PRoW) and business users). Individual receptors are identified through the definition of the ZTV, within which views of the Proposed Development are likely to be possible. Individuals are subsequently categorised into receptor groups within different areas. The sensitivity of each receptor group is then evaluated as being high, medium, low or very low dependent upon their susceptibility to changes in views and visual amenity and the value attached to particular views (in accordance with the criteria set by the Landscape Institute and Institute of Environmental Management and Assessment (Landscape Institute and IEMA, 2013)).

11.3.14 Views from each identified representative viewpoint, as agreed with NELC, were photographed and recorded, considering location, distance from the Proposed Development (as the crow flies), direction of view, receptor type, sensitivity and a short description of the view.

11.3.15 Viewpoint photography accompanying this assessment has been undertaken based upon the guidance given in Landscape Institute Advice Note 01/11 'Photography and photomontage in landscape and visual impact assessment (Landscape Institute, 2011).

11.3.16 To facilitate the reader's interpretation of the information, photomontages and wireframes of the Proposed Development are presented on Figures 11.16 – 11.19 in ES Volume II.

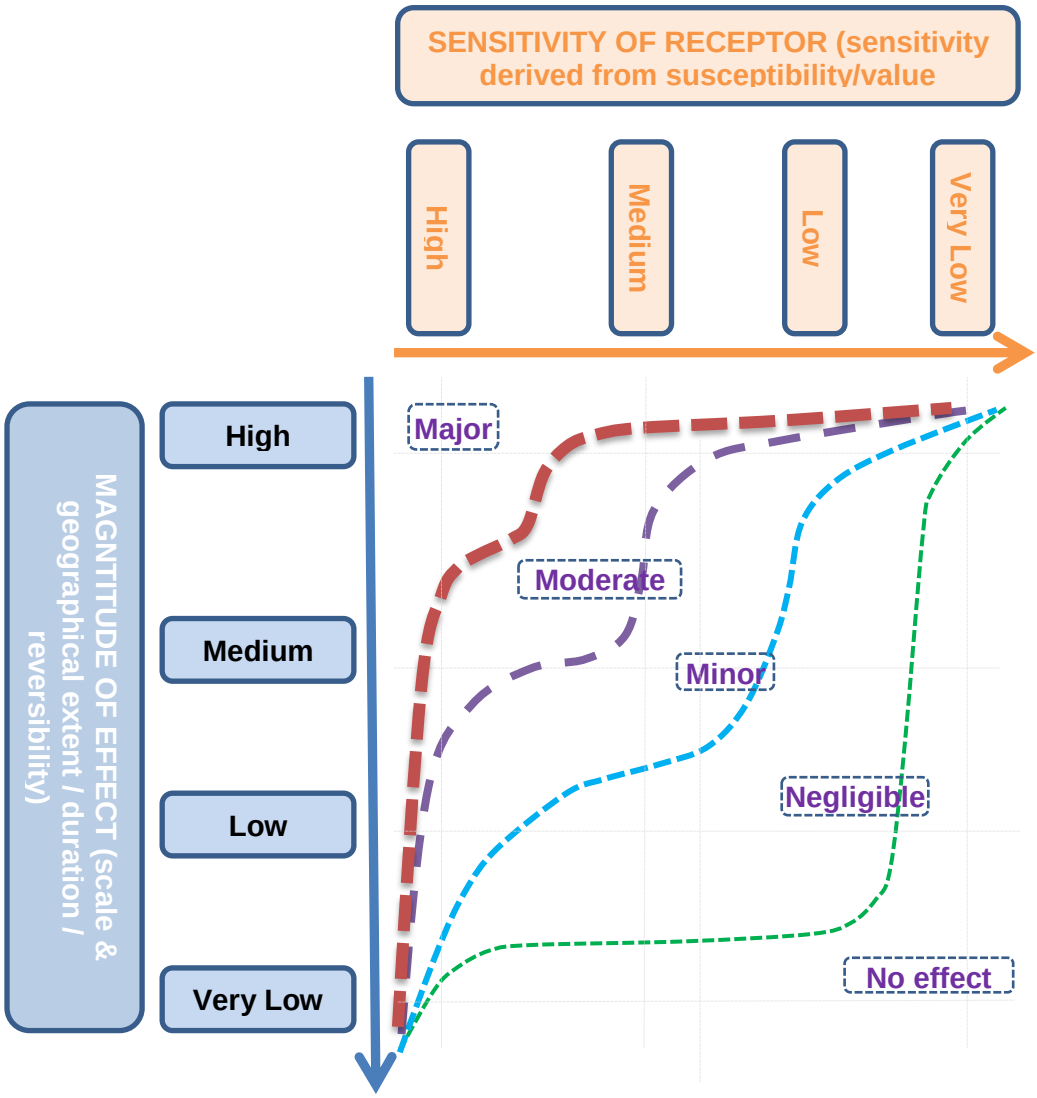
11.3.17 The sensitivity of a receptor is evaluated as being high, medium, low or very low dependent upon the susceptibility to changes in the view and visual amenity, and the value attached to the view. The magnitude of impact is evaluated as being high, medium, low or very low dependent on the magnitude of change in relation to the baseline view resulting from the Proposed Development. The specific terminology used to describe the sensitivity of receptors and magnitude of impacts is presented within Appendix 11A in ES Volume III.

11.3.18 For the purposes of assessment, the sensitivity of a receptor and the magnitude of an impact on that receptor are combined to determine the effect that the Proposed Development is predicted to have on existing baseline visual conditions for that given receptor with reference to the diagram at Plate 11.1. This varies from the standard effects matrix set out in Chapter 2: Assessment Methodology, but follows best practice methodology for landscape and visual impact assessment (Landscape Institute and IEMA, 2013).

11.3.19 Although some visual receptors may consider the Proposed Development to be visually interesting, the assessment follows standard best practice methods, and therefore assumes a 'worst case' scenario, whereby significant changes to views as a result of new tall/ large structures or buildings, in an existing relatively open area, are generally considered to be adverse.

11.3.20 Effects that are judged as being moderate or major are considered to be significant.

Plate 11.1: Classification of landscape and visual effects



Key Parameters for Assessment

11.3.21 The magnitude of visual impacts of the Proposed Development relate to (amongst other criteria) the size and scale of the structures and geographical extent of the area influenced by them. The assessment is based upon the largest possible dimensions for the Proposed Development (adopting a 'Rochdale Envelope' approach), and the fixed stack heights of 100 m (with the top of both stacks at 102 m Above Ordnance Datum (AOD)), as this is considered to represent the worst case scenario. The maximum dimensions are based upon the building footprint and tallest potential height as detailed in Chapter 4: The Proposed Development.

11.3.22 The extent of the Study Area is determined by the potential visibility of the Proposed Development in the surrounding landscape and is proportionate to its size and scale and the nature of the surrounding landscape. Current guidance (Landscape Institute and IEMA, 2013) states that the Study Area should include "*the full extent of the wider landscape around it which the proposed development may influence in a significant manner*".

11.3.23 For the purposes of this assessment the Study Area has been defined by a combination of analysis of the ZTV and professional judgement of the likely extents of effects, as well as in consultation with NELC. Based upon the geographical extent of the Proposed Development, it is considered unlikely that significant landscape effects would be possible beyond 5 km from the Proposed Development. Therefore a 5 km Study Area boundary has been used in the consideration of landscape and visual effects within this chapter. However, a viewpoint at a distance of 10 km, within the Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB), has been considered at the request of NELC (see section 11.3.27 below).

Zone of Theoretical Visibility (ZTV)

11.3.24 A computer generated ZTV was produced for the 5 km Study Area and is presented within Figure 11.4 in ES Volume II).OS terrain 5 Digital Terrain Model (DTM) data was used to prepare the ZTV. Screening effects of vegetation, buildings or other structures were not taken into account in the model. Consequently, for the production of this ZTV, OS Vector Map buildings and woodland were incorporated into the DTM.

11.3.25 Existing built structures within the Site were modelled using heights defined by OS MasterMap data. Existing built structures outside of the Proposed Development were modelled at 7.5 m in height and large areas of woodland were modelled at 15 m in height to provide a more accurate ZTV than a bare-ground scenario (which does not take into account localised screening effects of vegetation and built form).

11.3.26 Potential viewpoints and receptors were identified throughout the Study Area. The potential receptors and their existing views are described within Appendix 11B in ES Volume III and presented on Figures 11.6 to 11.15 in ES Volume II.

Consultation

11.3.27 Consultation was undertaken with NELC (July 2018) to agree the location of representative viewpoints. A further viewpoint on the edge of the Wolds AONB, outside of the 5 km Study Area, was requested by NELC to capture the potential views from a sensitive landscape receptor. This has been included in this assessment.

11.3.28 On receipt of Scoping Opinions from NELC and West Lindsey Council (September 2018) a further two additional viewpoints have been considered. These are Pelham's Pillar and Great Coates.

11.3.29 A summary of all additional viewpoints considered is presented in Table 11.2 below. Refer to Appendix 11B in ES Volume III for a list all the viewpoints identified and reviewed.

Table 11.2: Viewpoint Consultations Summary

CONSULTEE	SUMMARY OF RESPONSE/ HOW COMMENTS HAVE BEEN ADDRESSED
North East Lincolnshire Council (NELC)	
Paul Chaplin e-mail dated 23-07-18: "*Although views from the Lincolnshire Wolds are outside of the radius I suggest you take these views into account. Capturing these views would address issues should they be raised".*	The advice was noted and the best view of the Humber bank toward Immingham/ Stallingborough, located on a popular footpath up into the Wolds, was agreed and included within this assessment. The viewpoint is located within the Wolds Area of Outstanding Natural Beauty.
NELC Scoping Opinion dated 03-09-18 Consider the inclusion of an additional viewpoint in Great Coates.	This has been noted and reviewed. A viewpoint representing residential views from Great Coates, beyond Beechwood Farm Carvery (Viewpoint 5) to the south-east, was suggested by NELC. The views from this location were considered during an additional site visit. A representative viewpoint from properties along Woad Lane, close to Great Coates railway station, was subsequently reviewed. Due to the increased distance (1.2 km) beyond Viewpoint 5, vegetation to the rear of properties, vegetation along the A180 in the mid foreground and the intervening proximity of structures associated with the Lenzing industrial site, the anticipated impact is deemed to be less than Viewpoint 5 and therefore not significant. This viewpoint has not been included in the detailed assessment.
West Lindsey CouncIL	
NELC Scoping Opinion dated 03-09-18 Consider the inclusion of an additional viewpoint from the top of Pelham's Tower.	This has been noted and reviewed. A viewpoint representing views from the glazed viewing room at the top of Pelham's Tower was suggested by West Lindsey Council. The views from this location were subsequently considered during an additional site visit. Due to the density and height of the surrounding vegetation, a representative viewpoint was selected at the highest point on the A1173 with an open view in the direction of the Proposed Development. Due to the distance (14 km), the absence of public footpaths to the tower base, intervening vegetation at ground level and the limited period

CONSULTEE	SUMMARY OF RESPONSE/ HOW COMMENTS HAVE BEEN ADDRESSED
	of access (open day for 3 hours on one day each year) to the top of the tower, the impact is not deemed to be significant. The height of the tower (39m) above the 132 m AOD level will also reduce the extent the new development will appear on the skyline. This viewpoint has not been included within the assessment.

11.4 Baseline Conditions

Landscape Characterisation

11.4.1 At a national scale, the 5 km Study Area includes National Character Area (NCA): 41 Humber Estuary and NCA 42: Lincolnshire Coast and Marshes (Natural England, 2013a and 2013b). The relevant landscape character elements of the NCA documents are summarised below.

NCA 41: Humber Estuary

11.4.2 The Humber Estuary is an open, low-lying flat landscape influenced by the changing character of the river. The area is characterised by arable farming in large regular fields on the reclaimed, formerly inter-tidal landscape. Intertidal habitats including mudflats, salt marsh and reed beds, coastal dunes and wetlands along the side of the estuary. Internationally valuable habitats are in strong contrast to the urban and industrial landscape surrounding Hull and the south banks of the Humber Estuary including the study area.

NCA 42: Lincolnshire Coast and Marshes

11.4.3 The Lincolnshire Coast and Marshes lie south-east of Hull, this is an area of predominantly flat land, sparsely wooded with open views. The coastal strip has been developed during the 20th century as a tourist destination and larger settlements are located along the coast. Much of the agricultural land of the Outmarsh has been reclaimed from the sea over many centuries. Food production is important within the NCA with cereals, root crops, oilseed and a very small amount of vegetables grown. There is also mixed farming and pastoral land grazed by cattle and sheep with areas of grazing marsh.

11.4.4 The Study Area is characterised within the North East Lincolnshire Landscape Character Assessment, Sensitivity and Capacity Study 2015 (NELLCA). Local Character Areas (LCAs) within the assessment, relevant to the Study Area and on a regional scale, are described below.

Humber Estuary

11.4.5 The Humber Estuary is described as follows:

"The Humber Estuary is an expansive, flat and low-lying landscape in which agriculture, industrial/urban and semi-natural habitat land uses combine to provide local variety in an otherwise simple, sometimes bleak landscape. The estuary itself can sometimes present a somewhat sombre appearance, particularly at low tide when extensive areas of mud flat are exposed. In contrast, at high tide the estuary has a brighter, more attractive coastal feel. The dynamics of tides, changing weather, bird life and visible activity on the estuary sometimes combine to create a vibrant scene. However, in many

areas views of the water are blocked by flood alleviation berms and the estuary's presence is perceived only through the more subtle influences such as the smell of salt laden air".

11.4.6 Many of the poorly drained alluvial soils around the estuary are now of high agricultural value. This is largely due to the extensive drainage improvements carried out over the past few centuries, including the cutting of new drainage channels, enlarging and diverting existing watercourses, construction of flood alleviation berms, sluices and installation of pumps.

Lincolnshire Coast and Marshes

11.4.7 Soils derived from the glacial till form extensive tracts of good generally fertile arable land, although the drainage is not always satisfactory and often impeded. In common with most farmed landscapes derived from glacial deposits of boulder clay, gravels and sands, drainage and cultivation have led to losses of most grassland and woodland of interest. Nevertheless, pockets of the natural woodland of slightly base-rich derivation remain. These are found in the form of certain mature hedges, streamside woodlands and the ground flora of replanted farm woodlands. The Lincolnshire Coast and Marshes forms a transition zone between the higher Wolds and the coast.

11.4.8 The Study Area includes three Local Landscape Types (LT's) that are identified in Section 5 (Character) of the NELLCA (NELC, 2015); LT 1 Industrial Landscape, LT 2 Open Farmland and LT 3 Wooded Open Farmland. The key characteristics of these LT are described below:

Landscape Type 1: Industrial Landscape

11.4.9 The Industrial Landscape is visually intrusive, stretching from the north-western edge of Grimsby up to and around Immingham. It is dominated by on-shore oil and gas refineries and other large scale industrial units and extends inland to the A180.

11.4.10 The key characteristics are described within the NELLCA document as:

- "*Virtually flat landform emphasising large skies;*
- *Large scale industrial works (including Immingham power station) and docks;*
- *Medium to large scale open arable farmland;*
- *Open views sometimes interrupted by large scale built development;*
- *High and low voltage pylons criss-crossing the area have an urbanising effect;*
- *Network of busy roads including the main A180 transport route;*
- *Tall native hedgerows and mature trees along road corridor;*
- *Extensive network of field drainage dykes including several large named drains; and*
- *Immingham town, northern periphery of Grimsby, scattered farmsteads*".

Landscape Type 2: Open Farmland

11.4.11 This extends northwards from the outskirts of Grimsby. Its western edge runs parallel with the main railway line and its eastern edge follows the A180.

11.4.12 The key characteristics are described within the NELLCA document as:

- "*Virtually flat landform emphasising large skies;*
- *Medium to large scale open arable farmland;*
- *Open views towards settlement edges and industry/docks;*

- *High voltage pylons have an urbanising effect;*
- *Network of busy roads including the main A180 transport route and the Grimsby to Doncaster* railway *line;*
- *Mature native hedgerow field and roadside boundaries with hedgerow trees, particularly in the north, tending to become sparse and to the north and west of Healing;*
- *Extensive network of field drainage dykes including Main Drain; and*
- *Village settlements of Healing, Stallingborough and Habrough, scattered farmsteads*".

Landscape Type 3: Wooded Open Farmland

11.4.13 This lies to the west and north-west of Grimsby and Cleethorpes. Its northern extent lies on the Borough boundary near Habrough and its southern extent at the Borough boundary near Holton-le-Clay. The Borough boundary and the A18 mark its western edge and the outskirts of Grimsby and Cleethorpes, the B1210 and main railway line its eastern edge.

11.4.14 The key characteristics are described within the NELLCA document as:

- "*Virtually flat landform emphasising large skies, though some gentle undulations are evident*
- *Medium to large scale open arable farmland*
- *Open views sometimes interrupted by woodland blocks*
- *High and low voltage pylons have an urbanising effect*
- *Network of busy roads including the A46, A1173, B1210 but also a network of quiet local lanes*
- *Well established low cut native hedgerow field and roadside boundaries with hedgerow trees*
- *Tall native hedgerows and mature trees along lanes*
- *Internal hedgerows tend to be more sparse and fragmented around Aylesby and east of Laceby*
- *Small watercourses; North Beck Drain, Laceby Beck, Waithe Beck, and an extensive network of field drainage dykes*
- *Nucleated settlement pattern of villages and hamlets, scattered farmsteads*
- *The Wanderlust Way (local trail)".*

11.4.15 The Study Area includes 4 Sub Units with borders that fringe the Site. These are identified in Section 6 (Sensitivity and Capacity) of the NELLCA document. The opportunities and recommendations in relation to land use, management and green infrastructure and the units overall sensitivity to change are summarised below.

Grimsby and Cleethorpes Sub Unit GC (i)

11.4.16 This pocket of land is located to the south-east of the Site and its key opportunities and recommendations state that new development should be set within a green infrastructure framework and include structural landscape planting. Existing vegetation should be retained, enhanced and supplemented, including landscape buffers to

minimise visual impact on the wider landscape. Public Rights of Way (PRoW) and drainage dykes should be incorporated into green corridors.

11.4.17 There are also opportunities to enhance vegetation along drainage dykes, conserve the historic field pattern and reinforce hedge lines. It is assessed within the NELLCA document that the overall sensitivity to change is low and the capacity to accommodate development is medium-low.

Healing Sub Unit He (i)

11.4.18 This pocket of land is located to the south of the Site. The detailed recommendations in relation to this sub unit include the provision of new suitable landscape planting to further buffer and contain Meadows Farm, Meadow Cottages and The Meadows as well as screening along the railway corridor to mitigate visual and noise effects. Opportunities include an increase in hedgerow and hedgerow tree cover; improve field margins for biodiversity, hedgerow and woodland enhancement and management including the planting of copses and woodland blocks whilst retaining the visually open character. It is assessed within the NELLCA document that the overall sensitivity to change is low and the capacity to accommodate development is low.

Stallingborough Sub Unit S (i)

11.4.19 This pocket of land is located to the south-west of the Site and includes recommendations for additional planting to buffer the existing residential edge and appropriate planting along the perimeter of any development to minimise impacts on the wider landscape.

11.4.20 Opportunities include the creation of an improved transition between the existing settlement edge and adjacent rural areas. It is assessed within the NELLCA document that the overall sensitivity to change is medium and the capacity to accommodate development is medium- low.

Immingham Sub Unit I (iii)

11.4.21 This pocket of land is located to the west of the Site and includes recommendations for additional landscape planting to further buffer Mauxwell and Highfield Farms as well as along the A180 corridor. An appropriate buffer should also be provided along the south-eastern perimeter of any development to minimise impacts upon the wider landscape.

11.4.22 Opportunities include the creation of an improved transition between the existing settlement edge and adjacent rural areas. It is assessed within the NELLCA document that the overall sensitivity to change is medium-low and the capacity to accommodate development is high-medium.

Table 11.3: Summary of Landscape Character Areas

SCALE	CHARACTER ASSESSMENT	CHARACTER AREA
National	Natural England (2014), NCA Profile 41: Humber Estuary	41: Humber Estuary
	Natural England (2014), NCA Profile 42: Lincolnshire Coast and Marshes	42: Lincolnshire Coast and Marshes
Regional	North East Lincolnshire Landscape Character Assessment, Sensitivity and	Humber Estuary LCA

	Capacity Study 2015 (NELLCA)	
	North East Lincolnshire Landscape Character Assessment, Sensitivity and Capacity Study 2015 (NELLCA)	Lincolnshire Coast and Marshes LCA
Local	North East Lincolnshire Landscape Character Assessment, Sensitivity and Capacity Study 2015 (NELLCA)	Landscape Type 1: Industrial Landscape
	North East Lincolnshire Landscape Character Assessment, Sensitivity and Capacity Study 2015 (NELLCA)	Landscape Type 2: Open Farmland
	North East Lincolnshire Landscape Character Assessment, Sensitivity and Capacity Study 2015 (NELLCA)	Landscape Type 3: Wooded Open Farmland

The Site and Its Immediate Setting

11.4.23 The area is largely flat and typically stands at around 2 m above Ordnance Datum (AOD), largely comprising grassland with an access road to an adjacent pumping station. In the north-east of the Main Development Area there is an existing pond and some scattered scrubby vegetation with discrete sections of free-standing hedgerow. There is also a second pond to the south-west. Drainage ditches run along the northern, western and southern perimeters of the Site.

11.4.24 The area surrounding the Main Development Area immediately to the south and north-west is in agricultural use, with a large polymer manufacturing site (Synthomer (UK) Limited) and the NEWLINCS waste management facility both located to the north beyond South Marsh Road. The Humber Estuary lies around 175 m to the east of the Main Development Area beyond the existing SHBPS cooling water pumping station. The west of the Main Development Area adjoins the existing South Humber Bank Power Station.

11.4.25 Beyond arable and unmanaged land, immediately to the south of the Site, lies a large industrial complex including chemical works and bio-refineries for textile production associated with Lenzing Fibres. There are 2 stacks associated with this industrial complex. This area, and the commercial development beyond, is bordered by medium scale arable farmland with field drain boundaries. Trees are limited to areas of well scattered field boundary trees, occasional copses, planting associated with the dock railway 600 m to the south and screen planting associated with the aforementioned industrial and commercial developments.

11.4.26 The landscape to the south-west of the Site is predominantly arable fields up to and beyond the A180 towards the residential periphery of Great Coates and Healing. In closer proximity is an area of scrub and woodland associated with a large pond south of Oldfleet Drain, approximately 400 m away..

11.4.27 Beyond the existing South Humber Bank Power Station at the west of the site lies arable and unmanaged land. A linear belt of trees associated with the dock railway is

situated 700 m to the west with well managed arable fields and scattered farmsteads between this and the A180 and villages of Stallingborough and Healing, further west.

11.4.28 Arable land to the north-west beyond the existing power station quickly gives way to industrial land uses including gas, oil and vehicle storage facilities. Stacks and plumes are more prevalent in this area. The south and eastern residential periphery of Immingham is situated beyond just within the 5 km Study Area boundary.

11.4.29 Land to the north is occupied by the aforementioned industrial complexes of Synthomer (UK) and NEWLINCS waste management facility. The latter site includes one stack.

11.4.30 High voltage pylons frequently interrupt the horizon to the west of the Site.

Vegetation Cover

11.4.31 The Study Area is characterised by occasional small deciduous woodland blocks and intermittent hedgerow/ scrub boundaries along the transport routes which include road and rail. Marginal planting is often associated with field drains which commonly divide the arable fields.

11.4.32 Agricultural fields within the Study Area are rectilinear and vary in size. Fields in the immediate vicinity are predominantly bordered by large open drains and associated wetland habitat including Bull Rushes. Woodland screen planting to the west and southern perimeter of the South Humber Bank Power Station provides low level screening. Field boundaries closer to the 5 km boundary, beyond the A180, are often comprised of low hedgerows and well scattered hedgerow trees.

11.4.33 Blocks of mature woodland are uncommon and widely spaced throughout remaining areas of greenspace.

11.4.34 The Main Development Area comprises unmanaged rough grassland with sparse scrub and marginal vegetation associated with an open drainage channel to the southern and northern boundaries. This habitat, and that associated with two large ponds, is of local landscape value.

Topography and Drainage

11.4.35 The Main Development Area lies at approximately 2 m AOD. The wider landscape is predominantly flat and low lying, being between 1 and 15 m AOD, with the land rising slightly to the north-west. Localised areas of high ground, rising to around 40 m AOD, lie within open areas of farmland at the westerly extent of the Study Area.

Settlements

11.4.36 Immingham is the largest settlement in the Study Area and lies approximately 3.8 km to the west-north-west of the Proposed Development. The settlement pattern within the Study Area comprises small and medium sized villages including Stallingborough and Healing. The suburbs of Grimsby, including Great Coates, Little Coates and West Marsh, is located to the south. Isolated properties and farmsteads are scattered throughout the Study Area.

11.4.37 Larger settlements in the Study Area are connected by the A180 which runs in a north-west/ south-east direction linking Immingham with Grimsby. The smaller settlements of Stallingborough and Healing are linked by the B1210 to the south-west, whilst the A1136 to the south links the suburbs of Grimsby. Two rail lines run parallel to the A180. The rail line to the north links the docks of Immingham and Grimsby and is crossed at road level. The rail link to the south of the A180 forms part of the Northern line from Cleethorpes to Hull. Crossing points are at road level along minor roads with major roads crossing via bridges. A number of minor roads and tracks link smaller settlements and farmsteads within the Study Area.

11.4.38 PRoWs associated with the Humber Estuary or linking settlements, are presented on Figure 11.3 in ES Volume II.

11.4.39 There are no long distance walking or cycling routes that pass through the Study Area. However, a route along the Humber Estuary approximately 175 m to the east of the Site joins a local path linking to Hobson Way 500 m to the north. There are no other PRoWs within a 1.5 km radius.

Value of the Landscape Receptor

11.4.40 The 5 km Study Area contains no national statutory designations relating to landscape value. The northern border of the Lincolnshire Wolds AONB lies approximately 8.5 km to the south-west of the Proposed Development and, as a result of distance, the landscape effects have been assessed to be negligible. The Humber Estuary also has national designations for ecology in the form of a Site of Special Scientific Interest (SSSI), Special Protection Area, Special Area of Conservation, and Ramsar.

11.4.41 There are no Registered Parks and Gardens located within the Study Area.

11.4.42 The Study Area has no local designations relating to landscape value, although mature woodland copses, hedgerows and marginal vegetation associated with drainage ditches between fields are significant features within landscape dominated by medium to large scale arable fields.

11.4.43 The Main Development Area includes two ponds and is bordered by vegetated drainage channels to the south and north.

11.4.44 Table 11.4 below describes the factors relating to the value of the landscape at the Site and Study Area scale.

Table 11.4: Landscape value factors

FACTOR	STUDY AREA	SITE
Landscape quality (condition)	The landscape of the Study Area includes open, low lying agricultural land influenced by industry, power stations, pylons and transport routes.	Land-use relates to power production, and is typical of the industrial land uses adjacent the estuary but not the wider Study Area inland.
Scenic quality	The Study Area is low lying, allowing views across an agricultural landscape to settlement edges and industrial sites/docks. Large structures such as power station chimney stacks and infrastructure associated with energy and powerline routes are widely visible across the Study Area.	The area is strongly influenced by its industrial past and has little scenic quality. However, parts are occupied by ponds and well vegetated perimeter drainage channels which provide visual interest.
Rarity	The landscape of the Study Area is typical of the wider landscape context regionally.	The area contains two ponds which are an uncommon feature locally.

FACTOR	STUDY AREA	SITE
Representativeness	The Study Area does not contain elements or characteristics that are particularly important examples.	n/a
Conservation interests	The Study Area contains a SSSI, a Scheduled monument west of Stallingborough, listed buildings and a conservation area at Great Coates.	The area does not contain any conservation interests though it borders the Humber Estuary SSSI.
Recreation value	Taken as a whole, the landscape of the Study Area is of some recreational value, restricted mainly to the use of, PRoWs, the Humber Estuary and village sports and recreation grounds.	The area has no recreational value and is not accessible to the public.
Perceptual aspects	The Study Area contains some areas which can be regarded as tranquil and remote. However, access tends to be limited to PRoWs and minor local roads. Distant views are often interrupted by transport corridors, pylons, chimney stacks, industrial development, housing and woodland blocks.	Open views are possible into the Main Development Area which is partly bordered by large arable fields. The adjacent power station is occupied by three stacks, two of which broaden significantly towards the base. They are visually prominent features where views are uninterrupted.
Overall landscape value	**Low** The Study Area includes large areas of farmland whilst being heavily influenced by industrial developments and transport corridors. Valued at local level.	**Low** The Site is an area of previously developed land with no important landscape features

Overall Character and Key Characteristics of the Study Area

11.4.45 The topography of the Study Area is a considerable factor in defining the character of the area with the relatively flat landscape often interrupted by broken lines of vegetation associated with transport corridors, and to a lesser extent, field boundaries. Long distance views are available from higher areas in the Study Area and coinciding spaces between areas of vegetation.

11.4.46 The published landscape character assessment, including Humber Estuary (NCA 41), recognises that there are strong contrasts within the landscape. Tranquil, open and expansive areas dominated by farming contrast with large towns such as Immingham, and the industrial complexes along the estuary itself.

11.4.47 The North East Lincolnshire (NEL) Landscape Character Assessment, prepared in 2015, identified three Local Landscape Types in the Study Area. These were refined

slightly and re-named in the 2015 NEL Landscape Character Assessment, Sensitivity and Capacity Study:

- Landscape Type 1: Industrial Landscape;
- Landscape Type 2: Open Farmland; and
- Landscape Type 3: Wooded Open Farmland.

Existing Visual Baseline

Visual Receptors

11.4.48 In order to identify receptors with potential views of the main development area, a ZTV has been produced that identifies what percentage of the structure is likely to be visible. The ZTV is presented on Figure 11.4 in ES Volume II.

11.4.49 Potential viewpoints and receptors were identified throughout the Study Area. The potential receptors and their existing views are described in Appendix 11B in ES Volume III and presented on Figure 11.1 in ES Volume II.

11.4.50 Visibility within the Study Area is generally widespread as a result of the low land form, though intervening features such as hedgerows, woodland blocks, road/rail embankments and settlements restrict views.

Dynamic Views

11.4.51 Users of the main transport routes may gain dynamic views towards the Site, to varying degrees, dependent on intervening structures, screening vegetation, elevation and direction of travel.

11.4.52 Users of the A180, travelling in a south-easterly direction, first glimpse views of the existing power station from approximately 4.5 km from the Site and from 2.1 km travelling from the west. Views are often wide and expansive where screening vegetation, cuttings and roadside development do not screen the views. Industrial infrastructure along the Humber Estuary and associated power lines are often the most prominent skyline feature on clear days.

11.4.53 Users of the local railway lines within the Study Area gain transient, dynamic views of the existing power station. This is seen in the context of a landscape containing other large scale structures such as power stations, overhead power lines, highway and the dockside infrastructure of Immingham and Grimsby.

11.4.54 There are a number of minor local roads in close proximity to the Site which provide links between farmsteads and settlements. Generally views from these roads will be dynamic and ever changing. Views are often broken or restricted by screening vegetation and built form located along the road corridors. Where views are open, the structures associated with the existing South Humber Bank Power Station are clearly visible, appearing most prominently at a distance within 1.5 km of the Site.

Visual Receptors and Representative Viewpoints

11.4.55 Through consultation with North East Lincolnshire Council (NELC), a total of ten final representative viewpoints have been chosen to illustrate the typical range of views of the Site from within the Study Area, as listed in Table 11.5 below.

11.4.56 A summary table of consultations with NELC regarding proposed viewpoints are presented in Table 11.2.

Summary of Visual Baseline

11.4.57 The area is characterised by large scale existing industrial developments including the existing South Humber Bank Power Station, chemical engineering installations, waste disposal and oil and gas facilities. These areas are often separated by small sections of arable farmland which become more extensive further west and south towards the outskirts of local villages. These are recognisable features within the local landscape. The relatively flat landscape is often interrupted by broken lines of vegetation associated with transport corridors and field boundaries. However, long distance views are available through and over existing areas of vegetation to taller industrial buildings and structures on the skyline to the east.

11.4.58 Recent planting to the west and south-west perimeter of the South Humber Bank Power Station currently offers screening to ground level infrastructure.

11.4.59 Views available from receptors range from close proximity to long distance. A number of receptors are located within villages and to the perimeter of surrounding suburban areas. Views tend to be from the edges of settlements or PRoW where there is limited intervening vegetation and structures restricting views.

11.4.60 Distant views from PRoW within the nearby Lincolnshire Wolds AONB were recorded at a distance of 10 km as requested by NELC and demonstrate the scale and limited impact of the Proposed Development.

Future Baseline

11.4.61 For the purpose of this assessment, the future baseline is considered for the year 2028 (the anticipated period of opening).This accounts for a 'worst case' scenario 2 phase construction period where the construction phases (each lasting 3 years) commence 5 years apart and do not overlap. The future baseline is a prediction of 2028 conditions if the Proposed Development was not progressed.

11.4.62 In 2028 the future baseline conditions are expected to be more industrial in nature than described for the existing baseline. It is assumed that there will be new areas of commercial and industrial development north and south of the docks rail link and possible residential expansion around existing settlement boundaries within the wider Study Area. It is assessed that the general landscape character within this area of the Humber Estuary would remain, but with large scale industrial developments covering a greater area. Refer to Chapter 17 Cumulative Effects for current details on proposed new developments.

11.4.63 It is assessed that the Study Area, close to the Humber Estuary, will continue to be influenced by chemical engineering, waste disposal, oil and gas facilities, power station complexes, large scale industrial buildings and transport corridors.

Table 11.5: Final Representative Viewpoints

VIEWPOINT ID	NAME & LOCATION	RECEPTOR TYPE	GRID REFERENCE	DESCRIPTION OF VIEW
1	Farmshop Hotel A180	Hotel and Business users	518804, 411844	Views from Stallingborough Road Farmshop Hotel in a north-easterly direction, towards the existing South Humber Bank Power Station site. The skyline is interrupted by power lines and pylons in the mid foreground and the existing power station infrastructure in the background. The views across flat arable farmland are interrupted by scattered hedgerow trees and blocks of woodland. Overall the baseline view is assessed as typical of the rural context, with some detracting features but low value and an ordinary view with no recognised quality: **Low** in value.
2	Brickfield House South Marsh Rd	Residential users	521293, 412788	Views from the verge of South Marsh Road (adjacent property rear garden) in a north-easterly direction towards the existing South Humber Bank Power Station site. Views from the rear of the property are oblique and mostly blocked by a 3 m high beech hedge garden boundary. The view is predominantly arable farmland with occasional vegetation groups filtering views. Industrial infrastructure north of Grimsby is visible on the horizon with electricity pylons in the mid foreground. Trees and scrub, associated with rail corridors to the north-east, help break up the view of lower level infrastructure. Overall the baseline view is assessed as typical of the rural context, with some detracting features but low value and an ordinary view with no recognised quality: **Low** in value.

VIEWPOINT ID	NAME & LOCATION	RECEPTOR TYPE	GRID REFERENCE	DESCRIPTION OF VIEW
3	Carr Lane Footpath	PRoW	521096, 412143	Representative of views from the public footpath close to Carr Lane Nursery. Views in a north-easterly direction across arable farmland. Views are partially screened at a lower level by the raised road embankment to the A180 and associated scattered trees and scrub. Industrial infrastructure north of Grimsby is visible on the horizon to the east with electricity pylons in the mid foreground. Views north are screened by blocks of woodland. Overall the baseline view is assessed as typical of the rural context, with some detracting features but low value and an ordinary view with no recognised quality: **Low** in value.
4	Primrose Cottage	Residential	521902, 412050	Representative of views from the, currently unoccupied, property driveway. Views from the rear of the property are currently oblique and blocked by evergreen hedging to the garden boundary and mature trees in the direction of the South Humber Bank Power Station. No current view from property due to intervening vegetation indicated to right on viewpoint image. Overall the baseline view is assessed as typical of the rural context, with some detracting features but low value and an ordinary view with no recognised quality: **Low** in value.

VIEWPOINT ID	NAME & LOCATION	RECEPTOR TYPE	GRID REFERENCE	DESCRIPTION OF VIEW
5	Beechwood Farm Carvery	Inn/ Restaurant	523357, 411478	Representative 180° views north across extensive flat arable fields from windows directly facing the South Humber Bank Power Station. Distant uninterrupted views across large scale arable farmland which contains elements of industrial infrastructure. Infrastructure on the skyline to the north and north-east includes chimney stacks and large scale industrial sheds associated with the Blue Star Lenzing site. Pylons and lower level power lines are also frequent. Overall the baseline view is assessed as typical of the rural context, with some detracting features but low value and an ordinary view with no recognised quality and/or is unlikely to be visited specifically to experience the views available: **Low** in value.
6	Sunk Island	PRoW	523506, 418861	360° views from public footpath close to Stone Creek House and public road. The Humber Estuary affords views towards a wide industrial skyline from Grimsby to Immingham in a south westerly direction. Infrastructure dominates this skyline and includes frequent stacks, silos, sheds and dockside cranes. Uninterrupted panoramic views across the Humber Estuary. Contains a significant number of skyline detractors in the direction of view. Overall the baseline view is assessed to be valued locally, although is not widely recognised for its quality and has low visitor numbers. The view has no strong cultural associations: **Medium** in value.

VIEWPOINT ID	NAME & LOCATION	RECEPTOR TYPE	GRID REFERENCE	DESCRIPTION OF VIEW
7	Immingham south	Residents / PRoW users	518577, 413771	Representative partially elevated (8 m AOD) 180° views in a south-easterly direction from a public footpath across arable fields close to the southern residential periphery of Immingham village. An uninterrupted foreground affords far reaching views in the direction of the Site. Power lines cross the view in the mid and far distance. Overall the baseline view is assessed as typical of the rural context, with some detracting features but low value and an ordinary view with no recognised quality and/or is unlikely to be visited specifically to experience the views available: **Low** in value.
8	Mauxhall Farm, footpath users	Residents / PRoW users	519177, 413200	Representative view from a public footpath in an easterly direction across grazing pasture and the raised alignment of the A1173. Views are partially obscured by intermittent scrub and tree planting along the road embankment. Power lines occupy the near and mid distance with larger pylons occupying the landscape beyond. View across grazing land and A1173 road embankment. Contains visual detractors including power lines the industrial skyline along the Humber estuary. Overall the baseline view is assessed as typical of the rural context, with some detracting features but low value and an ordinary view with no recognised quality and/or is unlikely to be visited specifically to experience the views available: **Low** in value.

VIEWPOINT ID	NAME & LOCATION	RECEPTOR TYPE	GRID REFERENCE	DESCRIPTION OF VIEW
9	Middle Drain footpath users	PRoW	522276, 413642	Representative close proximity view from a public footpath in an east, south-easterly direction across an arable field to the South Humber Bank Power Station and Main Development Area. The view is uninterrupted and dominated by infrastructure associated with the South Humber Bank Power Station and adjacent waste management facility. Overall the baseline view is assessed as typical of the rural context, with some detracting features (existing power, chemical and waste related infrastructure) but low value and an ordinary view with no recognised quality and/or is unlikely to be visited specifically to experience the views available: . **Low** in value.
10	Irby Holmes Wood (east) footpath users	PRoW	520833, 403354	Representative view from the closest PRoW within the Lincolnshire Wolds AONB that offers an uninterrupted 180° view from a raised location (74 m AOD). Views are distant and uninterrupted in the direction of the Main Development Area. However, at approximately 10 km, the existing South Humber Bank Power Station is not visually significant within the wider view which includes local wind turbines, distant pylons and stacks which break the skyline. Overall the baseline view is a recognised high quality view, well-frequented and/or promoted as a beauty spot/visitor destination: **High** in value.

11.5 Development Design and Impact Avoidance

11.5.1 The Main Development Area will be largely cleared for construction works. Any future landscape proposals will seek to retain existing boundary features such as drainage channels and associated habitat, including fragmented hedgerow where possible.

11.5.2 Supplementary planning guidance within the Countryside Design Summary (Estell Warren Landscape Architects for NELC, 1999) regarding industry and infrastructure developments within the Humber Estuary will inform development of the detailed design of the Proposed Development. In particular, the following design principles within the Countryside Design Summary will be considered where required:

- how the built form of proposed structures relates to landscape character;
- how colour may be used to either integrate the Proposed Development with the landscape, reflect the character of the surrounding landscape or to relate to what the buildings will be seen against;
- how the Proposed Development will relate to existing landscape or built features and its immediate setting in views from key locations;
- whether provision of screening and/or reduction of massing may be utilised where sensitive views are identified; and
- how landscape mitigation may reflect and reinforce local character.

11.5.3 The following impact avoidance measures will either be incorporated into the design or will be standard construction or operational methods. These measures have therefore been taken into account during the impact assessment process described in this chapter:

- suitable materials will be used, where possible, in the construction of structures to reduce reflection and glare and to assist with breaking up the massing of the buildings and structures;
- visual clutter will be minimised where possible through careful design; and
- lighting required during the construction and operation stages of the Proposed Development will be designed to reduce unnecessary light spill outside of the Site boundary.

11.6 Likely Impacts and Effects

11.6.1 This section identifies the potential impacts resulting from the Proposed Development. The magnitude of impacts are defined with reference to the relevant baseline conditions (existing or future, as appropriate), and effects are determined in accordance with the identified methodology presented within Appendix 11A in ES Volume III.

11.6.2 Landscape impacts and effects are described in Tables 11.7 (construction) and 11.8 (operation).

Landscape

11.6.3 The potential landscape impacts of the Proposed Development relate to the visibility of new landscape features (temporary and permanent), including how this affects the perceptual qualities and tranquillity of a character area. In the case of the construction and decommissioning of the Proposed Development this will relate to the following:

- movement of plant and heavy goods vehicles, both on site and in the surrounding area;

- temporary stockpiling of earth and storage of materials;
- establishment of site compounds resulting in temporary structures to serve the workforce;
- crane activity to assist high level construction/decommissioning works;
- building construction/decommissioning, including the new stacks; and
- external lighting to illuminate site operations after dark.

11.6.4 In the case of the operational phase of the Proposed Development, impacts will relate to the following:

- introduction of permanent large scale structures including two stacks and boiler house within the Proposed Development.

Landscape Capacity

11.6.5 It is considered that the landscape has a high capacity to accommodate the Proposed Development due to the adjacent structures associated with the South Humber Bank Power Station and large scale infrastructure within the wider Study Area.

11.6.6 Large scale industrial buildings/ structures and transport corridors located within the Study Area are characteristic features in the landscape. As such it is considered that the construction of the Proposed Development will not introduce any new uncharacteristic landscape elements to the Study Area.

Specific Aesthetic or Perceptual Aspects

11.6.7 Large scale industry and power generation is a well-established land use within the Study Area and within the landscape immediately adjacent to the Main Development Area. Although visible within the more remote areas of the Study Area, it is anticipated that the presence of the Proposed Development will not significantly affect the aesthetic and perceptual qualities of the local landscape along the Humber Estuary.

11.6.8 During construction and decommissioning there will be changes in the aesthetic and perceptual qualities within close proximity to the Proposed Development through the movement of plant and the introduction or removal of large scale structures in various stages of development and decommissioning. At operation, the aesthetic and perceptual qualities will be altered as a result of the increased mass and height of buildings behind the existing power plant.

Assessment of Landscape Effects

11.6.9 The main potential for effects on landscape character relates to the inter-visibility between the Proposed Development and the surrounding LCAs. Given that the Proposed Development is located within an area characterised by large scale industrial, chemical facilities, waste facilities, oil/gas facilities and power development, it is considered that it is likely to be congruous with its context. Consequently, there is a low potential for the landscape character of the surrounding areas to be affected.

11.6.10 Table 11.6 below, provides an assessment of the sensitivity of each landscape receptor. Refer to tables 11A.1 and 11A.2 in Appendix 11A Landscape and Visual Impact Assessment Methodology in ES Volume III for a description of characteristics in relation to indicative criteria levels.

11.6.11 Tables 11.7 to 11.8 provide an assessment of the anticipated magnitude of landscape impacts and the classification of effects on each landscape receptor at construction and operation stages.

11.6.12 A full description of all criteria used to assess the above is presented within Appendix 11A in ES Volume III.

11.6.13 No significant effects at the National Character Area scale are anticipated and as such they are not considered further in this assessment.

Table 11.6: Landscape Sensitivity Assessment

LANDSCAPE RECEPTOR	SENSITIVITY ASSESSMENT		
	VALUE	SUSCEPTIBILITY	SENSITIVITY
North East Lincolnshire Landscape Character Assessment 2015			
Humber Estuary LCA	Medium	Agricultural and semi-natural areas lie alongside existing large scale industrial developments including power stations and the A180 corridor. The LCA has capacity to absorb the type of development proposed. Susceptibility to change is therefore considered to be low.	Medium
Lincolnshire Coast and Marshes LCA	Medium	As a result of the low-lying, relatively flat landscape and presence of major energy and transport infrastructure, this LCA does offer some capacity to absorb the type of development proposed. Susceptibility to change is therefore considered to be medium.	Medium
Industrial Landscape: LT 1	Low	The low-lying, relatively flat landscape and presence of existing oil and gas refineries and other large scale industrial units, results in the capacity to absorb the type of development proposed. Susceptibility to change is therefore considered to be low.	Low
Open Farmland: LT 2	Medium	A very flat landform containing high voltage pylons, a network of busy roads, Grimsby to Doncaster Railway Line and views of industrial developments and docks. LT 2 has some capacity to absorb this type of development. Susceptibility to change is therefore considered to be medium.	Medium
Wooded Open Farmland: LT 3	Medium	Flat landform of arable farmland with high voltage pylons and a network of busy roads. LT 3 has some capacity to absorb this type of development. Susceptibility to change is therefore considered to be medium.	Medium

LANDSCAPE RECEPTOR	SENSITIVITY ASSESSMENT		
	VALUE	SUSCEPTIBILITY	SENSITIVITY
Site Landscape			
Trees/Scrub	Low	A very low amount of trees means that this receptor is robust and can accommodate changes due to the Proposed Development. As a result susceptibility to change is considered to be low.	Low
Grassland	Low	Grassland within the Main Development Area is commonplace in terms of landscape character. Resultantly it can accommodate change related to the Proposed Development and susceptibility is considered to be low.	Low

11.6.14 Due to the existing industrial character of the setting there is a low likelihood that the effects of the Proposed Development during construction will be sufficient to result in an inherent change to the existing landscape character at a local scale and negligible at a regional or national scale. Overall, the influence will be most significant in the localised landscape immediately adjacent to the Proposed Development.

11.6.15 A full description of the criteria used to assess the above is presented within Appendix 11A in ES Volume III.

Table 11.7: Assessment of landscape effects during a 2 phase construction (compared to future baseline)

LANDSCAPE TYPE	SENSITIVITY OF RECEPTOR	DESCRIPTION OF IMPACT	PREDICTED MAGNITUDE OF IMPACT	CLASSIFICATION OF EFFECT
North East Lincolnshire Landscape Character Assessment 2015				
Humber Estuary LCA	Medium	The Proposed Development lies wholly within this LCA. The scale and extent of the change in the baseline character will be localised, of medium duration and reversible. The magnitude of effect on the landscape character is assessed as low, reflecting the limited geographical extent of the change, the nature of construction activity, short term of each construction phase and reversible nature.	Low	Minor adverse (not significant)
Lincolnshire Coast & Marshes LCA	Medium	The Proposed Development lies outside of this LCA but will introduce construction activities on the roads within it. Due to existing views of large scale power complexes and transport infrastructure which lie within the adjacent landscape it is considered that the Proposed Development phases will have limited potential to affect the landscape character, perceptive qualities including tranquillity of the LCA in the short term of each construction phase.	Low	Minor adverse (not significant)
Lincolnshire Wolds LCA	Medium	The Proposed Development lies well outside of this LCA and will not introduce construction activity within it. Due to existing distant views of large scale power complexes, pylons and transport infrastructure it is considered that the Proposed Development phases will have limited potential to affect the landscape character, perceptive qualities including tranquillity of the LCA in the short term of each construction phase.	Low	Minor adverse (not significant)

LANDSCAPE TYPE	SENSITIVITY OF RECEPTOR	DESCRIPTION OF IMPACT	PREDICTED MAGNITUDE OF IMPACT	CLASSIFICATION OF EFFECT
Industrial Landscape: LT1	Low	The Proposed Development will introduce construction activities to the LT, immediately adjacent to other large scale power developments The introduction of construction activities will increase the massing of large scale structures within this LT, increasing the influence that the existing power station site has on the wider LT. The introduction of construction activities does have the potential to affect the landscape character and perceptive qualities, including tranquillity of this LT in the short term within a localised area. The scale and extent of the change in the baseline character will be localised, of medium duration and reversible. The magnitude of effect on the landscape character is assessed as low, reflecting the limited geographical extent of the change, the nature of construction activity, medium duration and reversible nature.	Medium	Minor adverse (not significant
Open Farmland: LT2	Medium	The Proposed Development lies outside of this neighbouring LT but will introduce construction activities along major and minor roads within it and limited views from it. Due to existing views of large scale power, energy, chemical complexes and transport infrastructure which lie within the adjacent landscape it is considered that the Proposed Development phases will have limited potential to affect the landscape character, perceptive qualities including tranquillity of the LT in the short term of each construction phase.	Low	Minor adverse (not significant

LANDSCAPE TYPE	SENSITIVITY OF RECEPTOR	DESCRIPTION OF IMPACT	PREDICTED MAGNITUDE OF IMPACT	CLASSIFICATION OF EFFECT
Wooded Open Farmland: LT3	Medium	The Proposed Development lies outside of this LT but will introduce construction activities along major roads adjacent, minor roads within it and limited views from it.	Very Low	Negligible adverse (not significant)
Sloping Farmland: LT5	Medium	The Proposed Development lies outside of this LT but could introduce intermittent construction activities along minor roads within it with limited views from it.	Very Low	Negligible adverse (not significant)
High Farmland: LT6	Medium	The Proposed Development lies outside of this LT. Locally minor roads and distance (11 km) from the Proposed Development indicates that construction traffic will not affect this landscape with very limited views from it.	Very Low	Negligible adverse (not significant)
Nationally important landscape areas				
Lincolnshire Wolds AONB	High	The Proposed Development lies over 8 km to the north-east of this landscape designation away from major transport routes. Views to the Proposed Development are distant and partially obscured by the existing South Humber Bank Power Station. The wider views of the Humber Estuary afforded by higher ground includes the busy skyline of Grimsby and Immingham docks and major infrastructure associated with the oil, gas, chemical and power industries. The introduction of construction activities will have limited potential to affect the landscape character and perceptive qualities, including tranquillity, of this of this designated landscape in the short term of each construction phase.	Very Low	Negligible (not significant

LANDSCAPE TYPE	SENSITIVITY OF RECEPTOR	DESCRIPTION OF IMPACT	PREDICTED MAGNITUDE OF IMPACT	CLASSIFICATION OF EFFECT
Proposed Development Landscape				
Trees/Scrub	Low	This habitat will be removed to allow for construction.	Low	Negligible adverse (not significant)
Grassland	Low	This habitat will be removed to allow for construction.	Low	Negligible adverse (not significant)

Table 11.8: Assessment of landscape effects during operation (compared to future baseline)

LANDSCAPE TYPE	SENSITIVITY OF RECEPTOR	DESCRIPTION OF IMPACT	PREDICTED MAGNITUDE OF IMPACT	CLASSIFICATION OF EFFECT
North East Lincolnshire Landscape Character Assessment 2015				
Humber Estuary LCA	Medium	The Proposed Development lies within this LCA and thus has potential to have a direct impact. The Proposed Development will introduce larger and taller buildings and stacks compared to the existing South Humber Bank Power Station. Due to the presence of other large scale industrial power and chemical developments and road infrastructure within the LCA the Proposed Development will have a reduced influence on the overall LCA. However, it will still have the potential to affect the landscape character and perceptive qualities, including tranquillity, of the LCA within a localised area. As a result of the increase in the massing and scale of the Proposed Development it is anticipated that there will be a low impact on landscape character and perception compared with the future baseline scenario.	Low	Minor adverse (not significant)
Lincolnshire Coast & Marshes LCA	Medium	The Proposed Development lies outside of this LCA but will introduce larger and taller buildings compared to the existing South Humber Bank Power Station. The scale and extent of the change in the baseline character will be localised, of long duration and reversible. The magnitude of effect on the landscape character is assessed as low, reflecting the limited geographical extent of the change and reversible nature.	Low	Minor adverse (not significant)

LANDSCAPE TYPE	SENSITIVITY OF RECEPTOR	DESCRIPTION OF IMPACT	PREDICTED MAGNITUDE OF IMPACT	CLASSIFICATION OF EFFECT
Lincolnshire Wolds LCA	Medium	The Proposed Development lies well outside of this LCA and will have a limited impact on the existing distant views of large scale power complexes, pylons and transport infrastructure. It is considered that the Proposed Development will have limited potential to affect the landscape character, perceptive qualities including tranquillity of the LCA.	Low	Minor adverse (not significant)
Industrial Landscape: LT1	Low	The Proposed Development lies within this LT and thus has potential to have a direct impact. The Proposed Development will introduce a larger overall power station complex compared to the existing baseline. Due to the close proximity of other large scale power developments and associated infrastructure the Proposed Development will have a reduced influence on the overall LT although still has the potential to affect the landscape character and perceptive qualities, including tranquillity, within a localised area. As a result of the increase in the massing and scale of the Proposed Development it is anticipated that there will be a minor adverse impact on landscape character and perception compared with the future baseline scenario.	Medium	Minor adverse (not significant)

LANDSCAPE TYPE	SENSITIVITY OF RECEPTOR	DESCRIPTION OF IMPACT	PREDICTED MAGNITUDE OF IMPACT	CLASSIFICATION OF EFFECT
Open Farmland: LT2	Medium	The Proposed Development lies outside of this neighbouring LT but will introduce larger and taller buildings compared to the existing South Humber Bank Power Station. Due to existing views of large scale power, energy, chemical complexes and transport infrastructure which lie within the adjacent landscape it is considered that the Proposed Development will have limited potential to affect the landscape character, perceptive qualities, including tranquillity, of the LT.	Low	Minor adverse (not significant
Wooded Open Farmland: LT3	Medium	The Proposed Development lies outside of this LT but will introduce larger and taller buildings compared to the existing South Humber Bank Power Station. Due to existing views of large scale power, energy, chemical complexes and transport infrastructure which lie within the adjacent landscape it is considered that the Proposed Development will have limited potential to affect the landscape character, perceptive qualities, including tranquillity, of the LT.	Low	Minor adverse (not significant
Nationally important landscape areas				

LANDSCAPE TYPE	SENSITIVITY OF RECEPTOR	DESCRIPTION OF IMPACT	PREDICTED MAGNITUDE OF IMPACT	CLASSIFICATION OF EFFECT
Lincolnshire Wolds AONB	High	The Proposed Development lies over 8 km to the north-east of this landscape designation. Views to the Proposed Development are distant and partially obscured by the existing South Humber Bank Power Station. The wider views of the Humber Estuary afforded by higher ground includes the busy skyline of Grimsby and Immingham docks and major infrastructure associated with the oil, gas, chemical and power industries. The introduction of larger and taller buildings compared to the existing South Humber Bank Power Station will have limited potential to affect the landscape character and perceptive qualities, including tranquillity, of this designated landscape.	Very Low	Negligible (not significant)
Site Landscape				
Trees/Scrub	Low	These landscape elements will be replaced by the constituent structures and associated hard and soft landscaping within the Proposed Development.	Low	Minor adverse (not significant)
Grassland	Low	This will be removed and replaced by the constituent structures and associated hard and soft landscaping within the Proposed Development.	Low	Minor adverse (not significant)

Assessment of Visual Amenity Effects

11.6.16 Potential visual effects arising from the construction/decommissioning activities may include:

- the introduction of stationary and moving pilling rigs, cranes and other high level construction machinery;
- the introduction of low level construction operations including heavy plant movements, welfare facilities, laydown and storage areas;
- construction vehicles entering and leaving the Proposed Development; and
- the progressive construction/decommissioning of tall structures.

11.6.17 Potential visual effects arising from the operation of the Proposed Development may include the introduction of:

- a large building with a height of up to 59 mAOD;
- two separate chimney stacks with heights of up to 102 mAOD.
- an air cooled condenser located in a separate but closely located lower level structure;
- plumes, that are expected to be visible an average of 77% of days in an average year (based on plume results from the last 5 years);
- a sub-station located in a separate low level structure to the south of the Main Development Area;
- above ground equipment, reagent silos, ammonia tank and a fuel oil tank to the north facing boundary immediately adjacent to the building;
- above ground fire water pump house and fire water tank close to the south facing boundary; and
- other minor associated infrastructure and auxiliaries/services including a driver welfare building, an HGV holding area, car parking areas, access roads, bird habitat screen fencing to the southern perimeter and perimeter security fencing.

11.6.18 Potential visual effects of the Proposed Development at construction and operation are considered in Table 11.9 by reference to representative viewpoints. The viewpoints were chosen in consultation with NELC as a range of representative views of the Proposed Development. The assessments contained within this table should be read in conjunction with Figures 11.6 to 11.15 which illustrate the baseline situation at each viewpoint in ES Volume II. A series of photomontages have been prepared and presented in Figures 11.16 to 11.19 in ES Volume II which illustrate the likely visibility of the Proposed Development at four of the assessed viewpoints chosen through professional judgement.

11.6.19 The assessment of effects is based on a comparison of the future baseline conditions against the conditions within the Proposed Development.

Visible Plumes

11.6.20 The Air Quality dispersion modelling, that has been completed to inform Chapter 7: Air Quality, has provided data to enable an assessment of plume visibility for the Proposed Development. Using Met office data from the past 5 years the ‘average’ visible plume length is expected to be 90m with plumes visible an average of 77% of the time. The longest plume can be expected to extend for 855 m with plumes over 100 m visible 35% of the time on average.

Table 11.9: Assessment of effects on visual amenity during construction and operation (and decommissioning where relevant)

Viewpoint 1: Farmshop Hotel, A180				
Grid reference	**Receptor type**	**Elevation (mAOD)**	**Distance from Site (km)**	**Direction of view**
518804, 411844	Hotel and Business users	13.4	4.40	North-east
TWO PHASE CONSTRUCTION				
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
View forms secondary focus for receptors at this location due to presence of alternative views. Therefore susceptibility is considered to be medium.		Low		*Medium*
Size/ scale, duration and reversibility of impact at construction				
Medium range views of construction activities will be limited to upper level activities as a result of intervening low level vegetation on the horizon. Visible construction activities will appear to the left of the existing South Humber Bank Power Station. As the tallest structures are constructed they will become more visible over the worst case, two phase construction period. The structures will be viewed in the context of existing structures, and as a larger scale addition to the existing power station structures. The impact of each construction phase will be short term and reversible.				
Magnitude of impact at construction				*Low*
Significance of effect at construction		Hotel/Farmshop visitors		Minor adverse (not significant)
OPERATION				
Visual susceptibility to change at operation		**Value of view**		**Sensitivity of receptor**
There is no change to susceptibility at this assessment scenario. Therefore susceptibility is considered to be medium.		Low		*Medium*
Size/ scale, duration and reversibility of impact at operation				
Views of ground level structures will be limited by intervening vegetation. The Proposed Development will be observed to the left of the existing South Humber Bank Power Station, and will extend the presence of associated industrial structures. The new development will be largely characteristic of the existing skyline view extending south with large power lines on the horizon the north. The structures will be larger in scale and mass than the existing adjacent power station facility. The upper sections of the main building and the adjacent stacks (including plumes during certain climatic conditions) will be visible. The impact will be long term and reversible.				

Magnitude of impact at operation				*Low*
Significance of effect at operation		Hotel/Farmshop visitors		Minor adverse (not significant)
Viewpoint 2: Brickfield House, South Marsh Rd				
Grid reference	**Receptor type**	**Elevation (mAOD)**	**Distance from Proposed Development (km)**	**Direction of view**
521293, 412788	Residential	8.7	1.75	North-east
TWO PHASE CONSTRUCTION				
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
View forms secondary focus for receptors at this location due to presence of a screening hedge and oblique views from windows. However, residential use means susceptibility is considered to be high.		Low		*Medium*
Size/ scale, duration and reversibility of impact at construction				
Views of ground level construction operations will be limited by distant intervening vegetation and taller structures by a close proximity garden boundary beech hedge. As the tallest structures are constructed they will become more visible over the worst case, two phase construction period from upper storey gable end window. Views will be oblique. The impact of each construction phase will be short term and reversible.				
Magnitude of impact at construction				*Low*
Significance of effect at construction		Residents		Minor adverse (not significant)
OPERATION				
Visual susceptibility to change at operation		**Value of view**		**Sensitivity of receptor**
There is no change to susceptibility at this assessment scenario. Therefore susceptibility is considered to be high.		Low		*Medium*
Size/ scale, duration and reversibility of impact at operation				

New structures will be observed to the left of the existing South Humber Bank Power Station and will extend the presence of industrial structures in the view. Although a dominant feature in terms of scale and mass the Proposed Development will be largely characteristic of the type of industry locally. The structures will be larger than those associated with the adjacent South Humber Bank Power Station. The upper sections of the proposed main building, stacks and plumes (during certain climatic conditions) will be visible. Views will be oblique from an upper storey gable end window. The impact will be long term and reversible.		
Magnitude of impact at operation		*Low*
Significance of effect at operation	Residents	Minor adverse (not significant)

Viewpoint 3: Carr Lane PRoW				
Grid reference	**Receptor type**	**Elevation (mAOD)**	**Distance from Proposed Development (km)**	**Direction of view**
521096, 412143	Footpath users	4.3	2.25	North-east
TWO PHASE CONSTRUCTION				
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
Construction operations form a secondary focus for receptors at this location due to presence of industrial views (which are characteristic of the area) and an intervening major road in close proximity. Susceptibility is considered to be medium.		Low		*Medium*
Size/ scale, duration and reversibility of impact at construction				
Views of ground level construction operations will be limited by the A180 road embankment and associated scattered trees. The main building and new stacks will emerge behind and immediately adjacent South Humber Bank Power Station stacks and above intervening existing vegetation. As the tallest structures are constructed over the worst case, two phase construction period, they will be viewed in the context of the existing South Humber Bank Power Station structures. The main building will be larger in scale and mass and will appear close to the left of the existing South Humber Bank Power Station. The impact of each construction phase will be short term and reversible.				
Magnitude of impact at construction				*Low*
Significance of effect at construction		Footpath users		Minor adverse (not significant)
OPERATION				

Visual susceptibility to change at operation	**Value of view**	**Sensitivity of receptor**
There is no change to susceptibility at this assessment scenario. Therefore susceptibility is considered to be medium.	Low	*Medium*
Size/ scale, duration and reversibility of impact at operation		
The Proposed Development will be observed behind and to the immediate left of the existing power station and will extend the presence of industrial structures in the view. The close proximity of passing traffic on the A180 is a visual detractor. The upper sections of the proposed main building, stacks and plumes (during certain climatic conditions) will be visible. The completed development will create an increase to massing and size of structures within the view within the context of the existing South Humber Bank Power Station structures. The impact will be long term and reversible		
Magnitude of impact at operation		*Low*
Significance of effect at operation	Footpath users	Minor adverse (not significant)

Viewpoint 4: Primrose Cottage				
Grid reference	**Receptor type**	**Elevation (mAOD)**	**Distance from Proposed Development (km)**	**Direction of view**
521902, 412050	Residential	1.4	1.65	North-east
TWO PHASE CONSTRUCTION				
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
View in direction of construction operations are currently screened at this location due to presence of large hedge and trees in the direction of view. Oblique views only from ground floor windows. However, residential use means susceptibility is considered to be high.		Low		*Medium*
Size/ scale, duration and reversibility of impact at construction				
Views of all construction operations will be well screened by existing intervening vegetation. The impact of each construction phase will be short term and reversible.				
Magnitude of impact at construction				*Low*

Significance of effect at construction	Residential	Minor adverse (not significant)
OPERATION		
Visual susceptibility to change at operation	**Value of view**	**Sensitivity of receptor**
There is no change to susceptibility at this assessment scenario. Therefore susceptibility is considered to be high.	Low	*Medium*
Size/ scale, duration and reversibility of impact at operation		
The Proposed Development will only be partially observed due to the location of evergreen planting at the garden boundary located to screen views in the direction of the existing South Humber Bank Power Station. The plumes from the proposed stacks (during certain climatic conditions) may be visible due to the anticipated distance from the main structures. The impact will be long term and reversible.		
Magnitude of impact at operation		*Low*
Significance of effect at operation	Residential	Minor adverse (not significant)

Viewpoint 5: Beechwood Farm Carvery				
Grid reference	**Receptor type**	**Elevation (mAOD)**	**Distance from Proposed Development (km)**	**Direction of view**
523357, 411478	Inn/Restaurant	15.3	1.85	North
TWO PHASE CONSTRUCTION				
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
View forms secondary focus for receptors at this location. Therefore susceptibility is considered to be Medium.		Low		*Medium*
Size/ scale, duration and reversibility of impact at construction				
Views of low level construction operations will be screened by the existing Lenzing Fibres buildings. Operations above this level will be clearly visible given the open and visually uncluttered foreground. Visible construction activities will appear to the right of the existing South Humber Bank Power Station over the worst case, two phase construction period. As the tallest structures are constructed they will be clearly viewed between existing chemical engineering infrastructure and existing South Humber Bank Power Station structures. The impact of each construction phase will be short term and reversible.				

Magnitude of impact at construction		*Low*
Significance of effect at construction	Visitors/Customers	Minor adverse (not significant)
OPERATION		
Visual susceptibility to change at operation	**Value of view**	**Sensitivity of receptor**
There is no change to susceptibility at this assessment scenario. Therefore susceptibility is considered to be medium.	Low	*Medium*
Size/ scale, duration and reversibility of impact at operation		
The upper sections of the main building, stacks and plumes (during certain climatic conditions) associated with the Proposed Development will be clearly visible as a separate entity between existing large scale industrial infrastructure. The completed development will create an increase to massing and size of structures within the view. The impact will be long term and reversible.		
Magnitude of impact at operation		*Low*
Significance of effect at operation	Visitors/Customers	Minor adverse (not significant)

Viewpoint 6: Sunk Island footpath PRoW				
Grid reference	**Receptor type**	**Elevation (mAOD)**	**Distance from Proposed Development (km)**	**Direction of view**
523506, 418861	Footpath users	13.8	5.3	South-west
TWO PHASE CONSTRUCTION				
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
View forms secondary focus for receptors at this location due to presence of alternative views and existing industrial skyline infrastructure. Therefore susceptibility is considered to be medium.		Medium		Medium
Size/ scale, duration and reversibility of impact at construction				
Long range views of construction activities will be barely discernible due to the distance from the viewpoint. Construction operations over the worst case, two phase period are likely to be visually insignificant within the existing industrial skyline. The impact of each phase will be short term and reversible.				
Magnitude of impact at construction				*Very Low*
Significance of effect at construction		Footpath users		Negligible adverse (not significant)
OPERATION				
Visual susceptibility to change at operation		**Value of view**		**Sensitivity of receptor**
There is no change to susceptibility at this assessment scenario. Therefore susceptibility is considered to be low.		Medium		*Medium*
Size/ scale, duration and reversibility of impact at operation				
Long range views of the Proposed Development will be barely discernible, to the immediate left of the existing South Humber Bank Power Station, due to the distance from the viewpoint. The Proposed Development will increase the scale and mass and extend the presence of power station structures within the view. However, the close proximity of the existing South Humber Bank Power Station means the Proposed Development is likely to be visually assimilated into the existing industrial skyline. The impact will be long term and reversible.				
Magnitude of impact at operation				*Very Low*

Significance of effect at operation	Footpath users	Negligible adverse (not significant)

Viewpoint 7: Immingham south, PRoW				
Grid reference	**Receptor type**	**Elevation (mAOD)**	**Distance from Proposed Development (km)**	**Direction of view**
518577, 413771	Residents and footpath users	6.7	4.35	East-south-east
TWO PHASE CONSTRUCTION				
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
Construction operations form a secondary focus for receptors at this location due to presence of alternative industrial views which are characteristic of the area. The receptors at this location include the residential properties located on the southern periphery of Immingham and users of the PRoW. Assessment is made for the more sensitive of the two groups – residents at the properties. Effects for PRoW users of lesser sensitivity will be of lower magnitude. Given the presence of existing similar large scale industrial infrastructure, residential receptors although typically at the higher end of susceptibility are assessed as being of medium susceptibility to further views of similar activity. Therefore susceptibility is considered to be medium.		Low		*Medium*
Size/ scale, duration and reversibility of impact at construction				
Long range views of construction will be limited to upper level activities as a result of intervening vegetation. Visible construction activities will appear as a separate element to the left of the existing South Humber Bank Power Station. As the tallest structures are constructed they will be barely visible, viewed in the context of existing large scale structures and frequent power lines in the mid ground and distant skyline. The impact of each phase will be short term and reversible.				
Magnitude of impact at construction				*Low*
Significance of effect at construction		Residents and footpath users		Minor adverse (not significant)
OPERATION				

Visual susceptibility to change at operation	**Value of view**	**Sensitivity of receptor**
There is no change to susceptibility at this assessment scenario. Therefore susceptibility is considered to be medium	Low	*Medium*
Size/ scale, duration and reversibility of impact at operation		
The Proposed Development will be partially visible as a separate entity to the left of the existing South Humber Bank Power Station and will extend the presence of industrial structures. The Proposed Development, once completed, will create an increase to massing and size of structures within the view. However, views will be very distant and occupying a small element of wider panorama. The upper sections of the stacks and plumes (during certain climatic conditions) associated with the Proposed Development will be clearly visible. The impact will be long term and reversible.		
Magnitude of impact at operation		*Low*
Significance of effect at operation	Residents and footpath users	Minor adverse (not significant)

Viewpoint 8: Mauxhall Farm, PRoW				
Grid reference	**Receptor type**	**Elevation (mAOD)**	**Distance from Proposed Development (km)**	**Direction of view**
519177, 413200	Residents and footpath users	3.6	3.75	East
TWO PHASE CONSTRUCTION				
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
View forms secondary focus for receptors at this location due to presence of intervening roadside vegetation, alternative views and other skyline detractors. The receptors at this location include the residential property at Mauxhall Farm users of the PRoW. Assessment is made for the more sensitive of the two groups – residents at the property. Effects for PRoW users of lesser sensitivity will be of lower magnitude. Given the presence of existing similar large scale industrial infrastructure, residential receptors although typically at the higher end of susceptibility are assessed as being of medium susceptibility to further views of similar activity.		Low		*Medium*
Size/ scale, duration and reversibility of impact at construction				
Views of construction will be limited to upper level activities as a result of intervening vegetation and ground levels. Visible construction activities will appear to the left of the existing South Humber Bank Power Station. As the tallest structures are constructed they will be viewed in the context of existing industrial structures and the adjacent power station. The impact of each construction phase will be short term and reversible.				
Magnitude of impact at construction				*Low*
Significance of effect at construction		Residents and footpath users		Minor adverse (not significant)
OPERATION				
Visual susceptibility to change at operation		**Value of view**		**Sensitivity of receptor**

There is no change to susceptibility at this assessment scenario. Therefore susceptibility is considered to be medium	Low	*Medium*
Size/ scale, duration and reversibility of impact at operation		
The Proposed Development will be partially visible as a separate entity to the immediate left of the existing South Humber Bank Power Station and will extend the presence of industrial structures. The Proposed Development, once completed, will create an increase to massing and size of structures within the view. The upper sections of the stacks and plumes (during certain climatic conditions) associated with the Proposed Development will be clearly visible. The impact will be long term and reversible.		
Magnitude of impact at operation		*Low*
Significance of effect at operation	Residents and footpath users	Minor adverse (not significant)

Viewpoint 9: Middle Drain PRoW				
Grid reference	**Receptor type**	**Elevation (mAOD)**	**Distance from Proposed Development (km)**	**Direction of view**
522276, 413642	Footpath users	5.0	0.65	South-east
TWO PHASE CONSTRUCTION				
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
Construction operations, for receptors at this location, will be viewed in the context of alternative industrial views, which are characteristic of the area. Therefore susceptibility is considered to be medium.		Low		*Medium*
Size/ scale, duration and reversibility of impact at construction				
Close proximity views of most construction activities will be temporary and appear in the context and as an extension of the built form of the existing South Humber Bank Power Station to the immediate right. A waste management facility and chemical manufacture infrastructure is situated to the left. Intervening vegetation is not expected to screen views of the tallest structures. The impact of each construction phase will be short term and reversible.				
Magnitude of impact at construction				*Medium*
Significance of effect at construction		Footpath users		Moderate adverse (significant)
OPERATION				
Visual susceptibility to change at operation		**Value of view**		**Sensitivity of receptor**
There is no change to susceptibility at this assessment scenario. Therefore susceptibility is considered to be medium.		Low		*Medium*
Size/ scale, duration and reversibility of impact at operation				

Views of the Proposed Development will be direct and at close proximity. The new structures including main building and stacks (and associated plumes during certain climatic conditions) will be viewed in the context and as an extension of the built form of the existing South Humber Bank Power Station to the immediate right. Large infrastructure associated with a waste management facility and chemical manufacture infrastructure is situated to the left. The Proposed Development will increase the massing of structures that are visible, causing a change to the composition and balance of the view. The impact will be long term and reversible.		
Magnitude of impact at operation		*Medium*
Significance of effect at operation	Footpath users	Moderate adverse (significant)

Viewpoint 10: Irby Holmes Wood PRoW				
Grid reference	**Receptor type**	**Elevation (mAOD)**	**Distance from Proposed Development (km)**	**Direction of view**
520833, 403354	Footpath users	71.5	10.2	North-north-east
TWO PHASE CONSTRUCTION				
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
View forms secondary focus for receptors at this location due to distance, the presence of alternative views and existing detractors on the skyline associated with industrial facilities along the Humber Estuary. Due to the AONB location susceptibility is considered to be high.		High		*High*
Size/ scale, duration and reversibility of impact at construction				
Long range views of construction activities will be extremely limited due to distance and as a result of intervening vegetation for lower level activities. Visible construction activities will appear to the immediate right of the existing South Humber Bank Power Station. As the tallest structures are constructed they will be barely visible on the horizon within the wider panoramic view and the context of existing large scale structures, and as an addition to the existing power station structures. The impact of each construction phase will be short term and reversible.				
Magnitude of impact at construction				*Very low*
Significance of effect at construction		Footpath users		Minor adverse (not significant)
OPERATION				
Visual susceptibility to change at operation		**Value of view**		**Sensitivity of receptor**
There is no change to susceptibility at this assessment scenario. Therefore susceptibility is considered to be high.		High		*High*
Size/ scale, duration and reversibility of impact at operation				

The completed Proposed Development will be located behind and alongside the existing South Humber Bank Power Station. The Proposed Development will slightly increase the massing of structures visible from this location, although this will not alter the balance of the overall view. It is considered that the new structures will be at such a distance that it will barely form a noticeable element. Distant views of the plume, just above the horizon, may be visible in certain climatic conditions. The impact will be long term and reversible.		
Magnitude of impact at operation		*Very low*
Significance of effect at operation	Footpath users	Minor adverse (not significant)

Sequential Views

11.6.21 Users of the main transport routes and the estuary footpath route will gain dynamic views towards the Proposed Development to varying degrees dependent on intervening structures, screening vegetation, elevation and direction of travel. Due to the height of the tallest structures within the Proposed Development (the stacks, with maximum heights of 102 m AOD) these receptors will gain a wide variety of views, dependent upon the proximity to the Proposed Development, and direction of travel.

11.6.22 The A180 is orientated in a south-east to north-west direction, through mainly agricultural land, with road side vegetation often limiting views beyond the road corridor. The sensitivity of road users is considered to be low. Views of the Proposed Development will fall within side views and occasional oblique in the direction of the Proposed Development. Users of the local rail link travelling in both directions, will also gain views of the Proposed Development where not restricted by screening vegetation associated with the A180 to the north and trackside vegetation. As a result of distance, existing detractors and the dynamic nature of views, the magnitude of impact for construction and operation is considered to be low and the overall effects are considered to be negligible adverse (not significant).

11.6.23 The local roads within the Study Area that will gain views of the Proposed Development are located within and around settlements including land between settlements. Overall sensitivity is considered to be medium. Views of the Proposed Development from over 1.5 km away will either be restricted by intervening vegetation, major transport routes and built form locally or partially screened by the existing adjacent power station. In the operation scenario, views of the structures associated with the Proposed Development will be permanent and magnitude of impact is predicted to be low and the overall effect is considered to be minor adverse (not significant).

11.6.24 Views in closer proximity to the Proposed Development will be uninterrupted, from the north-west and south-east across open arable farmland. The receptors in these areas will be users of the local PRoW and roads who are considered to have a high sensitivity given the close proximity. Views from the west through to the south will be partially obscured by the existing South Humber Bank Power Station and existing woodland planting to its road side perimeter. The magnitude of impact is therefore predicted to be medium at construction and operation. The overall effect is considered to be moderate adverse (significant).

Summary of Visual Effects

11.6.25 A summary of visual effects is provided in Table 11.10 below.

Table 11.10: Summary of effects on visual amenity

REF	VP LOCATION	RECEPTOR TYPE	SENSITIVITY OF RECEPTOR	MAGNITUDE OF IMPACT		SIGNIFICANCE OF EFFECT	
				CONSTRUCTION	OPERATION	CONSTRUCTION	OPERATION
1	Farm shop Hotel	Visitors/ Guests	Medium	Low	Low	Minor adverse (not significant)	Minor adverse (not significant)
2	Brickfield House	Residents	Medium	Low	Low	Minor adverse (not significant)	Minor adverse (not significant)
3	Carr Lane Footpath	Users of PRoW	Medium	Low	Low	Minor adverse (not significant)	Minor adverse (not significant)
4	Primrose Cottage	Residential	Medium	Low	Low	Minor adverse (not significant)	Minor adverse (not significant)
5	Beechwood Farm Carvery	Visitors/ Guests	Medium	Low	Low	Minor adverse (not significant)	Minor adverse (not significant)
6	Sunk Island Footpath	Users of PRoW	Medium	Very Low	Very Low	Negligible adverse (not significant)	Negligible adverse (not significant)
7	Immingham South Footpath	Residents & users of PRoW	Medium	Low	Low	Minor adverse (not significant)	Minor adverse (not significant)
8	Mauxhall Farm Footpath	Residents & users of PRoW	Medium	Low	Low	Minor adverse (not significant)	Minor adverse (not significant)

REF	VP LOCATION	RECEPTOR TYPE	SENSITIVITY OF RECEPTOR	MAGNITUDE OF IMPACT		SIGNIFICANCE OF EFFECT	
				CONSTRUCTION	OPERATION	CONSTRUCTION	OPERATION
9	Middle Drain Footpath	Users of PRoW	Medium	Medium	Medium	Moderate adverse (significant)	Moderate adverse (significant)
10	Irby Holmes Wood Footpath	Users of PRoW	High	Very Low	Very Low	Minor adverse (not significant)	Minor adverse (not significant)

Decommissioning

11.6.26 The impacts on landscape character and visual amenity, arising as a result of decommissioning of the Proposed Development, are considered (using professional judgement) to be very similar than those identified at the construction stage of the Proposed Development. For landscape this is as a result of: the scale and nature of the development in relation to the existing industrial structures; complexes present in close proximity and the wider landscape and current proposals for industrial developments in the locality. For visual amenity this will be a result of the visibility of the decommissioning and demolition activities being similar or slightly less than construction due to the maturity of existing perimeter planting. The predicted magnitudes of impact and classification of effects for decommissioning are expected to match those for construction. A separate assessment has therefore been considered unnecessary.

11.6.27 Visual impacts and effects for construction and operation are described and summarised in Table 11.10.

11.7 Mitigation and Enhancement Measures

11.7.1 Policy 42 in the 'North East Lincolnshire Local Plan 2013 to 2033' (NELC, 2018) states:

"*Landscape character should be given due consideration in the nature, location, design and implementation of development proposals. Developers should:*

- *Complete a site specific landscape appraisal, proportionate to the anticipated scale and impact of a proposal, and submit a landscaping scheme for all development where this is appropriate, which complements the character and appearance of the Proposed Development responds to landscape character, climate change and flood alleviation where appropriate, and improves local biodiversity and levels of amenity;*
- *Seek opportunities, when incorporating landscape buffers to offset development impacts, to enhance landscape quality including opportunities to incorporate suitable landscape planting;*
- *Retain and protect trees and hedgerows which offer value for amenity, biodiversity and landscape; and,*
- *Take opportunities where appropriate, to retain, protect and restore elements that contribute to historic landscape character*."

11.7.2 No additional tree planting is proposed within the Proposed Development. However, the existing plantation to the north-west of the existing power station will be retained and will benefit from future maintenance and management to retain its existing screening and ecological function.

11.7.3 Bird habitat screen fencing will consider materials and colours that reflect the local landscape character.

11.7.4 Viewpoint 9 (Middle Drain footpath) is predicted to experience a moderate adverse (significant) visual effect during construction and this is expected to continue through the operational and decommissioning periods.

11.8 Limitations or Difficulties

11.8.1 Assessment of visual impact through the use of representative viewpoints has been restricted by the limits of public access. In particular, it has not been possible to visit viewpoints from overlooking boundaries of residential properties to accurately record the views available. In these instances, an estimation of the view has been made from visiting nearby public vantage points.

11.8.2 Views of the Proposed Development, other than those assessed, are acknowledged to exist. The viewpoints are not intended to provide an exhaustive or fully comprehensive catalogue of views of the Proposed Development; rather they provide a representative sample for the purpose of the landscape and visual impact assessment.

11.9 Residual Effects and Conclusions

11.9.1 The assessment has determined that the Proposed Development is likely to result in a moderate adverse (significant) visual effect on visual amenity from Viewpoint 9 (Middle Drain Footpath) during construction, operation and decommissioning as a result of the close distance and height of the proposed structures.

11.9.2 A summary of 'significant' landscape and visual effects is presented in Table 11.11.

Table 11.11: Summary of significant effects

Development stage	Environmental effect (following development design and impact avoidance measures)	Classification of effect prior to mitigation	Mitigation/ enhancement (if identified)	Classification of residual effect after mitigation	Nature of effect
Construction	Impact on visual amenity footpath users at Viewpoint **9** during construction activities	Moderate adverse (significant)	None	Moderate adverse (significant)	St/T/D
Operation	Impact on visual amenity footpath users at Viewpoint **9** during operation.	Moderate adverse (significant)	None	Moderate adverse (significant)	Lt/P/D
Decommissioning	Impact on visual amenity footpath users at Viewpoint **9** during demolition activities	Moderate adverse (significant)	None	Moderate adverse (significant)	St/T/D

Nature of effect(s) key

Lt: Long term
Mt: Medium term
St: Short term
P: Permanent
T: Temporary
D: Direct
In: Indirect

11.10 References

- Department for Energy and Climate Change, Overarching National Policy Statement for Energy EN-1 (July 2011).
- Department for Communities and Local Government (2018), The National Planning Policy Framework.
- Estell Warren Landscape Architects for North Lincolnshire Council (1999), Countryside Design Summary
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- Natural England (2013a), NCA Profile 41: Humber Estuary (NE344)
- Natural England (2013b), NCA Profile 42: Lincolnshire Coast and Marshes (NE521)
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- North Lincolnshire Council (1999), North Lincolnshire Landscape Character Assessment & Guidelines North East Lincolnshire Council (2015) Landscape Character Assessment, Sensitivity and Capacity Study
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