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LANDSCAPE ARCHITECTURE

ENVIRONMENTAL PLANNING

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CLEARSTONE WARLEY

Landscape and Visual Impact Assessment

August 2021

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1 INTRODUCTION

1.1 Background

Clearstone Energy Ltd has asked Weddle Landscape Design to prepare a Landscape and Visual Impact Assessment (LVIA) for a site adjacent to Warley Substation, Upminster.

A previous planning application (reference P1677.20) for the development of a gas-powered generators and related infrastructure for the site was refused on 16th February 2021. That application was supported by a Landscape and Visual Impact Assessment.

As part of the consultation for that application Havering Brough Council consulted Place Services to provide their Landscape Consultee comments in relation to the submitted LVIA. Place Services, the council's expert Landscape Consultee noted that:

The submitted Landscape and Visual Assessment (LVIA) has been prepared following the principles set out in the third edition of the "Guidelines for Landscape and Visual Impact Assessment" (GLVIA3) including an assessment of both landscape and visual sensitivity, magnitude of change and significance of effect. The sites characteristics are suitably described, and the range of views that are available are also appropriately summarised as non significant. Overall, we are generally in agreement with the assessment findings, with the proposed development having minimal perceived visual impact from localised public receptors.

In contrast, the reason for refusal for that application was stated as:

1. The proposal would constitute inappropriate development in the Green Belt and would introduce a significant visual intrusion into the landscape which would, by virtue of its scale, position and design, result in an adverse and detrimental impact, both individually and cumulatively. It would have a significant harmful effect on the openness of the Green Belt and, it would be a significant encroachment of built development into the countryside. Very special circumstances that clearly outweigh the identified harm to the Green Belt, by reason of inappropriateness and other harm, have not been demonstrated in this case. The proposal is therefore considered to be contrary to Policy DC45 of the Development Control Policies Development Plan Document; Policy 7.16 of the London Plan; and the guidance contained in the National Planning Policy Framework.

This LVIA has been prepared to support a new application for the site for a battery storage development to support the National Grid. The new application does not require the taller chimney elements of the previous gas generator scheme, with considerably less built volume on a reduced footprint.

The objectives of this LVIA are to assess the landscape character of the site and its surroundings and to consider the landscape and visual qualities of the site, its function in the landscape and its contribution to the wider landscape. The work undertaken includes an assessment of the existing landscape features, together with a visual appraisal of the site and its context.

The LVIA is used to explain the likely landscape and visual effects that may arise as a result of the proposed development. Therefore, providing sufficient information for decision makers to determine the landscape and visual impact of the development.

1.2 Landscape and Visual Impact Assessment

This document assesses the potential landscape and visual impacts arising from the proposed development. This LVIA is split into the following sub-sections:

- Site Context and Baseline
- Legislation and Policy
- Landscape Character
- Site Appraisal
- Impact Assessment of the development proposals
- Baseline Landscape and Visual Condition
- Development Proposals
- Landscape and Visual Effects
- Limitations and Assumptions
- Conclusion

Paragraph 1.1 of the 3rd Edition of the Guidelines for Landscape and Visual Impact Assessment (“GLVIA3”), published by Landscape Institute and Institute of Environmental Management and Assessment (hereafter referred to as “GLVIA 3”) states that “Landscape and Visual Impact Assessment (LVIA) is a tool used to identify and assess the significance of and the effects of change resulting from development on both the landscape as an environmental resource in its own right and on people’s views and visual amenity”.

Paragraph 5.1 of the GLVIA3 describes how landscape effects are concerned with “how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character”.

Paragraph 6.1 of the GLVIA3 describes how visual effects are concerned with “assessing how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements”. Therefore, this assessment deals separately with each of these effects, although where relevant and appropriate, cross references may be made to the same features or elements where they are relevant to both assessments.

This report has been produced by Neil Northrop BA DipLD MCIHort CMLI of Weddle Landscape, A Chartered Landscape Architect with over 13 years’ experience of Landscape and Visual Impact Assessments.

2 SITE CONTEXT AND BASELINE

The site is situated within the administrative area of the London Borough of Havering. The site area is approximately 0.41 hectares and located 8.75km east of Havering centre at Ordnance Survey grid reference TQ 597 861.

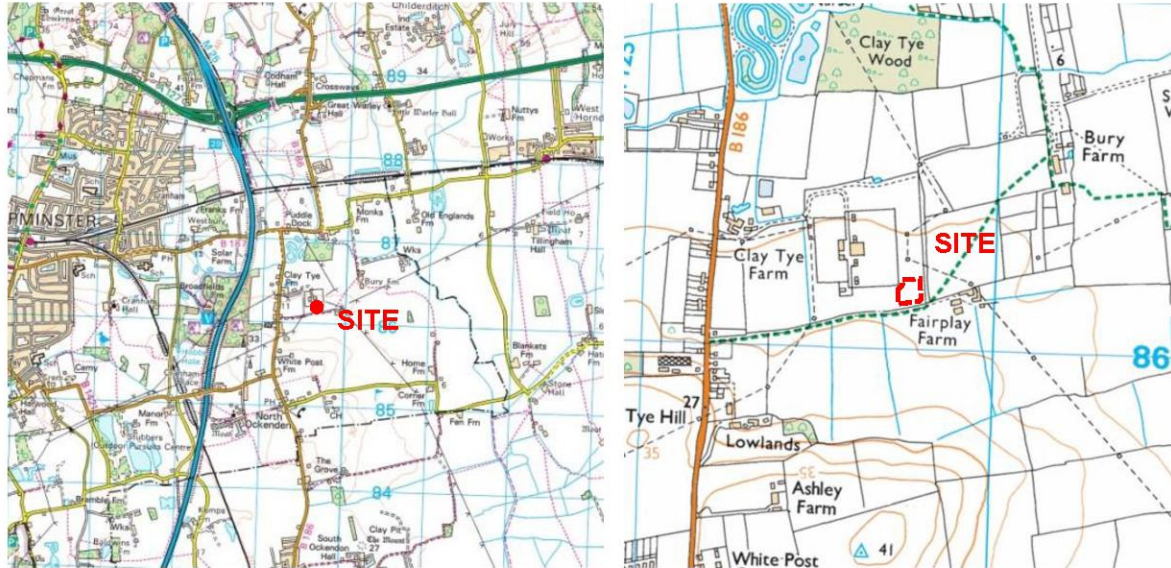


Figure 1 - Site Location – OS Mapping



Figure 2 - Site Location – Aerial photograph and site boundary

The site lies within the curtilage of the existing Warley electricity substation which is defined by existing mature hedgerows and tree belts.



Figure 3 – Warley Electricity Substation with curtilage highlighted green

2.1 Landscape Setting

Topography

The landform in the immediate vicinity of the site is flat with the site is located at 14m AOD. Small localised hills rise to approximately 40m AOD with the closest being Clay Tye Hill to the south and south west.

Hydrology

Some small field drainage ditches are found to the south and west of the site. To the north east near Clay Tye Wood are a number of artificial fishing lakes. There are no significant hydrological features in the surrounding area.

Vegetation

The main vegetation patterns in the surrounding landscape are arable farmland, with hedgerows, intermittent trees, tree belts or Copses which divide the fields. There are larger woodlands to the north, Clay Tye Wood, and west, Thames Chase Forest Centre.

Settlement and Land Use

Local settlements include the town of Upminster approximately 4km to the west, and villages of North Ockendon to the south west and Horndon and Bulphan further to the east and north east respectively. The villages take on a linear settlement pattern. The surrounding area includes a number of dispersed individual farmsteads and residential hamlets.

The predominant building material is white painted render or brick walls with clay tile roofs. Many of the farms include modern large agricultural buildings of steel and concrete block construction.

Approximately 850m west of the site is the M25 motorway, running north-south. Clay Tye Road (B186) runs north-south and is 220m west of the site.

Fields are typically medium to large in size and irregular in shape. They are predominantly used for crops and occasionally pasture. Immediately to the north west of the site is the existing Warley Electricity Substation and its associated hardstanding and infrastructure, with significant transmission pylons heading north, east, south and west.

2.2 Designations

This section describes landscape designations that are of relevance to this landscape and visual impact assessment.

Statutory Designations

The site and surrounding land is designated as London Metropolitan Green Belt. The nearest other designation is a Local Nature Reserve (LNR) 'Cranham Brickfields', approximately 2km to the north-west of the site.

Non-Statutory Designations

Within the 2km search area there are 3 non-statutory 'Sites of Importance for Nature Conservation' (SINC's). These are sites of borough importance and include 'Fairplay Farm', beyond the hedgerow and vehicle track and the south, 'Clay Tye Wood', approx. 500m to the north and 'Puddle Sock Angling Centre', approx. 675m to the north-west.



Figure 4 – Statutory Designated Sites and Habitats(Magic Map) 2km zone

Conservation Areas, Listed Buildings and Scheduled Monuments

The site does not contain any Listed Buildings, Scheduled Monuments, nor is it within a Conservation Area.

There is 1 Grade I Listed Building within 2km of the site. This is Church of St Mary Magdalene approximately 1.6km south west from the site. There are 12 Grade II Listed Building within 2km of the site, the closest of which is Bury Farm House approximately 520m north east of the site.

There are no scheduled monuments within a 2km radius of the site.

North Ockendon and Cranham have designated Conservation Areas.



Figure 5 – Historic Statutory Designations (Magic Map) 2km zone

Designated Habitats

Natural England Magic website indicates that within a 1km radius there are 4 types of Priority Habitat Inventory (PHI) designations. The site itself has no designations. The closest to the site are two areas of 'PHI – Deciduous Woodland' and 'PHI – Traditional Orchard' that are approximately 250m to the north and north-west of the site, respectively. There are additional areas over 600m to the west.

Approximately 550m to the north of the site there is a patch of woodland designated as 'Ancient and Semi-Natural Woodland' which is Clay Tye Wood.

Public Rights of Way

To the south of the site beyond the hedgerow is Footpath 232 running east-west from Clay Tye Road to Bury Farm where it joins Footpath 233 running east then south to Home Farm and Footpath 194 running north and then north west to Clay Tye Wood.

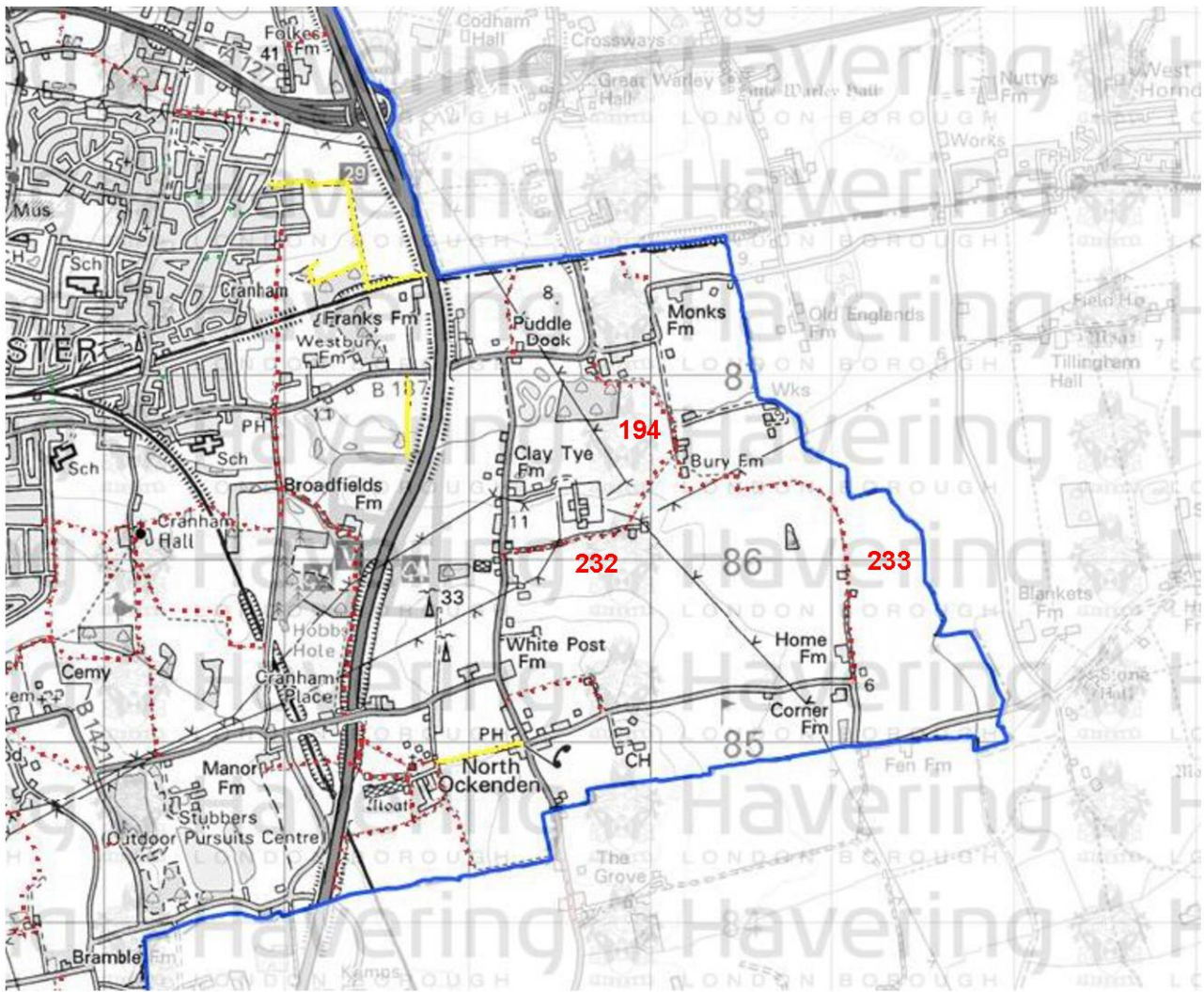


Figure 6 – Rights of way in the local area (Solid red: footpath, Solid Yellow Bridleway) (Havering Online Mapping)

Summary

The landform in the immediate vicinity of the site is flat with the site is located at 14m AOD. Small localised hills rise to approximately 40m AOD with the closest being Clay Tye Hill to the south and south west. There are no significant hydrological features in the surrounding area.

The main vegetation patterns in the surrounding landscape are arable farmland, with hedgerows, intermittent trees, tree belts or Copses which divide the fields. There are larger woodlands to the north, Clay Tye Wood, and west, Thames Chase Forest Centre.

The site and surrounding land is designated as London Metropolitan Green Belt. The nearest other designation is a Local Nature Reserve (LNR) 'Cranham Brickfields', approximately 2km to the north-west of the site. Listed buildings are scattered throughout the area but none are located within 500m of the site.

3 LEGISLATION AND POLICY

This section describes landscape policies that are of relevance to this LVIA.

There are planning policies in place at all levels which require effects on landscape and landscape quality to be considered as part of planning applications for new development. There is an emphasis in these policies on retaining existing landscape features and undertaking enhancements where appropriate.

3.1 National Legislation and Planning Policy

National Planning Policy is set out in National Planning Policy Framework (NPPF). This is supported by National Planning Practice Guidance (NPPG).

In achieving well-designed places paragraph 130 of the NPPF states that:

“Planning policies and decisions should ensure that 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...”

In respect to conserving and enhancing the natural environment, paragraph 174 states:

“Planning policies and decisions should contribute to and enhance the natural and local environment by:

a) 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);

b) 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;

...f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

In respect to the green belt, paragraph 137 of the NPPF states that

“The Government attaches great importance to Green Belts. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence.”

Paragraph 138 states:

“Green Belt serves five purposes:

- 1) to check the unrestricted sprawl of large built-up areas;*
- 2) to prevent neighbouring towns merging into one another;*
- 3) to assist in safeguarding the countryside from encroachment;*
- 4) to preserve the setting and special character of historic towns; and*

5) to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

For proposals affecting the green belt, paragraph 147 states that:

"Inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances."

Paragraph 148 states that:

"When considering any planning application, local planning authorities should ensure that substantial weight is given to any harm to the Green Belt. 'Very special circumstances' will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations."

Paragraph 151 states that:

"When located in the Green Belt, elements of many renewable energy projects will comprise inappropriate development. In such cases developers will need to demonstrate very special circumstances if projects are to proceed. Such very special circumstances may include the wider environmental benefits associated with increased production of energy from renewable sources."

3.2 Regional Planning Policy - The London Plan 2021

The London Plan is the overall strategic plan for London by which boroughs should set their detailed planning policies.

Relevant sections from Policy D1 *London's form, Character and Capacity for Growth* states:

Defining an area's character to understand its capacity for growth

A Boroughs should undertake area assessments to define the characteristics, qualities and value of different places within the plan area to develop an understanding of different areas' capacity for growth. Area assessments should cover the elements listed below:

- 3) urban form and structure (for example townscape, block pattern, urban grain, extent of frontages, building heights and density)
- 5) air quality and noise levels
- 6) open space networks, green infrastructure, and water bodies
- 7) historical evolution and heritage assets (including an assessment of their significance and contribution to local character)
- 8) topography and hydrology
- 9) land availability
- 10) existing and emerging Development Plan designations
- 11) land uses
- 12) views and landmarks.

Planning for growth

B In preparing Development Plans, boroughs should plan to meet borough-wide growth requirements, including their overall housing targets, by:

2) assessing the capacity of existing and planned physical, environmental and social infrastructure to support the required level of growth and, where necessary, improvements to infrastructure capacity should be planned in infrastructure delivery plans or programmes to support growth; and

Policy G2 London's Green Belt states:

"A The Green Belt should be protected from inappropriate development:

1) development proposals that would harm the Green Belt should be refused except where very special circumstances exist,

2) subject to national planning policy tests, the enhancement of the Green Belt to provide appropriate multi-functional beneficial uses for Londoners should be supported.

B Exceptional circumstances are required to justify either the extension or de-designation of the Green Belt through the preparation or review of a Local Plan"

3.3 Local Planning Policy – Havering LDF

London Borough of Havering (LBH) planning policy is contained within the Local Development Framework (LDF) which includes the Core Strategy and Development Control Policies 2008 and Proposals Map 2008.

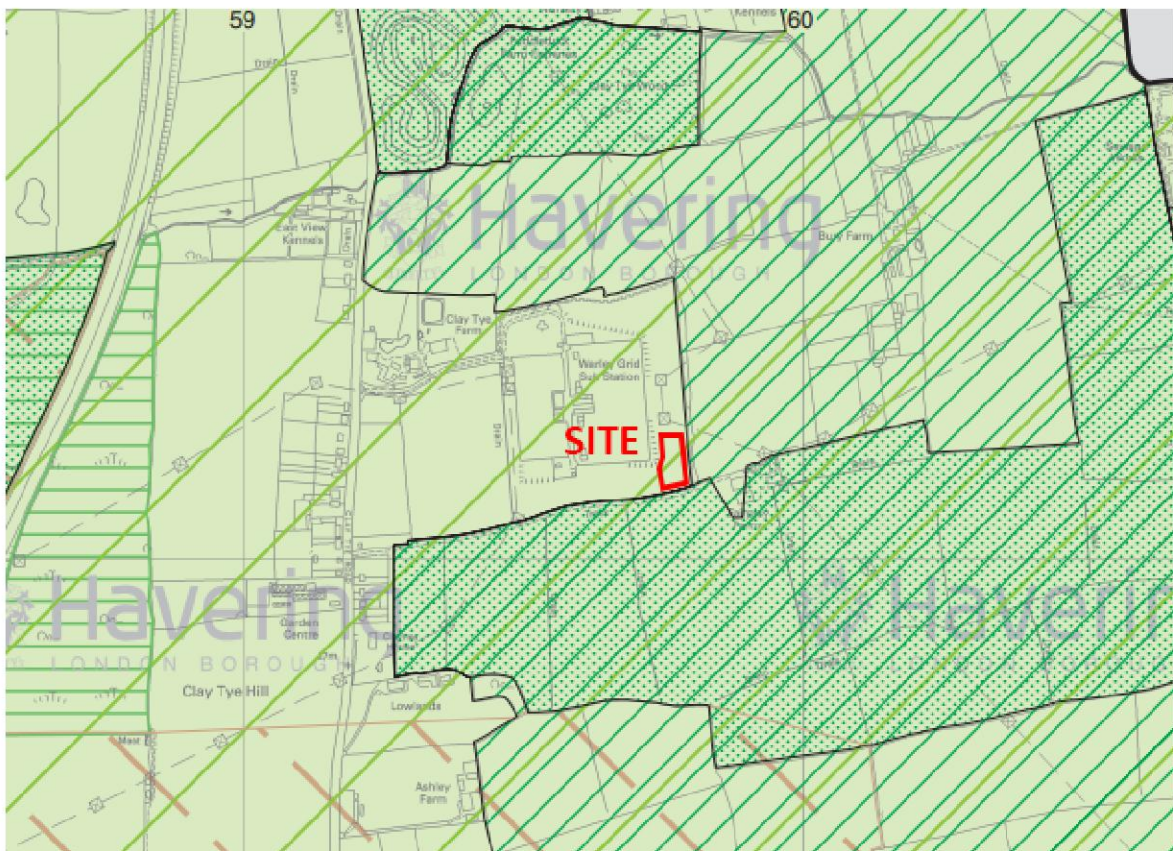


Figure 7 - Extract of Havering Local Development Framework, Proposals Map: South October 2008

The policies relevant to the proposed development site are summarised below:

Policy DC22 Thames Chase Community Forest states:

“Opportunities for informal recreation in the countryside will be increased by:

- the improvement of the public right of way network including links to the urban area*
- ensuring that all developments located within the Thames Chase make a positive contribution to the implementation of the Thames Chase Plan by improving, for example, access, recreation opportunities, the landscape and nature conservation*
- where appropriate, seeking developer contributions towards implementation of the Green Chain network, the London Outer Orbital Path, the Green Arc, the Thames Chase, and the Green Grid.”*

Policy DC45 Appropriate Development in the Green Belt states:

“The Council will promote uses in the Green Belt that have a positive role in fulfilling Green Belt objectives. Planning permission for development in the Green Belt will only be granted if it is for the following purposes:

- agriculture and forestry, outdoor recreation, nature conservation, cemeteries*
- mineral extraction provided policies in the Council's Local Development Framework are complied with*
- Park and Ride facilities provided that the criteria in Annex E of PPG13 are met.*

Planning permission for new buildings will only be granted for the following purposes:

- they are essential for the uses listed above; or*
- they involve limited infilling or redevelopment on a site designated as a Major Developed Site in accordance with DC46*

Extensions, alterations and replacement of existing dwellings will be allowed provided that the cubic capacity of the resultant building is not more than 50% greater than that of the original dwelling.

Planning permission for the reuse of existing buildings will only be granted if the criteria set out in PPG2 are satisfied. Particular care will be taken to ensure that the proposed use (including the use of any adjoining land) does not have a greater impact on the openness of the Green Belt.

Subject to the Departure procedure, planning permission for the redevelopment of authorised commercial/industrial sites will be granted provided there is a substantial decrease in the amount of building on the site and improvements to the local Green Belt environment.”

The relevant part of Policy DC50 Renewable Energy states:

“Proposals for the development of renewable energy facilities will be acceptable provided that their design is not detrimental to the character of the surrounding area, there is no demonstrable harm to visual or residential amenities or gives rise to unacceptable levels of pollution generation. In assessing schemes, the benefits of achieving diverse and sustainable energy supplies and reducing greenhouse effects will be balanced against any harm arising from the development. Consideration will also be given to the viability of

installing renewable energy generation equipment with regard to the type of development proposed and its location, and design.”

3.4 Local Planning Policy – Havering Landscaping Supplementary Planning Document

Havering London Borough have also produced a Landscape Supplementary Planning Document 2011. While this document focuses mainly on the urban and suburban areas of the borough of relevance to this LVIA is the section on Respecting and enhancing landscape character. Paragraph 3.5 states:

“New development should take account of this wider established character, and build on key features of the local area through careful design and selection of landscaping elements. Opportunities to enhance the landscape character or appearance of an area through, for example, planting locally native species, harnessing the topographical character of the site and retaining existing landscape features and trees are encouraged.”

3.5 Havering Local Plan (2016-31) Examination and Green Belt Study 2016

A new Local Plan is currently under examination, which will in due course replace the LDF.

As part of the evidence base for the local plan Havering London Borough have also produced the Green Belt Study 2016 (LBHLP.26).

Havering's Green Belt is separated into 'Strategic Parcels'. The site lies within Strategic Parcel 10 which is defined as being paramount in assisting the safeguarding of the countryside from encroachment (Purpose 3). It is not considered to provide any contribution to restricted sprawl (Purpose 1) and any contribution on separation (Purpose 2).

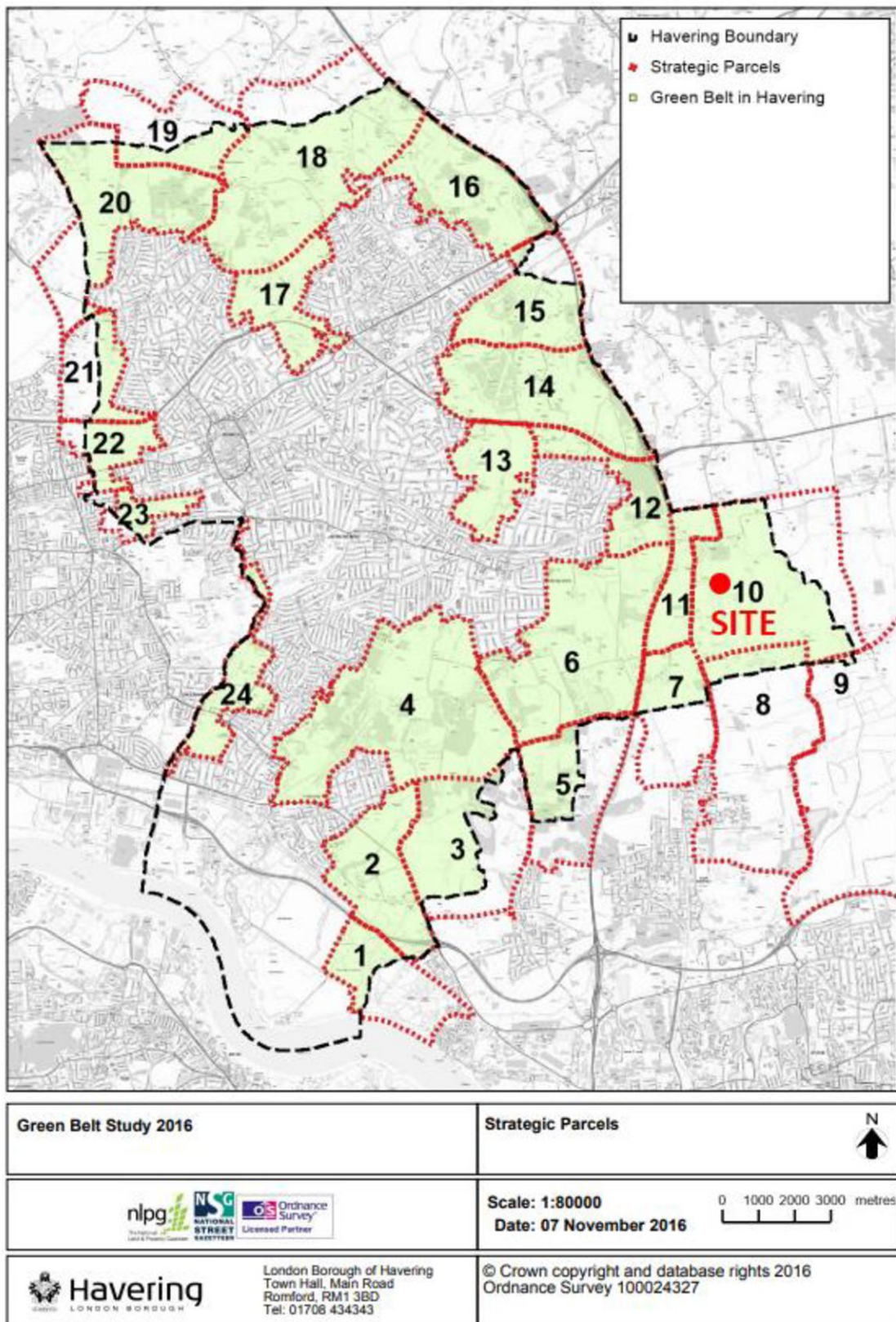


Figure 8 - Extract from London Borough of Havering Green Belt Study 2016 showing site within Parcel 10.

4 LANDSCAPE CHARACTER

4.1 National Landscape Character

At the National Level, the site is located within National Character Area (NCA) 111: Northern Thames Basin.

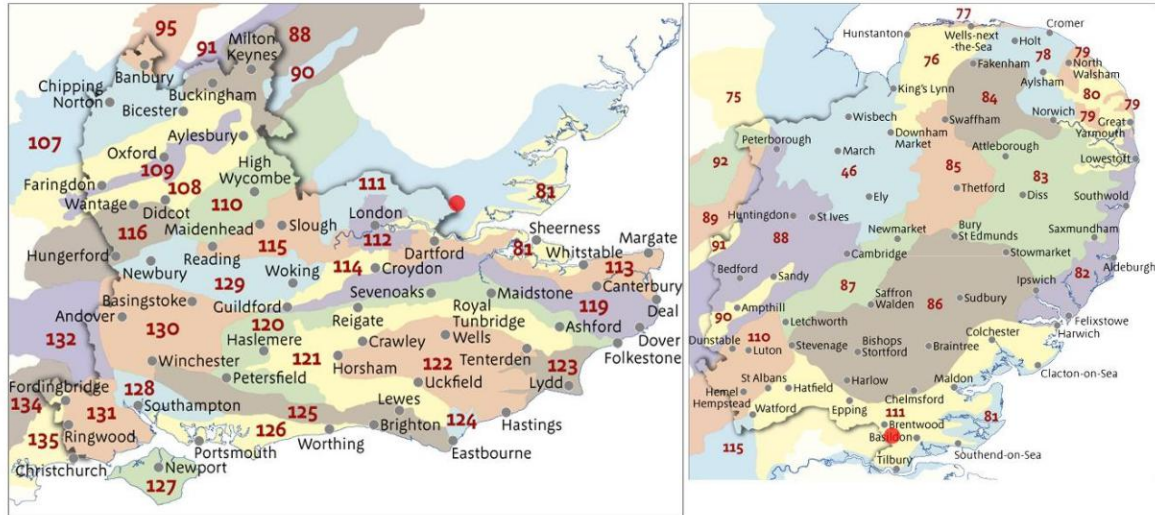


Figure 9 – South East England and East of England National Character Areas



Figure 10 – NCA 111: Northern Thames Basin

NCA 111 covers a large area with Hertfordshire in the west through to the Essex coast in the east. The Northern Thames Basin is an area rich in geodiversity, archaeology and history and diverse landscapes ranging from the wooded Hertfordshire plateaux and river valleys, to the open landscape and predominantly arable area of the Essex heathlands, with areas of urbanisation mixed in throughout. Key characteristics of relevance to the site and its local context are:

- *“The landform is varied with a wide plateau divided by river valleys. The prominent hills and ridges of the ‘Bagshot Hills’ are notable to the northwest and extensive tracts of flat land are found in the south.*
- *Characteristic of the area is a layer of thick clay producing heavy, acidic soils, resulting in retention of considerable areas of ancient woodland.*
- *A diverse landscape with a series of broad valleys containing the major rivers Ver, Colne and Lea, and slightly steeper valleys of the rivers Stour, Colne and Roman. Numerous springs rise at the base of the Bagshot Beds and several reservoirs are dotted throughout the area.*
- *The pattern of woodlands is varied across the area and includes considerable ancient semi-natural woodland. Hertfordshire is heavily wooded in some areas as are parts of Essex, while other areas within Essex are more open in character. Significant areas of wood pasture and pollarded veteran trees are also present.*
- *The field pattern is very varied across the basin reflecting historical activity. Informal patterns of 18th-century or earlier enclosure reflect medieval colonisation of the heaths. Regular planned enclosures dating from the Romano-British period are a subtle but nationally important feature on the flat land to the south-east of the area. In the Essex heathlands 18th- and 19th-century enclosure of heathlands and commons followed by extensive 20th-century field enlargement is dominant.*
- *Mixed farming, with arable land predominating in the Hertfordshire plateaux, parts of the London Clay lowlands and Essex heathlands. Grasslands are characteristic of the river valleys throughout. Horticulture and market gardening are found on the light, sandy soils of former heaths in Essex, particularly around Colchester, along with orchards, meadow pasture and leys following numerous narrow rivers and streams.*
- *The diverse range of semi-natural habitats include ancient woodland, lowland heath and floodplain grazing marsh and provide important habitats for a wide range of species including great crested newt, water vole, dormouse and otter.*
- *The medieval pattern of small villages and dispersed farming settlement remains central to the character of parts of Hertfordshire and Essex. Market towns have expanded over time as have the London suburbs and commuter settlements, with the creation of new settlements such as the pioneering garden city at Welwyn and the planned town at Basildon.*
- *Brick-built dwellings are characteristic from the late 17th century onwards. Prior to this dwellings and farm buildings tended to be timber built with weatherboarding, now mainly painted white but traditionally black or tarred, and whitewashed plaster walls.”*

Statement of Opportunity 3 (SEO 3) relates to the London Green Belt:

SEO 3: *Protect and appropriately manage the historic environment for its contribution to local character and sense of identity and as a framework for habitat restoration and sustainable development, ensuring high design*

standards (particularly in the London Green Belt) which respect the open and built character of the Thames Basin. Enhance and increase access between rural and urban areas through good green infrastructure links to allow local communities recreational, health and wellbeing benefits. For example by:

- *Conserving historic features in the landscape with heritage interest and improving the condition of heritage assets through appropriate measures, and seeking to reduce conflicting or unsympathetic management regimes.*
- *Conserving and interpreting archaeological earthworks and sub-surface archaeology while recognising the high potential in this landscape for undiscovered remains.*
- *Preserving and enhancing current public access sites including nature reserves, common land, country parks and public footpaths and rights of way to attract the wider community.*
- *Creating better access to the countryside with an increased number of public footpaths and rights of way so that more of the area is open access. Enhancing current public access paths would also be beneficial to make the experience of the countryside more inviting and enjoyable.*
- *Restoring the connectivity of key habitats as well as expanding and creating new habitats which will maintain and enhance their attraction for visitors. Also, working to increase species diversity and density to increase this attraction for the community.*
- *Preserving the open landscape, enhancing geodiversity and biodiversity, for example the iconic species and habitats that attract visitors, to preserve their appeal to the wider community.*
- *Maintaining and enhancing the status of Sites of Special Scientific Interest, Special Protection Areas, Special Areas of Conservation, National Nature Reserves and Ramsar sites. This will preserve the character of the landscape, protecting and enhancing the sense of place.*
- *Increasing awareness and raising understanding within the community of the natural environment to improve their appreciation of their landscape so as to help to enhance their experience. This will also help to instil a sense of place.*
- *Planning for future pressure from urban expansion and urban-related development, major roads and other infrastructure as a result of the expansion of Stansted and Luton international airports (impacting from adjacent NCAs) and the impact of strategic growth in and around the NCA, such as at the Thames and Haven Gateways, Chelmsford and Southend, and the regeneration in the Lea Valley. Seeking measures to help to implement the All London Green Grid frameworks in order to ensure that associated design standards are of a high quality and pay due regard to the natural environment for the benefit of people and wildlife.*
- *Planning for a new vision of agricultural landscapes in areas of significant planned growth such as within the Thames Gateway, Haven Gateway and M11 corridor, including, potentially, the exploration of new forms of community food growing and community land ownership, providing a 21st-century interpretation of the plotlands of the 1920s and 1930s that are characteristic of this NCA.*
- *Ensuring positive management of land that may be developed in the future to preserve the character of the area and not adversely affect the rural areas that provide many resources, including food provision, carbon sequestration and recreation for the rural and urban communities.*

4.2 Local Landscape Character

At a Local level, Havering have not produced their own Landscape Character Assessment. The landscape character of the area is however described within the 'Land of the Fanns' Landscape Character Assessment 2016¹ which covers an area defined by the sinuous path of the Thames in the south and the Brentwood Hills to the north.

The site lies within the Thurrock Reclaimed Fen Landscape Character Area (J).

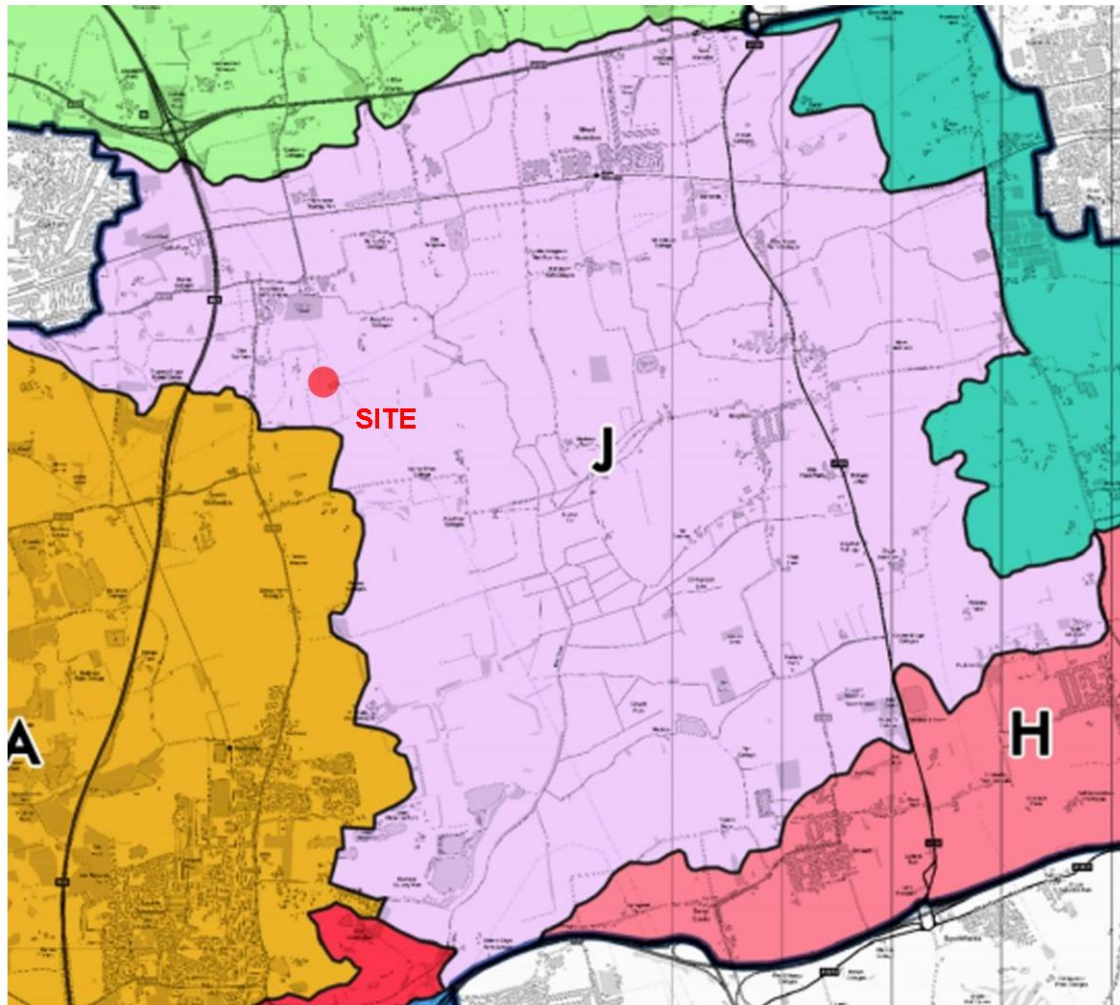


Figure 11 - Landscape Character Areas with the Land of the Fanns Landscape Character Assessment

The key characteristics of the LCA are described as:

- *London Clay geology with alluvial deposits associated with the upper reaches of the Mardyke and tributaries.*
- *Flat, open and exposed landscape with expansive views extending to the 15-20m contour at its fringes.*
- *Land use is predominately arable in large to medium sized fields but formerly extensive areas of fen.*

¹ Land of the Fanns Landscape Character Assessment, August 2016.
http://www.thameschase.org.uk/uploads/Thames_Chase/Trust_Projects/Land_of_the_Fanns/Landscape_Character_Assessment.pdf

- *Within the lowest lying areas there are few field boundaries and fields are drained by ditches.*
- *Hedgerows of mainly blackthorn and elm occur mainly in the outer fringes of the area.*
- *Woodland blocks are infrequent and rectilinear and recently planted with the exception of Clay Tye Wood.*
- *Willow and poplar are prevalent along ditches and watercourses.*
- *Place names reflect former areas of marsh and fen landscape which are steeped in history and folklore.*
- *Sparse settlement comprising dispersed pattern of farms and village of Bulphan and more recent development at West Horndon associated with the railway.*
- *There are numerous waterbodies in this landscape including field ponds and also reservoirs which are not visually significant.*
- *Strong rectilinear patterns as a result of field divisions, drainage ditches, hedgerows (often gappy) and causeway lanes.*
- *Settlement is dispersed and sparse and restricted to slight rising land or fen edges*

5 SITE APPRAISAL

The site is a flat arable field used as pasture of approximately 0.41 hectares. The southern boundary is defined by a mature hedgerow and parallel with the eastern boundary is a hedgerow and tree belt. To the north and west is the continuation of the arable pasture field. To the north west is Warley Electricity Substation.

The site lies within the curtilage of the existing Warley electricity substation which is defined by existing mature hedgerows and tree belts.



Figure 3 Aerial photograph of site with boundary. Substation curtilage highlighted.

Topography

The site is flat, being at approximately 13-14m AOD.

Hydrology

There are no water bodies on the site.

Vegetation

The site is predominantly open pastoral field used for occasional grazing. Hedgerows from the field boundary to the south and run parallel to the eastern boundary. Species include Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Sycamore (*Acer pseudoplatanus*), Bramble (*Rubus fruticosus*) and occasional Ivy (*Hedera helix*) and Hedge Bindweed (*Calystegia sepium*).

Beyond the eastern hedgerow is a row of mature trees. The dominant species include Oak (*Quercus robur*) and Hawthorn (*Crataegus monogyna*) and mixed within are Dog Rose (*Rosa canina*) and Blackthorn (*Prunus spinosa*).

These vegetation features are described at the Local Character level.

Settlement, Land Use and Field Pattern.

The site is currently used as arable pasture. There are no buildings or structures on site. The site forms part of a larger rectilinear field surrounding the whole of the Warley Electricity Substation.

The open arable field pasture is noted at the local level although the scale of the site itself is much smaller than the medium to large sized fields described.

Access and PRow

No public footpaths cross the site.

The site is accessed by a track from Warley Electricity Substation, which connects to Clay Tye Road.

There is also a disused field gate and gap that allows access off the track to the south leading to Fairplay Farm.

Inter-visibility

Field boundary hedgerows and the rolling landscape means that wide views of the surrounding area are not available. Views east are curtailed by the existing hedgerows and tree belt. Views south are curtailed by the existing hedgerow except for one small field gate gap. Views north are of the adjacent arable pasture field with hedgerow beyond curtailing views and are influenced by the large transmission pylons. Views west are partially screened by the existing Warley Electricity Substation with views of the pasture to the south east with the hedgerow beyond curtailing further views.

The majority of views are short range and curtailed close to the site by existing features and therefore intervisibility does not follow the expansive views described at the Local Character level.

Site Character

The site lies within the London metropolitan green belt. The condition of the site is considered to be poor as it has not been grazed or managed for some time and has been subject to previous disturbance when used as a compound and material storage area for other ongoing works of the Electricity Substation.

The site is generally tranquil with traffic noise of vehicle on Clay Tye Road and the distant hum of the motorway beyond. The site has no rare or unusual landscape features or historical assets.

The site has no rare or unusual landscape features or historical assets. The adjacent Warley Electricity Substation and the large transmission pylons are prominent from the site and are detractors to the sites quality. The site is considered to lie within the curtilage of the existing electricity substation and due to its proximity to existing infrastructure displays a different character to the arable fields beyond.

Overall the site is considered to be of **low** value.

In respect to susceptibility apart from the existing arable pasture there are no other features on the site which are susceptible to change, and overall the site has is likely to be able to accommodate the type of change proposed with little or no effect upon its integrity. Overall, the site is considered to have a **low** susceptibility.

Landscape sensitivity of the site is derived from a combination of value and susceptibility and is considered to be **low** for the site overall.

Summary

The site is a flat arable field used as pasture of approximately 0.41 hectares. Existing hedgerows are found to the south and east boundaries with a mature tree belt beyond to the east. There are no buildings or structures on site. The site forms part of a larger rectilinear field surrounding the whole of the Warley Electricity Substation.

No public footpaths cross the site. The site is accessed by a track from Warley Electricity Substation, which connects to Clay Tye Road and there is also a disused field gate and gap that allows access off the track to the south leading to Fairplay Farm.

The site is well contained by the existing hedgerows, tree belts and substation infrastructure, with a single short-range view through a hedgerow gap to the south and some long range views over existing vegetation to the north and north east.

Analysis of the site as a landscape receptor concludes that it is of low sensitivity.

6 BASELINE LANDSCAPE AND VISUAL CONDITION

6.1 Landscape Receptors

The following table summarises the different landscape features and character receptors that may be affected by the proposals. The sensitivity of landscape receptors has been determined by reference to the baseline assessment of the existing landscape resource. Further details of the landscape feature and its sensitivity is set out in Appendix 4 and summarised below:

Landscape Receptor	Value	Susceptibility	Sensitivity
Features			
Woodland, Trees	Medium	Medium	Medium
Hedgerows	Medium	Medium	Medium
Arable Pasture	Low	Medium	Low
Topography	Low	Low	Low
Field Pattern	Medium	Medium	Medium
The Site	Low	Low	Low
Character			
National: NCA 111 Northern Thames Basin	Medium	Low	Low
Local: Thurrock Reclaimed Fen LCA	Medium	Medium	Medium

Figure 4 - Table Summary of Landscape Receptors

6.2 Visual Appraisal

A visual appraisal of the site was undertaken in August 2020 to determine the relationship of the site with its surrounds, the visibility of the site within the wider landscape and the suitability of the site for development and the potential effect this would have on the landscape and visual characteristics of the area.

6.2.1 Zone of Theoretical Visibility

The Zone of Theoretical Visibility (ZTV or viewshed) describes the area from which the application site is potentially visible. A desktop study of the site was initially undertaken to determine the ZTV of the site using bare-earth Terrain 5 Data to provide a first pass. This was undertaken using a 10m high receptor and did not take account of built form or vegetation present within the landscape. This was then supplemented by field survey to verify or refine the viewshed in more detail to produce a Zone of Visual Influence (ZVI).

Drawing 'CSW 06' in Appendix 2 illustrates the ZTV and ZVI of the site.

The ZTV demonstrates that inter-visibility to the south is constrained by the surrounding topography which rises to the south. Inter-visibility is predominantly to the north, north-east and south east. However, the ZVI demonstrates that the majority of these views are constrained by the existing Warley Electricity substation and existing vegetation on the boundaries and in close proximity to the site.

Assessment of visual influence is focused on locations from which the site is most likely to be viewed, i.e. roads, footpaths and residential areas. Within the ZVI potential receptors of visual effects of the development have been identified.

Receptors include the public, residents, visitors and any other potential viewers of the development. Four Principal Viewpoints have then selected as representative views from receptor locations, with visualisations of the proposed development at Year 1 and Year 15 prepared.

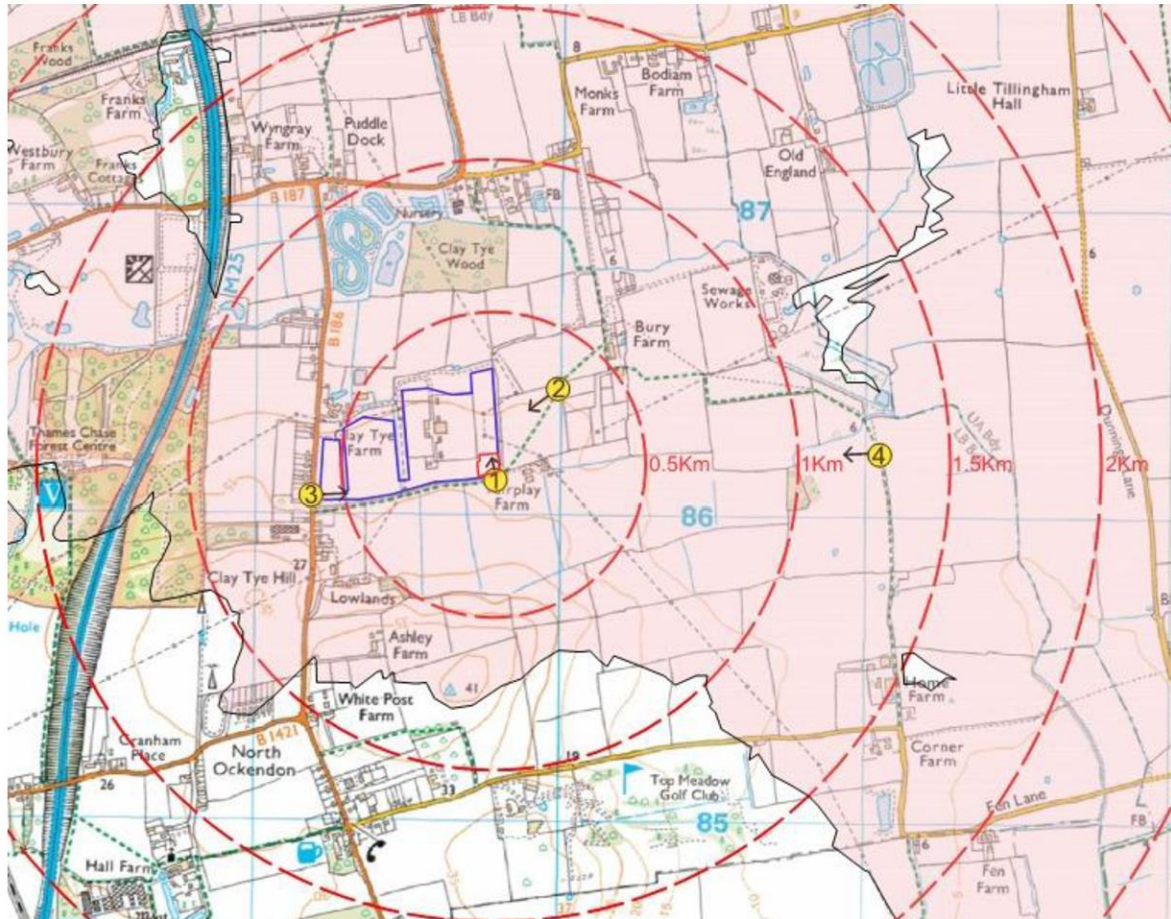


Figure 5 - Extract of Zone of Theoretical Visibility and Zone of Visual Influence (Drawing CSW 06)

Beyond the 2km area chosen, the visual impacts of the development are not considered likely to be significant. This is due in part to scale and height of the built components of development, the effect of reduced contrast between different landscape textures and colours at increasing distance and the increasing importance of atmospheric conditions in determining the availability of long-distance views. At these distances, the development is likely to be screened by local features, such as landform, buildings, and vegetation.

6.2.2 Visual Baseline of Principal Viewpoints

In order to represent the nature of identified views, a number of Principal Viewpoints (Nos. 1 – 4 inclusive) were selected. The photographic locations are illustrated on drawing 'CSW 06'. Detailed description of the Principal Viewpoints is included in Appendix 5 and summarised below.

Near Distance Views (0-200m)

Immediately to the south, Principal Viewpoint 1 illustrates the glimpsed, filtered, transient views of footpath users on a very short section of PRow footpath 232 where it passes a gap in the southern boundary hedgerow. Views elsewhere along the footpath east and west are screened by the hedgerow. The existing electricity transmission pylons are also visible and act as detracting elements.

Middle Distance Views (201m-1.5km)

Principal Viewpoint 3 illustrates the view from the west, which is a glimpsed, filtered, transient view by motorists at 90 degrees to their direction of travel along a short section of Clay Tye Road at the recently formed entrance and also of a single residential property 'King's Oak' opposite the newly formed entrance. The view is filtered by existing utilitarian metal palisade fencing in the foreground and the existing hedgerow and Warley Electricity Substation equipment in the mid ground. The existing electricity transmission pylons are the dominant features within the view.

Principal Viewpoint 2 shows that views from PRow footpath 232 to the east of the site are not possible as the site is hidden by the intervening hedgerow and tree belt. The existing electricity transmission pylons are dominant within the view.

Further to the east, Principal Viewpoint 4 illustrates that middle-distance views of the site from sections of PRow footpath 233 are curtailed by intervening hedgerows and tree belts. The existing electricity transmission pylons are obvious on the horizon.

Summary

The ZTV demonstrates that inter-visibility is predominantly to the north, north-east and south east. However, the majority of these views are constrained by the existing Warley Electricity substation and existing vegetation on the boundaries and in close proximity to the site.

The Principal Viewpoints demonstrate the only potential views of the site are a near distance view through a hedgerow gap on the southern boundary (PV 1) and a mid-distance view from the new entrance on Clay Tye Road (PV3). Both are glimpsed, filtered and transient in nature and are influenced by existing detracting features. Principal Viewpoints 2 and 4 demonstrate that existing hedgerows and tree belts surrounding the site curtail other potential views.

The existing Warley electricity substation and the tall electricity transmission pylons are considered to be detracting features which are obvious within many views in the locality.

7 DEVELOPMENT PROPOSALS

An explanation of the scheme's design and its evolution is set out elsewhere in documents that support this application.

The proposed development is for a battery storage scheme and related access roads and infrastructure. The scheme would be supported by a robust landscape framework, which would incorporate the creation of native tree and shrub planting and wildflower meadow.

The proposal is for a 40-year period at which point the site would be decommissioned and the land returned to arable pasture.



Landscape Scheme

The proposal would be supported by a robust landscape framework, which would include:

- Protection and enhancement of surrounding hedgerows and tree belt
- Native screen mix to site boundaries including tree and shrub species, contributing to green infrastructure and supporting biodiversity networks
- Tree planting introduced along the southern and western site boundaries, to provide screening from Principal Viewpoints as identified in this report.
- Tree species to be native, mainly deciduous and a minimum of 'Light Standard'.
- Wildflower Meadow for additional habitat
- Wood/ Brush pile habitats
- The scheme would implement any ecological recommendations.

8 CUMULATIVE EFFECTS OF COMMITTED DEVELOPMENTS

This section summarises the likely cumulative effects of the proposed development when considered with other committed developments (cumulative schemes).

The cumulative assessment assumes a worst case scenario whereby the proposed development and cumulative schemes are all complete at the same time.

The following sites have been identified as committed developments that may alter the landscape and visual context of the site.

1. Construction of a new site access road to Warley 275kV Electricity Substation - P0938.17 (under construction – close to completion)

2. Proposed energy storage facility to provide energy balancing services to the National Grid - Phase 2 - P0888.18 (Not Implemented)

The above schemes are located to the west of the existing substation, closer to Clay Tye Road. Assuming these were implemented then the visual effects of the proposed development would reduce as the committed schemes will screen the proposed development site. There would be a negligible beneficial cumulative visual effect.

The existing substation has an industrialised landscape character and the recent and committed development will reinforce this character. The proposed development will introduce additional built form and could be considered to further industrialise the character of the area. However, due to the reduced visibility resulting from the committed development, further effects will not be appreciable from any receptor in the long term. A negligible adverse cumulative landscape effect would initially occur but would continue to reduce in the long term.

Summary

The cumulative effects of committed developments alongside the proposed development will have a **negligible beneficial** visual effect and a **negligible adverse** landscape effect in the long term.

9 LANDSCAPE AND VISUAL EFFECTS

This section summarises the likely effects of the proposed development on the identified landscape features, published landscape character types, visual receptors and relevant policies.

Appendices 4 and 5 state the potential landscape and visual effects in full, including for the sensitivity of the identified receptors. The assessment is undertaken for the following operational stages of the development:

- Year 1 (this refers to year 1 of the completed scheme) during winter.
- Year 15 (this refers to year 15 of the completed scheme) during summer.

9.1 Effects on Landscape Features

The effects on landscape features are set out within Appendix 4, and summarised below:

- **Woodland and Trees:** All surrounding trees are to be retained. As part of the proposal native trees would be planted along the boundaries, providing a negligible beneficial effect in year 1 and a minor beneficial effect in year 15.
- **Hedgerows:** The existing surrounding hedgerows would be retained and will not be effected by the proposed development resulting in neutral effect at year 1 and negligible beneficial effect at year 15 once the landscape framework matures.
- **Arable pasture:** A proportion of the poor condition, low-quality pasture will be replaced by the proposed built form of the battery storage containers and access tracks. However other areas of the site will be improved through native species rich wildflower meadow and tree and shrub planting. The loss of this common landscape feature will not have a significant detrimental effect. A moderate adverse effect is considered to arise at Year 1 and once the landscape framework matures in the long term this will reduce to negligible adverse at year 15.
- **Topography:** The development would not impact on site topography resulting in a neutral effect at year 1 and at year 15.
- **Field Pattern:** The development would not impact on the field pattern resulting in a neutral effect at year 1. In the long term, at year 15 the proposed planting will mature and reinforce the field pattern with a negligible beneficial effect.
- **The Site:** All of the important landscape features surrounding the site would be retained with hedgerows and trees being protected and reinforced. The introduction of the proposed development on the arable pasture would have an adverse landscape effect, although this would be restricted to the site. However, this is considered to be balanced by the introduction of wildflower meadow and native tree and shrub planting. Overall, the effect on the existing landscape resource is initially considered to be moderate adverse significance of effect at year 1, improving to negligible adverse at year 15 when the proposed planting matures.

Regarding landscape features, the proposed development would have a long-term **neutral to minor beneficial** effect on the most significant landscape features on and surrounding the site including the woodland, trees, hedgerows, topography and field pattern; and a **negligible adverse** effect on the arable pasture and the site overall.

9.2 Effects on Landscape Character

The landscape character effects are set out within Appendix 4 of the LVIA, and summarised below:

- At a National scale (NCA 111: Northern Thames Basin): The site is not typical of the characteristics of the NCA. The scale and extent of the proposed development in relation to that of the character area is considered to be very small and the proposed development would have a neutral effect on National Character Area at year 1 and year 15.
- At a local scale (Thurrock Reclaimed Fen LCA): The site is considered to lie within the curtilage of the existing electricity substation and due to its proximity to existing infrastructure displays a different character to the arable fields and the Thurrock Reclaimed Fen beyond. While the proposal would result in a loss of the arable land in year 1, due to a lack of intervisibility this would not be perceptible from other parts of the Character Area resulting in a neutral effect. By year 15, the boundary hedgerow and tree planting will reinforce the existing characteristic hedgerows and field pattern, responding positively to the LCA and improving the effect to negligible beneficial.

Regarding landscape character effects, the proposed development would not impact on the key characteristics of both NCA 111: Northern Thames Basin and the Thurrock Reclaimed Fens LCA. The proposed hedgerows and tree planting of landscape framework will reinforce hedgerow and field pattern characteristics of the LCA. Overall, there would be a **neutral** effect on the NCA and **negligible beneficial** effect on LCA at year 15.

9.3 Visual Effects

The visual effects are set out within Appendix 5 of the LVIA, and summarised below:

- From the PROW's to the east near-distance and mid-distance views (PV 2 and PV4), are screened by existing vegetation and have no views of the site or the proposed development. These will have neutral effects in the long term.
- From the south, (PV 1) represents the views of footpath users on the PROW through a small hedgerow gap at 90 degrees to the direction of travel. The view is already influenced by existing detracting features. In the long term, at year 15 the proposed hedgerow and tree planting will screen both existing detracting features and the proposed development resulting in a Negligible Beneficial effect.
- From the west (PV 3) represents the views of motorists and footpath users on Clay Tye Road and of a single residential property 'King's Oak' opposite the newly formed entrance are screened by existing hedgerows and palisade fencing and has no view of the site or the proposed development. This will have a neutral effect in the long term.

Regarding visual effects, the site is visually well contained, with no views of the development from the majority of receptors with **neutral** effects. At Year 1 the proposed development will only be visible from a very short section of a rarely used public footpath to the south. In the long term once proposed hedgerow and tree planting matures effects on this receptor are improved to **negligible beneficial**.

9.4 Response to Policy

The Proposed Development has been considered against the relevant landscape and visual policies outlined in section 3.

National Planning Policy Framework

In respect to NPPF paragraphs 130 and 174 the proposed development has been appropriately located to utilise a plot which forms part of the existing curtilage of the Warley electricity substation and the development is in context with the immediate site surroundings. The development promotes a landscape framework which is appropriate to the area, with native hedgerow, tree and shrub planting and wildflower meadow providing reinforcing the characteristics of the wider landscape character.

NPPF - London Metropolitan Green Belt

In the context of the five prescribed functions of the Green Belt, the provision of the development in this location would not adversely impact the purposes of designating the land, apart from ‘assist in safeguarding the countryside from encroachment’ (Purpose 3). This is supported by the Havering Green Belt Study 2016 (LBHLP.26).

This section considers whether the proposed development is inappropriate development in the Green Belt arising from the impact of development on landscape character and visual impact (the reasons for refusal of the previous application). The test is whether there is an unacceptable impact on openness.

The concept of ‘openness of the Green Belt’ is not legally defined and as held in the recent supreme court decision in *R (Samuel Smith Old Brewery (tTadcaster) and others) v North Yorkshire County Council [2020] UKSC 3*² it was confirmed that *...“matters relevant to openness in any particular case are a matter of planning judgement, not law.”* (para 39).

This reinforces the guidance set out within the Green Belt PPG³ and that *“...openness is capable of having both spatial and visual aspects – in other words, the visual impact of the proposal may be relevant, as could its volume”*. Visual impacts may therefore be relevant to openness as a matter of planning judgement. In the case of the proposed development the visibility of the site is considered to be the overriding aspect.

The LVIA demonstrates that the visual impact of the proposed development is very limited and confined to a single view as the site is contained by existing vegetation features. In the long term the development would result in beneficial effect on the existing view.

Impact on the openness of the Green Belt due to the proposed development will not be visually perceived from any public receptor and therefore the proposed development has a *limited* loss of openness due to volumetric increases of the built form and very special circumstances must therefore be demonstrated.

² R (on the application of Samuel Smith Old Brewery (Tadcaster) and others) (Respondents) v North Yorkshire County Council (Appellant) <https://www.supremecourt.uk/cases/docs/uksc-2018-0077-judgment.pdf>

³ Green Belt PPG, Paragraph: 001 Reference ID: 64-001-20190722 <https://www.gov.uk/guidance/green-belt>

The London Plan

In regards to Policy D1 *London's form, Character and Capacity for Growth*, the proposed development site forms part of the existing curtilage of the Warley electricity substation and the development is in context with the immediate site surroundings. The scale and mass of the proposals are congruous with the existing substation and the proposed planting will reinforce the existing characteristic hedgerows and field pattern described within the local character assessment for the long term.

In relation to Policy G2 *London's Green Belt*, the site forms part of the existing curtilage of the Warley electricity substation and the development is in context with the immediate site surroundings. As previously noted the impact on the openness of the Green Belt due to the proposed development will not be visually perceived from any public receptor and therefore the proposed development has a *limited* loss of openness due to volumetric increases of the built form.

Whilst the exceptional circumstances pertaining to the location of the development are set out in the Planning Statement, the assessment of landscape and visual impacts demonstrates that harm is negligible and this in itself is a material consideration which must be taken into account in balancing the extent to which there is harm to Green Belt policies.

Havering Local Development Framework

With regard to Policy DC22 Thames Chase Community Forest, the development will not have an adverse impact on the Community Forest or compromise its recreational objectives. The development makes a positive contribution to the Community Forest through the proposed hedgerow, tree and shrub and wildflower meadow planting.

Regarding Policy DC45 Metropolitan Green Belt, the site forms part of the existing curtilage of the Warley electricity substation and the development is in context with the immediate site surroundings. As previously noted the impact on the openness of the Green Belt due to the proposed development will not be visually perceived from any public receptor and therefore the proposed development has a *limited* loss of openness due to volumetric increases of the built form.

Regarding Policy DC50 Renewable Energy the LVIA has demonstrated that the proposed development will not be detrimental to the character of the surrounding area and there is no demonstrable harm to visual or residential amenities. Battery storage is seen by Government to be an essential part of the energy mix and OFGEM have stated that projects of this kind have a key role: *"...by harnessing the potential of energy storage... we have an opportunity to upgrade to one of the most efficient, productive energy systems in the world. This is central to how we deliver secure, affordable and clean energy now and in the future"*. Policy DC50 must therefore be considered and given appropriate weight within the planning balance. The resulting low level beneficial visual effects and landscape character effects are in accordance with policy DC50.

Havering Landscaping SPD

In regards to the Landscaping SPD, the proposed development supports the SPD through the introduction of native tree and shrub planting which will reinforce the existing characteristic hedgerows and field pattern of the surroundings.

Summary

The proposed development would respond positively to landscape related policies at National and Local levels. The proposal would not adversely affect important landscape features, historical features, ecologically designated sites, valued landscape or conservation areas or visual character and would therefore be in accordance with related planning policy. In addition the proposed landscape framework would provide landscape and biodiversity enhancements in accordance with planning policy.

The impact on the openness of the Green Belt due to the proposed development will not be visually perceived from any public receptor and therefore the proposed development has a *limited* loss of openness due to volumetric increases of the built form. No harm therefore arises to the openness of the Green Belt taken as a whole to the extent that it would outweigh the very special circumstances that justify development within the Green Belt for the specific purposes of low carbon energy generation.

The proposed development is in accordance with Policy DC50 which must be considered and given substantial weight within the planning balance.

10 LIMITATIONS AND ASSUMPTIONS

The principal assumptions and limitations for this assessment are:

Assessment of sensitivity of receptors and the magnitude of change due to the development are inherently subjective and based on professional judgement.

11 CONCLUSION

Background

Clearstone Energy Ltd has asked Weddle Landscape Design to prepare a Landscape and Visual Impact Assessment (LVIA) for a site adjacent to Warley Substation, Upminster.

Site Context

The site is situated within the administrative area of the London Borough of Havering. The site area is approximately 0.41 hectares and located 8.75km east of Havering centre at Ordnance Survey grid reference TQ 597 861.

The landform in the immediate vicinity of the site is flat with the site located at 14m AOD. Small localised hills rise to approximately 40m AOD with the closest being Clay Tye Hill to the south and south west. There are no significant hydrological features in the surrounding area.

The main vegetation patterns in the surrounding landscape are arable farmland, with hedgerows, intermittent trees, tree belts or Copses which divide the fields. There are larger woodlands to the north, Clay Tye Wood, and west, Thames Chase Forest Centre.

The site and surrounding land is designated as London Metropolitan Green Belt. The nearest other designation is a Local Nature Reserve (LNR) 'Cranham Brickfields', approximately 2km to the north-west of the site. Listed buildings are scattered throughout the area but none are located within 500m of the site.

The Site

The site is a flat arable field used as pasture of approximately 0.41 hectares. Existing hedgerows are found to the south and east boundaries with a mature tree belt beyond to the east. There are no buildings or structures on site. The site forms part of a larger rectilinear field surrounding the whole of the Warley Electricity Substation.

No public footpaths cross the site. The site is accessed by a track from Warley Electricity Substation, which connects to Clay Tye Road and there is also a disused field gate and gap that allows access off the track to the south leading to Fairplay Farm.

The site is well contained by the existing hedgerows, tree belts and substation infrastructure, with a single short-range view through a hedgerow gap to the south and some long range views over existing vegetation to the north and north east.

Analysis of the site as a landscape receptor concludes that it is of low sensitivity.

Visibility of the site

The ZTV demonstrates that inter-visibility is predominantly to the north, north-east and south east. However, the majority of these views are constrained by the existing Warley Electricity substation and existing vegetation on the boundaries and in close proximity to the site.

The Principal Viewpoints demonstrate the only potential views of the site are a near distance view through a hedgerow gap on the southern boundary (PV 1) and a mid-distance view from the new entrance on Clay Tye Road (PV3). Both are glimpsed, filtered and transient in nature and are influenced by existing detracting features. Principal Viewpoints 2 and 4 demonstrate that existing hedgerows and tree belts surrounding the site curtail other potential views.

The existing Warley electricity substation and the tall electricity transmission pylons are considered to be detracting features which are obvious within many views in the locality.

The Proposed Development

The proposed development is for a battery storage scheme and related access roads and infrastructure. The scheme would be supported by a robust landscape framework, which would incorporate the creation of native tree and shrub planting and wildflower meadow.

The proposal is for a 40-year period at which point the site would be decommissioned and the land returned to arable pasture.

Landscape and Visual Effects

Regarding landscape features, the proposed development would have a long-term **neutral to minor beneficial** effect on the most significant landscape features on and surrounding the site including the woodland, trees, hedgerows, topography and field pattern; and a **negligible adverse** effect on the arable pasture and the site overall.

Regarding landscape character effects, the proposed development would not impact on the key characteristics of both NCA 111: Northern Thames Basin and the Thurrock Reclaimed Fens LCA. The proposed hedgerows and tree planting of landscape framework will reinforce hedgerow and field pattern characteristics of the LCA. Overall, there would be a **neutral** effect on the NCA and **negligible beneficial** effect on LCA at year 15.

Regarding visual effects, the site is visually well contained, with no views of the development from the majority of receptors with **neutral** effects. At Year 1 the proposed development will only be visible from a very short section of a rarely used public footpath to the south. In the long term once proposed hedgerow and tree planting matures effects on this receptor are improved to **negligible beneficial**.

Response to landscape related planning policy

The proposed development would respond positively to landscape related policies at National and Local levels. The proposal would not adversely affect important landscape features, historical features, ecologically designated sites, valued landscape or conservation areas or visual character and would therefore be in accordance with related planning policy. In addition the proposed landscape framework would provide landscape and biodiversity enhancements in accordance with planning policy.

The impact on the openness of the Green Belt due to the proposed development will not be visually perceived from any public receptor and therefore the proposed development has a *limited* loss of openness due to volumetric increases of the built form. No harm therefore arises to the openness of the Green Belt taken as a whole to the extent that it would outweigh the very special circumstances that justify development within the Green Belt for the specific purposes of low carbon energy generation.

The proposed development is in accordance with Policy DC50 which must be considered and given substantial weight within the planning balance.

Summary

Overall, as demonstrated within this LVIA, the proposed development would be successfully assimilated into the existing landscape curtilage of Warley electricity substation without adversely impacting on the surrounding arable character of the Thurrock Reclaimed Fenn farmland. Visual effects are very localised and existing views are adversely effected by existing pylons and substation equipment.

Protection and enhancement of the most significant landscape features, which provide visual containment and are characteristic of surrounding character, combined with additional landscape and biodiversity enhancements, would result in a long-term **negligible adverse to minor beneficial** effect on landscape features, a **neutral to negligible beneficial** effect on landscape character, a **neutral to negligible beneficial** visual effect and a positive response to landscape related policy at National and Local levels.

None of the Landscape of Visual effects resulting from the development are considered to be significant and are predominantly beneficial in nature.

The site forms part of the existing curtilage of the Warley electricity substation and the development is in context with the immediate site surroundings. The proposed development will have no perceived visual impact on the openness of the green belt and the *limited* impacts on the openness of the green belt are due to volumetric effects of built form. Whilst the very special circumstances pertaining to the location of the development are set out in the Planning Statement, the LVIA demonstrates that harm is negligible and this in itself is a material consideration which must be taken into account in balancing the extent to which there is harm to Green Belt policies.

The proposed development has been shown to be in accordance with Policy DC50 which must be considered and given substantial weight within the planning balance.

APPENDICES

Appendix 1: LVIA Methodology

Appendix 2: Drawing CSW 06 Zone of Theoretical Visibility ZVI

Appendix 3: Principal Viewpoints and Visualisations

Appendix 4: Landscape Effects Table

Appendix 5: Visual Effects Table

Appendix 6: Published Landscape Character Extracts

APPENDIX 1: LVIA METHODOLOGY

1.0 Introduction

Landscape and Visual Impact Assessment methodology is based on 'Guidelines for Landscape and Visual Impact Assessment (Third Edition, 2013), published by the Landscape Institute and the Institute of Environmental Management and Assessment. Impacts examined as part of the assessment process fall into the following two categories:

- Landscape impacts. This part of the assessment deals with impacts on the landscape resource. The landscape resource is examined in terms of features, character, quality, value and resulting sensitivity to change. Impacts are then analysed in relation to these factors.
- Visual impacts. This part of the assessment deals with impacts on views of the landscape and examines public perception of landscape change. Potential visual receptors with views of the proposed development are identified and their sensitivity examined. Impacts are then analysed in relation to the nature and sensitivity of these views.

The existing landscape and visual circumstances at the development site are examined, to establish baseline conditions. Impacts of the proposed development can then be examined against this baseline. After potential impacts are identified, these are addressed through alterations to the development proposals to avoid, reduce or mitigate against and adverse impacts can then be addressed.

This methodology is adapted to the specific nature and landscape context of different development projects, with different elements of the various areas of analysis being more or less important.

2.0 Baseline Studies

The purpose of baseline studies are to identify the existing landscape features, characteristics, potential visual receptors and the way in which the landscape is experienced. The following are typically undertaken as part of the baseline studies:

- Identification of the extents of the study area. The extent of this is based on professional judgement and may vary depending on the type of development proposed
- A desktop study of patterns and scale of landform, land use and built development, relevant current planning policy (including landscape designations) and landscape character publications. This provides guidance on the general landscape character of the surrounding area
- Zone of Theoretical Visibility (ZTV)
- Identification of potential representative viewpoints within the study area. The viewpoints chosen are not intended to be exhaustive but rather to build up a picture of the areas from which the proposed development is potentially visible.
- Site visits to public viewpoints to determine the likely visibility of the development.

3.0 Assessment of Landscape Effects

The GLVIA 3 in Paragraph 5.1 states that:

“An assessment of landscape effects deals with the effects of change and development on landscape as a resource.”

In order to assess the landscape effects, the sensitivity of the landscape receptor and the magnitude of effect experienced as a result of the Proposed Development is assessed.

Sensitivity of Landscape Receptors

The sensitivity of a landscape receptor is a combination of the value of the landscape receptor and the susceptibility of the landscape receptor to the type of change proposed, using professional judgement.

Landscape Value

The GLVIA 3 Glossary defines landscape value as:

“The relevant value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a variety of reasons”

Landscapes, including their character and features, may be designated at a range of levels (international, national, county and local level), examples of which are set out in Table 1.

Table 1: Landscape Value - Designations

Level	Description
High	Features or areas likely to be of international or national importance, designated at national or international level
Medium	Features or areas likely to be of county or borough importance, designated at county or borough level
Low	Features likely to be of importance to the local community but have little or no wider recognition of their value, and are not designated
Very Low	Features or areas with little or no evidence of being valued by the community, and are not designated.

The assessment of value is based on a combination of the importance of landscape-related planning designations and the following attributes:

- Landscape quality (condition): the measure of the physical state of the landscape. It may include the extent to which typical landscape character is represented in individual areas, the intactness of the landscape and the condition of individual elements.
- Scenic quality: the extent that the landscape receptor appeals to the visual senses;
- Perceptual aspects: the extent that the landscape receptor is recognised for its perceptual qualities (e.g. remoteness or tranquillity);
- Rarity: the presence of unusual elements or features;
- Representativeness: the presence of particularly characteristic features;
- Recreation: the extent that recreational activities contribute to the landscape receptor; and
- Association: the extent that cultural or historical associations contribute to the landscape receptor.

The overall value for each landscape receptor is categorised as High, Medium, Low or Very Low.

Landscape Susceptibility

The GLVIA 3 Glossary defines landscape susceptibility as:

"The ability of a defined landscape...receptor to accommodate the specific proposed development without undue negative consequences"

The following criteria is taken into consideration in the assessment of landscape susceptibility, although not all criteria are equally applicable or important within a given landscape / type of development proposed:

- Landform;
- Pattern/Complexity;
- Composition;
- Landcover; and
- Relationship of a given landscape area to any existing settlements or developments.

Landscape susceptibility of the character of the landscape / of the features is categorised as High, Medium or Low, as set out in Table 2. Landscape susceptibility can also be considered in the context of the capacity of landscape / landscape features to accommodate change. A landscape / landscape feature of low susceptibility would have a high capacity to accommodate change, and a landscape / landscape feature of high susceptibility would have a low capacity to accommodate change.

Table 2: Landscape Susceptibility

Susceptibility	Criteria
High	The receptor is likely to have little scope to accommodate the type of change proposed without undue effects upon its overall integrity.
Medium	The receptor is likely to have some scope to accommodate the type of change proposed without undue effects upon its overall integrity.
Low	The receptor is likely to be able to accommodate the type of change proposed with little or no effect upon its overall integrity.

Based on the combination of value and susceptibility, an assessment of landscape sensitivity is reached, defined as High, Medium and Low.

Table 3: Landscape Sensitivity (Value + Susceptibility)

Sensitivity	Criteria
High	A landscape receptor of potentially international or national importance. The landscape features and character are the basis for designation and are likely to be largely intact and in a good condition with little scope to accommodate the type of change proposed without undue effects upon its overall integrity.
Medium	A landscape receptor that is potentially valued at a county level. The landscape may be in reasonably good condition with some scope to accommodate the type of change proposed without undue effects upon its overall integrity.
Low	A landscape receptor that may or may not be valued at a local level and may comprise a number of detracting elements. The landscape may be in a poor condition and can accommodate the type of change proposed with little or no effect upon its overall integrity.

Landscape Magnitude of Effect

The landscape magnitude of effect is informed by judgements about the size and extent of the change brought about by the Proposed Development both in terms of the existing landscape character and landscape elements / features and the addition of new landscape elements / features, and its duration and reversibility.

Table 4: Landscape Magnitude of Effect

Magnitude	Criteria
Large	Total alteration to the existing landscape receptor; may affect an extensive area.
Medium	Partial alteration to the existing landscape receptor; may affect a wide area.
Small	Slight alteration to the existing landscape receptor; may affect a restricted area.
Very Small	Very slight alteration to the existing landscape receptor; may affect a limited area.
None	No change to the existing landscape receptor.

4.0 Assessment of Visual Effects

The GLVIA 3 Paragraph 6.1 states that:

“An assessment of visual effects deals with the effects of change and development on the views available to people and their visual amenity.”

In order to assess the visual effects, the sensitivity of the visual receptor and the magnitude of effect experienced as a result of the Proposed Development is assessed.

Viewpoint Selection

In order to assess the effects on visual receptors, a selection of publicly accessible viewpoints is made, which could include representative viewpoints (e.g. representing views of users of a particular footpath) and specific viewpoints (e.g. a key view from a specific visitor attraction).

Views are categorised as either near distance, medium distance or long distance with the relevant distance's dependant on the size and nature of the development, based on professional judgement.

The type of view is typically described firstly as transient (i.e. in passing) or fixed (i.e. from a static location) and then in relation to being filtered (i.e. through intervening vegetation), oblique (i.e. not within the direct field of view), or open (i.e. uninterrupted).

Photographs of representative viewpoints are taken at eye level with a focal length of 35mm (equivalent to 50mm on a conventional 35mm camera), to create the view which is generally accepted as being closest to that seen by the human eye, in accordance with the Landscape Institute Advice Note 01/11 'Photography and photomontage in landscape and visual impact assessment'. The photographs used are intended only to give an indication of the view discussed and are not a substitute for visiting the site in person.

Panoramic views consisting of photographs taken by the criteria outlined above are merged together using computer software. No other photographic manipulation is undertaken.

Due to the infinite number of possible viewpoints to choose from, those chosen are done so on the basis of their location in relation to the site and landform. These are further reduced to concentrate on those receptors that are identified as being of 'high' or 'very high' sensitivity. Beyond the area chosen, the visual impacts of the development are not considered likely to be significant. At these distances, the development is likely to be screened by local features, such as landform, buildings and vegetation or become a recessive element within the landscape.

A brief description of the existing land use of the area is provided and includes reference to existing settlements, transport routes and vegetation cover, as well as local landscape designations, elements of cultural and heritage value and local landmarks or tourist destinations. These factors combine to provide an understanding of landscape value and sensitivity, and an indication of particular key views and viewpoints that are available to visual receptors and therefore are to be included in the visual assessment.

Sensitivity of Visual Receptors

The sensitivity of a visual receptor is a consideration of the value of the view and the susceptibility of the visual receptor to the type of change proposed, using professional judgement, as set out in Table 5 and 1.6 respectively.

Table 5: Visual Value

Level	Value
High	View from a location that is likely to be of national importance, either designated or with national cultural associations, where the view obtained forms an important part of the experience.
Medium	View from a location that is likely to be of local importance, either designated or with local cultural associations, where the view obtained forms part of the experience.
Low	View from a location that is not designated, with minimal or no cultural associations.

Table 6: Visual Susceptibility

Level	Susceptibility
High	People at their place of residence; People engaged in outdoor recreation, including users of Public Rights of Way (PRoW), whose attention is likely to be focused on the landscape; and People travelling along recognised scenic routes or where their appreciation of the view contributes to the amenity experience of their journey.
Medium	People engaged in outdoor sport and recreation, where their appreciation of their surroundings is incidental to their enjoyment; and People travelling on secondary roads or country lanes, rail or other transport routes.
Low	People travelling on major roads; People at their place of work.

Based on the combination of value and susceptibility, an assessment of visual sensitivity is reached, defined as High, Medium and Low.

Table 7: Visual Sensitivity (Value + Susceptibility)

Sensitivity	Criteria
High	Typically a view from a location that is likely to be of national importance, where the view obtained forms an important part of the experience. The receptor may be a person in their place of residence / engaged in outdoor recreation using local public rights of ways.
Medium	Typically a view from a location that is likely to be of local importance. The receptor may be engaged in outdoor sport or travelling secondary roads or country lanes.
Low	Typically a view from a location that has no cultural associations or designations. The receptor may be travelling a major road or at their place of work.

Visual Magnitude of Effect

In the evaluation of the effects on views and the visual amenity of the identified receptors, the magnitude of visual effect is typically described with reference to:

- The scale of change in the view with respect to the loss or addition of features in the view and changes in its composition;
- The duration and nature of the effect, whether temporary or permanent, intermittent or continuous;
- The angle of view in relation to the main activity of the receptor;
- The distance of the viewer from the Proposed Development; and
- The extent of the area over which the changes would be visible.

The magnitude of visual effect classifications are set out in Table 8.

Table 8: Visual Magnitude of Effect

Magnitude	Criteria
Large	The proposals will cause a pronounced or complete change or contrast to the existing view, resulting in the loss or addition of features that will substantially alter the composition of the view.
Medium	The proposals will cause a noticeable change or contrast in the view, resulting from the loss or addition of features in the view and will noticeably alter the composition of the view.
Small	The proposals will cause an unobtrusive change or contrast in the view, which would not materially alter the composition of the view.
Very Small	The proposals will cause a barely perceptible change or contrast in the view, which would not materially alter the composition of the view.
None	No change discernible in the view.

A.5 Significance of Effects

In order to draw conclusions about the significance of landscape or visual effects, the combination of the sensitivity of the receptors and the magnitude of effects are considered for the Proposed Development at Year 1 and Year 15.

Significance is a combination of the magnitude and the sensitivity of the receptor. Impacts of greater magnitude are likely to be more significant. Significance will also depend on the sensitivity of the landscape to change, assessed in the baseline analysis.

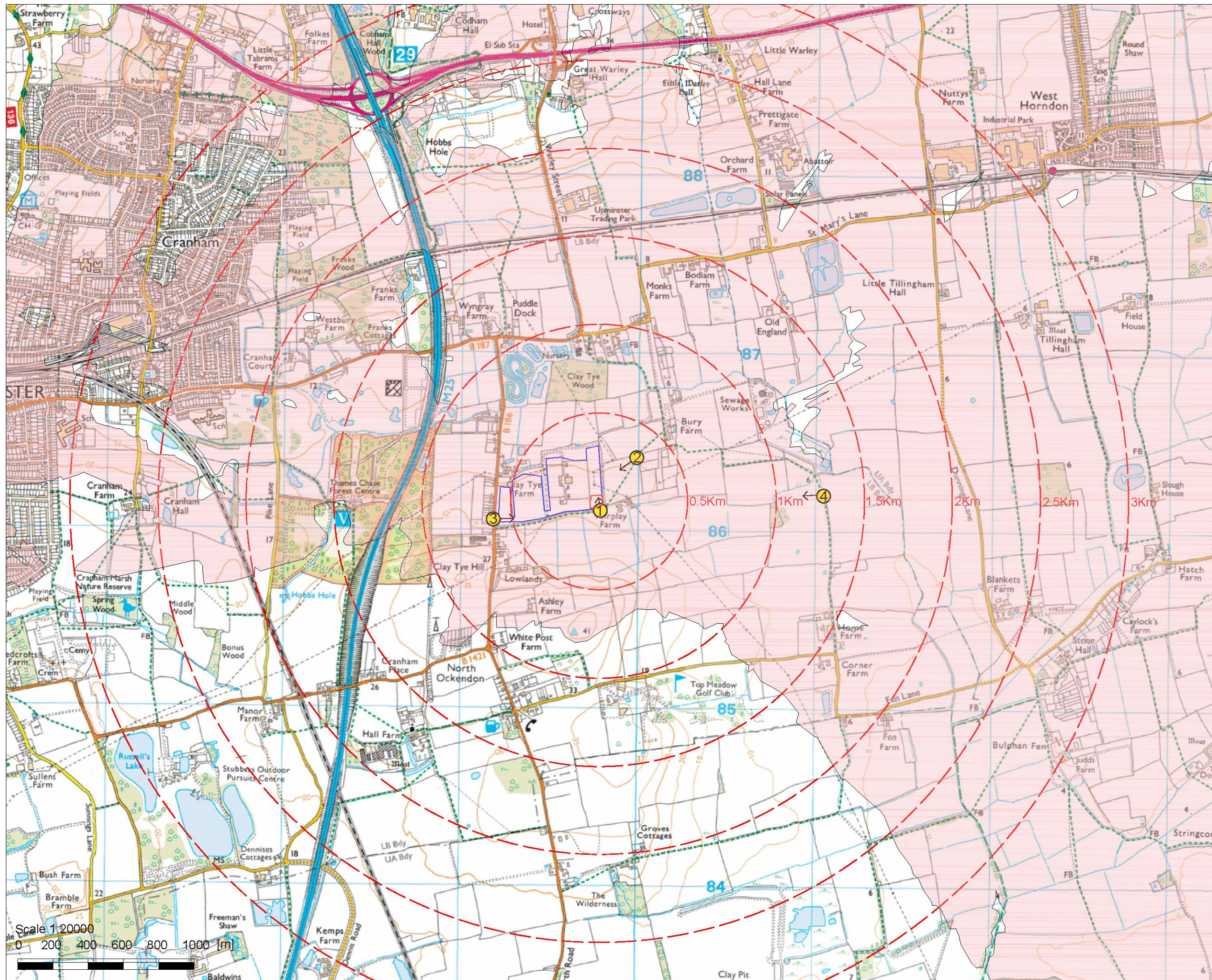
Table 9: Landscape Effects Criteria

Effect	Landscape
Major Beneficial	Alterations that result in a considerable / total and distinct improvement of the existing landscape resource. Valued characteristic features would be restored or reintroduced as part of the Proposed Development.
Moderate Beneficial	Alterations that result in a partial improvement of the existing landscape resource. Valued characteristic features would be largely restored or reintroduced.
Minor Beneficial	Alterations that result in a slight improvement of the existing landscape resource. Characteristic features would be partially restored.
Negligible Beneficial	Alterations that result in a very slight improvement to the existing landscape resource, not uncharacteristic within the receiving landscape.
Neutral	No alteration to any of the components that contribute to the existing landscape resource.
Negligible Adverse	Alterations that result in a very slight deterioration to the existing landscape resource, not uncharacteristic within the receiving landscape.
Minor Adverse	Alterations that result in a slight deterioration of the existing landscape resource. Characteristic features would be partially lost.
Moderate Adverse	Alterations that result in a partial deterioration of the existing landscape resource. Valued characteristic features would be largely lost.
Major Adverse	Alterations that result in a considerable / total and distinct deterioration of the existing landscape resource. Valued characteristic features would be wholly lost.

Table 10: Visual Effects Criteria

Effect	Visual
Major Beneficial	Alterations that typically result in a pronounced improvement in the existing view.
Moderate Beneficial	Alterations that typically result in a noticeable improvement in the existing view.
Minor Beneficial	Alterations that typically result in a limited improvement in the existing view.
Negligible Beneficial	Alterations that typically result in a barely perceptible improvement in the existing view.
Neutral	No change to the existing view.
Negligible Adverse	Alterations that typically result in a barely perceptible deterioration in the existing view.
Minor Adverse	Alterations that typically result in a limited deterioration in the existing view.
Moderate Adverse	Alterations that typically result in a noticeable deterioration in the existing view.
Major Adverse	Alterations that typically result in a pronounced deterioration in the existing view.

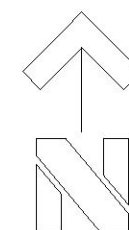
APPENDIX 2: DRAWING CSW 06 ZONE OF THEORETICAL VISIBILITY AND ZONE OF VISUAL INFLUENCE



KEY:

- Distance
- Principal Viewpoint
- Site Boundary
- Zone of Theoretical Visibility (ZTV)
- Zone of Visual Influence (ZVI)

Note: ZTV based on visibility of bare earth
Terrain 5 OS data model from a single
point position set to +24m AOD (10m
above ground level).
ZVI is based on field survey to verify or
refine the viewshed in more detail.



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Job: **CLEARSTONE, WARLEY**

Title: **ZONE OF THEORETICAL VISIBILITY
(ZTV) AND ZONE OF VISUAL
INFLUENCE (ZVI)**

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1:20,000	PM	OCT 20	1267	CSW 06	A

APPENDIX 3: PRINCIPAL VIEWPOINTS AND VISUALISATIONS



ACTUAL SIZE EXTRACT: RECOMMENDED VIEWING DISTANCE 400MM @ A3



PRINCIPAL VIEWPOINT 1: VIEW FROM FOOTPATH LOOKING NORTH INTO EXISTING SITE

DISTANCE FROM SITE: 50M
 ELEVATION: 21M AOD
 OS GRID REFERENCE: SE464564
 PHOTOGRAPH TAKEN: 27TH AUGUST 2020
 WEATHER CONDITIONS: SCATTERED CLOUD
 CAMERA: NIKON D3200, 35MM FOCAL LENGTH



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Title VISUAL IMPACT ASSESSMENT PRINCIPAL VIEWPOINT 1 (EXISTING)					
scale@A3 1:20,000	drawn P.M.	date JUN 21	job number 1267	number N/A	revision -



ACTUAL SIZE EXTRACT: RECOMMENDED VIEWING DISTANCE 400MM @ A3



PRINCIPAL VIEWPOINT 1: VIEW FROM FOOTPATH LOOKING NORTH INTO PROSPED SITE AT YEAR 1

DISTANCE FROM SITE: 50M
ELEVATION: 21M AOD
OS GRID REFERENCE: SE464564
PHOTOGRAPH TAKEN: 27TH AUGUST 2020
WEATHER CONDITIONS: SCATTERED CLOUD
CAMERA: NIKON D3200, 35MM FOCAL LENGTH



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Job

CLEARSTONE, WARLEY

Title

VISUAL IMPACT ASSESSMENT
PRINCIPAL VIEWPOINT 1
(PROPOSED AT YEAR 1)

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ACTUAL SIZE EXTRACT: RECOMMENDED VIEWING DISTANCE 400MM @ A3



PRINCIPAL VIEWPOINT 1: VIEW FROM FOOTPATH LOOKING NORTH INTO PROSPED SITE AT YEAR 15

DISTANCE FROM SITE: 50M
 ELEVATION: 21M AOD
 OS GRID REFERENCE: SE464564
 PHOTOGRAPH TAKEN: 27TH AUGUST 2020
 WEATHER CONDITIONS: SCATTERED CLOUD
 CAMERA: NIKON D3200, 35MM FOCAL LENGTH



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ACTUAL SIZE EXTRACT: RECOMMENDED VIEWING DISTANCE 400MM @ A3

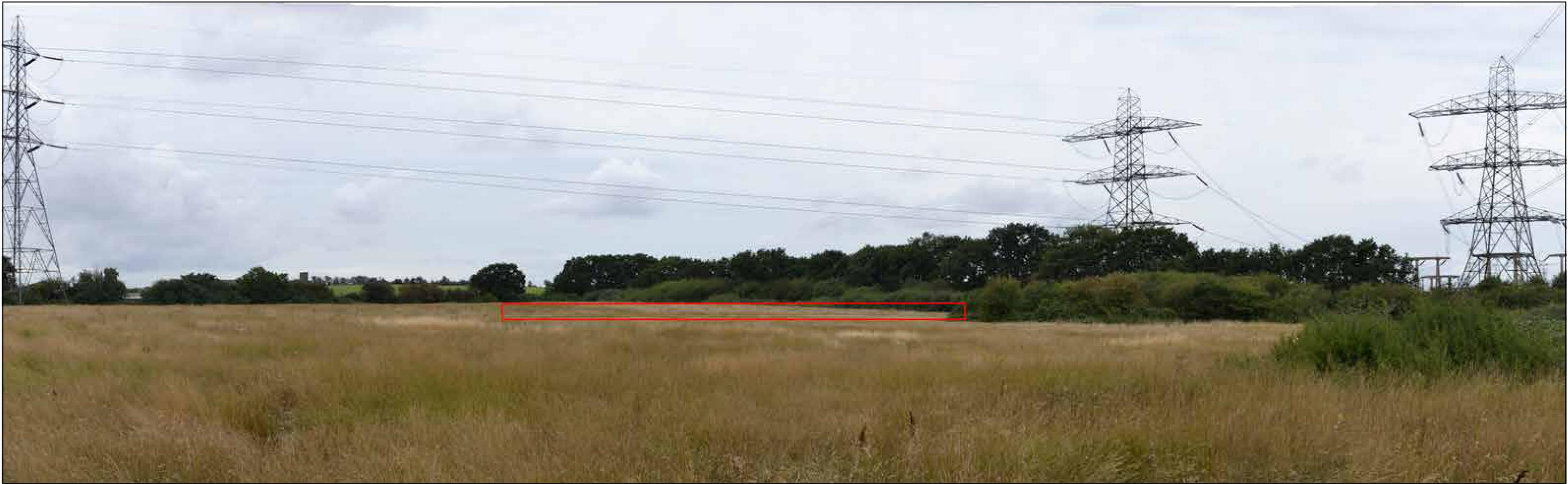


PRINCIPAL VIEWPOINT 4: VIEW TOWARDS EXISTING SITE FROM FOOTPATH NORTH EAST OF SITE

DISTANCE FROM SITE: 50M
 ELEVATION: 21M AOD
 OS GRID REFERENCE: SE464564
 PHOTOGRAPH TAKEN: AUGUST 2020
 WEATHER CONDITIONS: SCATTERED CLOUD
 CAMERA: NIKON D3200, 35MM FOCAL LENGTH



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scale@A3 1:20,000	drawn P.M.	date JUN 21	job number 1267	number N/A	revision -	



ACTUAL SIZE EXTRACT: RECOMMENDED VIEWING DISTANCE 400MM @ A3



PRINCIPAL VIEWPOINT 2: VIEW TOWARDS PROPSOED SITE AT YEAR 1 FROM FOOTPATH NORTH EAST OF SITE

DISTANCE FROM SITE: 50M
 ELEVATION: 21M AOD
 OS GRID REFERENCE: SE464564
 PHOTOGRAPH TAKEN: AUGUST 2020
 WEATHER CONDITIONS: SCATTERED CLOUD
 CAMERA: NIKON D3200, 35MM FOCAL LENGTH



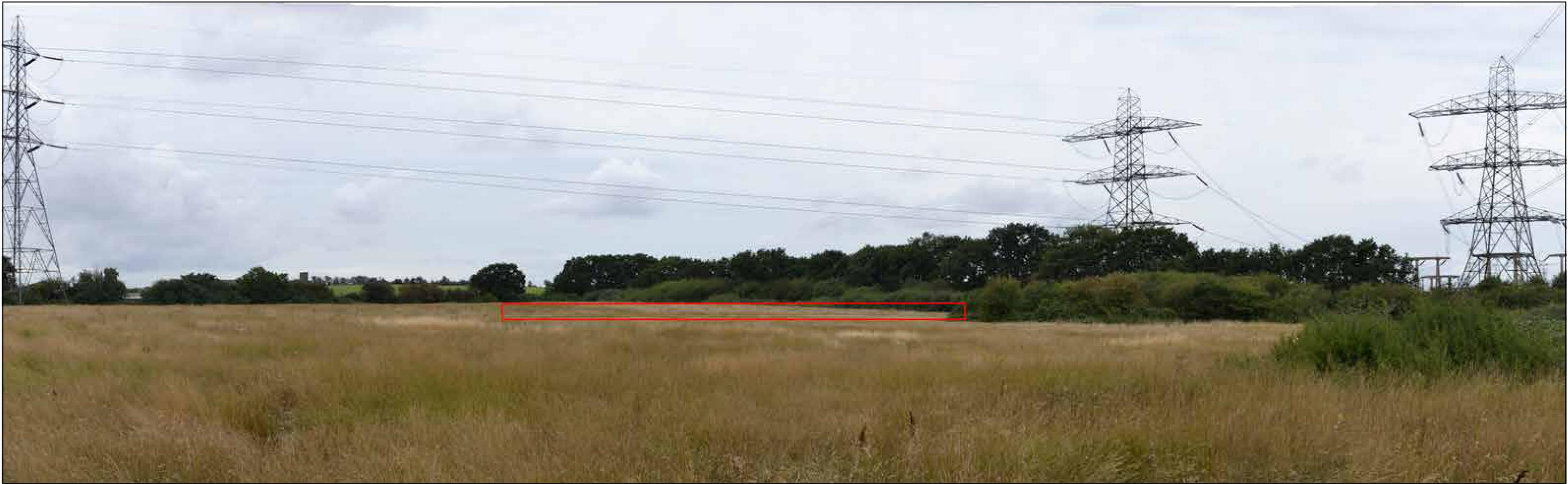
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Job CLEARSTONE, WARLEY

Title VISUAL IMPACT ASSESSMENT
 PRINCIPAL VIEWPOINT 2
 (PROPOSED AT YEAR 1)

scale@A3	drawn	date	job number	number	revision
1:20,000	P.M.	JUN 21	1267	N/A	-



ACTUAL SIZE EXTRACT: RECOMMENDED VIEWING DISTANCE 400MM @ A3



PRINCIPAL VIEWPOINT 2: VIEW TOWARDS PROPOSED SITE AT YEAR 15 FROM FOOTPATH NORTH EAST OF SITE

DISTANCE FROM SITE: 50M
 ELEVATION: 21M AOD
 OS GRID REFERENCE: SE464564
 PHOTOGRAPH TAKEN: AUGUST 2020
 WEATHER CONDITIONS: SCATTERED CLOUD
 CAMERA: NIKON D3200, 35MM FOCAL LENGTH



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scale@A3	drawn	date	job number	number	revision
1:20,000	P.M.	JUN 21	1267	N/A	-



ACTUAL SIZE EXTRACT: RECOMMENDED VIEWING DISTANCE 400MM @ A3



PRINCIPAL VIEWPOINT 7: VIEW FROM CLAY TYE ROAD (B186) LOOKING EAST TOWARDS WARLEY SUB-STATION

DISTANCE FROM SITE: 35M
 ELEVATION: 32M AOD
 OS GRID REFERENCE: SE461567
 PHOTOGRAPH TAKEN: 27TH AUGUST 2020
 WEATHER CONDITIONS: SCATTERED CLOUD
 CAMERA: NIKON D3200, 35MM FOCAL LENGTH



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Title VISUAL IMPACT ASSESSMENT PRINCIPAL VIEWPOINT 3 (EXISTING)					
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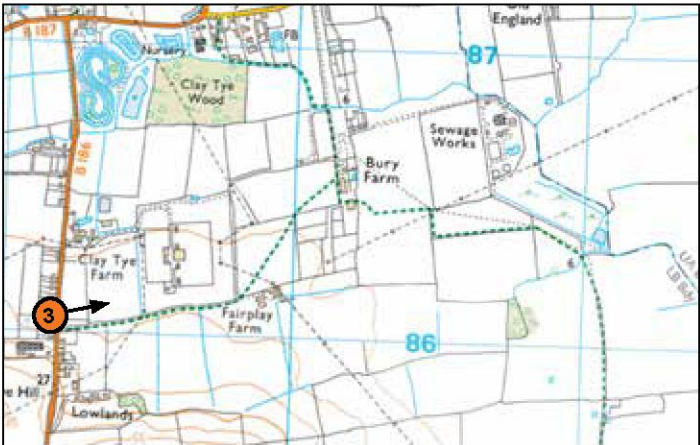


ACTUAL SIZE EXTRACT: RECOMMENDED VIEWING DISTANCE 400MM @ A3



PRINCIPAL VIEWPOINT 3: VIEW FROM CLAY TYE ROAD (B186) LOOKING EAST TOWARDS WARLEY SUB-STATION

DISTANCE FROM SITE: 35M
ELEVATION: 32M AOD
OS GRID REFERENCE: SE461567
PHOTOGRAPH TAKEN: 27TH AUGUST 2020
WEATHER CONDITIONS: SCATTERED CLOUD
CAMERA: NIKON D3200, 35MM FOCAL LENGTH



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Title VISUAL IMPACT ASSESSMENT PRINCIPAL VIEWPOINT 3 (PROPOSED AT YEAR 1)					
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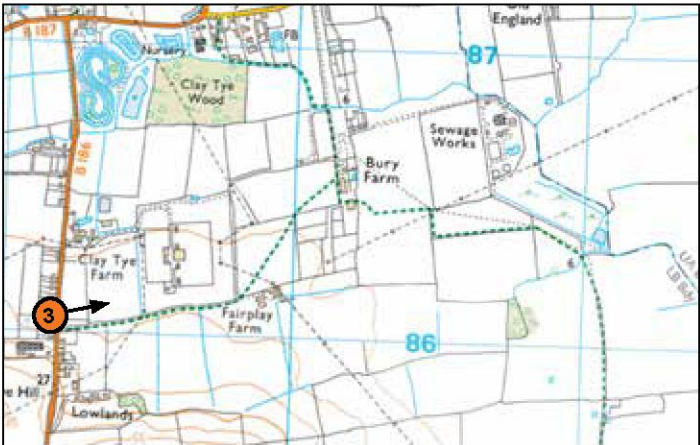


ACTUAL SIZE EXTRACT: RECOMMENDED VIEWING DISTANCE 400MM @ A3



PRINCIPAL VIEWPOINT 3: VIEW FROM CLAY TYE ROAD (B186) LOOKING EAST TOWARDS WARLEY SUB-STATION AND PROPOSED SITE AT YEAR 15

DISTANCE FROM SITE: 35M
ELEVATION: 32M AOD
OS GRID REFERENCE: SE461567
PHOTOGRAPH TAKEN: 27TH AUGUST 2020
WEATHER CONDITIONS: SCATTERED CLOUD
CAMERA: NIKON D3200, 35MM FOCAL LENGTH



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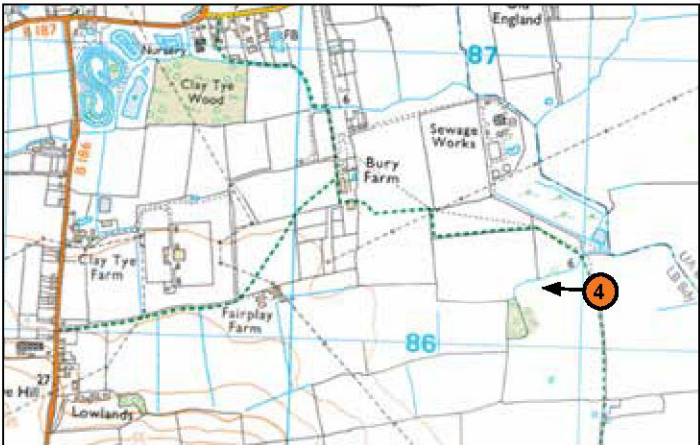


ACTUAL SIZE EXTRACT: RECOMMENDED VIEWING DISTANCE 400MM @ A3



PRINCIPAL VIEWPOINT 10: VIEW LOOKING WEST FROM FOOTPATH BETWEEN HOME FARM AND BURY

DISTANCE FROM SITE: 1235M
 ELEVATION: 18M AOD
 OS GRID REFERENCE: SE469562
 PHOTOGRAPH TAKEN: 27TH AUGUST 2020
 WEATHER CONDITIONS: SCATTERED CLOUD
 CAMERA: NIKON D3200, 35MM FOCAL LENGTH



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Title VISUAL IMPACT ASSESSMENT PRINCIPAL VIEWPOINT 4 (EXISTING)					
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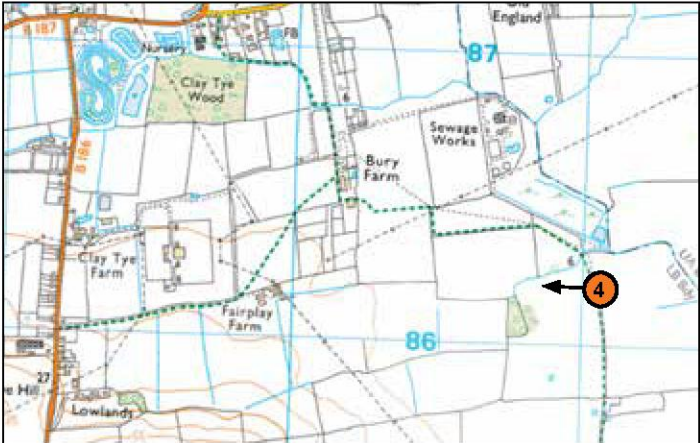


ACTUAL SIZE EXTRACT: RECOMMENDED VIEWING DISTANCE 400MM @ A3



PRINCIPAL VIEWPOINT 4: VIEW LOOKING WEST FROM FOOTPATH BETWEEN HOME FARM AND BURY

DISTANCE FROM SITE: 1235M
 ELEVATION: 18M AOD
 OS GRID REFERENCE: SE469562
 PHOTOGRAPH TAKEN: 27TH AUGUST 2020
 WEATHER CONDITIONS: SCATTERED CLOUD
 CAMERA: NIKON D3200, 35MM FOCAL LENGTH



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Title VISUAL IMPACT ASSESSMENT PRINCIPAL VIEWPOINT 4 (PROPOSED AT YEAR 1)						
scale@A3 1:20,000	drawn P.M.	date JUN 21	job number 1267	number N/A	revision -	

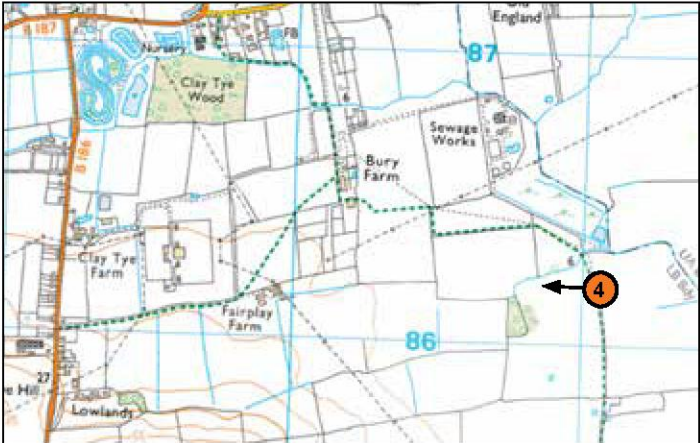


ACTUAL SIZE EXTRACT: RECOMMENDED VIEWING DISTANCE 400MM @ A3



PRINCIPAL VIEWPOINT 4: VIEW LOOKING WEST FROM FOOTPATH BETWEEN HOME FARM AND BURY

DISTANCE FROM SITE: 1235M
 ELEVATION: 18M AOD
 OS GRID REFERENCE: SE469562
 PHOTOGRAPH TAKEN: 27TH AUGUST 2020
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Job CLEARSTONE, WARLEY					
Title VISUAL IMPACT ASSESSMENT PRINCIPAL VIEWPOINT 4 (PROPOSED AT YEAR 15)					
scale@A3 1:20,000	drawn P.M.	date JUN 21	job number 1267	number N/A	revision -

APPENDIX 4: LANDSCAPE EFFECTS TABLE

Landscape Feature / Character Receptors	Characteristics of existing feature	Completion of proposed development				
	Sensitivity (1)	Commentary	Year 1 Winter		Year 15 Summer	
			Magnitude (2)	Significance of Effect (3 and 4)	Magnitude (2)	Significance of Effect (3 and 4)
Landscape Features Effects						
Woodland and Trees	Medium Value: Medium Susceptibility: Medium	There are no onsite trees, and all boundary trees are to retained and protected, and will not be impacted by the proposals. As part of the proposal, native trees and shrubs would be planted around the boundaries of the site and by year 15 these would be well established both screening the site but also contributing to the local tree belt character. This is considered to result in a minor beneficial effect.	Very Small	Negligible Beneficial	Small	Minor Beneficial
Hedgerows	Medium Value: Medium Susceptibility: Medium	The existing offsite field boundary hedgerows would be retained and protected, and will not be impacted by the proposals. The proposed landscape framework will enhance the boundaries of the site and contribute in the long term to green infrastructure and biodiversity networks. This is considered to result in a negligible beneficial effect at year 15.	None	Neutral	Very Small	Negligible Beneficial
Arable Pasture	Low Value: Low Susceptibility: Medium	A proportion of the poor condition, low-quality pasture will be replaced by hardstanding and the proposed built form of the battery storage containers and access tracks. However other areas of the site will be improved through native species rich wildflower meadow and tree and shrub planting. The loss of this common landscape feature will not have a significant detrimental effect. At year 1 this will result in a moderate adverse effect due to the introduction of the built form, in the long term at year 15, the diversity of the meadow and native planting will provide habitat for a wide range for flora and fauna species. This is considered to mostly mitigate the loss of the pasture and reduce the significance of effect to negligible adverse.	Large	Moderate Adverse	Very Small	Negligible Adverse
Topography	Low Value: Low Susceptibility: Low	The proposed development will not affect the sites topography.	None	Neutral	None	Neutral
Field Pattern	Medium Value: Medium Susceptibility: Medium	The site lies within the larger field boundary pattern which encompasses the Warley electricity substation. The field pattern and surrounding boundary vegetation features would be retained and maintained. As part of the development additional planting to the boundaries will reinforce the existing field pattern. In the long term, at year 15 a negligible beneficial effect is considered to arise once the planting has matured.	None	Neutral	Very Small	Negligible Beneficial

1 Sensitivity of Receptor: High, Medium, Low

2 Magnitude of Effect: Large, Medium, Small, Very Small and None

3 Significance of Effect: Major, Moderate, Minor, Negligible, Neutral

4 Type of Effect: Adverse, Neutral, Beneficial

The Site	Low Value: Low Susceptibility: Low	The site lies within the London metropolitan green belt. The site is in a poor condition having not been grazed or managed for some time and has been subject to previous disturbance when used as a compound and material storage area for other ongoing works of the Electricity Substation. The site is generally tranquil with traffic noise of vehicle on Clay Tye Road and the distant hum of the motorway beyond. The site has no rare or unusual landscape features or historical assets. The site has no rare or unusual landscape features or historical assets. The adjacent Warley Electricity Substation and the large transmission pylons are prominent from the site and are detractors to the sites quality. The site is considered to lie within the curtilage of the existing electricity substation and due to its proximity to existing infrastructure displays a different character to the arable fields beyond. In respect to susceptibility apart from the existing arable pasture there are no other features on the site which are susceptible to change, and overall the site has is likely to be able to accommodate the type of change proposed with little or no effect upon its integrity. Overall, the site is considered to have a low susceptibility and therefore has a low sensitivity to the proposed development. . The proposed development would result in an evident change in land use across the site, with the removal of the arable pasture. All of the important landscape features surrounding the site would be retained with hedgerows and trees being protected and reinforced. The introduction of the proposed development on the arable pasture would have an adverse landscape effect, although this would be restricted to the site. However, this is considered to be balanced by the introduction of wildflower meadow and native tree and shrub planting. Overall, the effect on the existing landscape resource is considered to be moderate adverse significance of effect at year 1, improving to negligible adverse at year 15 when the proposed planting matures.	Large	Moderate Adverse	Medium	Negligible Adverse
Landscape Character Effects						
National Character Area 111: Northern Thames Basin	Low Value: Medium Susceptibility: Low	The site is not typical of the NCA. The scale and extent of the proposed development in relation to that of the character area is considered to be very small. The scheme would have a neutral effect on the National Character Area at year 1 and year 15 with a neutral significance of effect.	None	Neutral	None	Neutral
Land of the Fanns Landscape Assessment: Character Area J: Thurrock Reclaimed Fen	Medium Value: Medium Susceptibility: Medium	The character area has been identified as having flat, open, and exposed landscape with expansive views, predominantly arable land use with medium to large sized fields, hedgerows and strong rectilinear pattern and is considered to have medium sensitivity. The adjacent Warley Electricity Substation and the large transmission pylons are prominent detractors to the site and surrounding context. The site is considered to lie within the curtilage of the existing electricity substation and due to its proximity to existing infrastructure displays a different character to the arable fields and the Thurrock Reclaimed Fen beyond. While the proposal would result in a loss of the arable land in year 1, due to a lack of intervisibility this would not be perceptible from other parts of the Character Area resulting in a neutral effect. By year 15, the boundary hedgerow and tree planting will reinforce the existing characteristic hedgerows and field pattern, responding positively to the LCA and improving the effect to negligible beneficial.	None	Neutral	None	Negligible Beneficial

1 Sensitivity of Receptor: High, Medium, Low

2 Magnitude of Effect: Large, Medium, Small, Very Small and None

3 Significance of Effect: Major, Moderate, Minor, Negligible, Neutral

4 Type of Effect: Adverse, Neutral, Beneficial

APPENDIX 5: VISUAL EFFECTS TABLE

Visual Receptor	Characteristics of existing view		Completion of proposed development				
	Visibility of site	Sensitivity (1)	Commentary	Year 1 Winter		Year 15 Summer	
				Magnitude (2)	Significance of Effect (3 and 4)	Magnitude (2)	Significance of Effect (3 and 4)
PV1	Limited View - Representative of the near-distance glimpsed, transient, filtered views by footpath users on a very short section of PRow footpath 232 where it passes a gap in the southern boundary hedgerow. The footpath is also visible and act as detracting elements. Views elsewhere along the footpath east and west are screened by the hedgerow.	High Value: Medium Susceptibility: High (PRow)	At year 1 filtered views through the hedgerow gap of the proposed structures will be possible. The change to the view will be noticeable and seen in context with the existing pylons and substation equipment. The magnitude of effect of the proposal is reduced further as the view is only experienced from a very short section on an infrequently used footpath and at 90 degrees to the direction of travel. By year 15 the proposed native hedgerow and tree planting will completely screen the view. This will also have a very small beneficial effect as it will also screen views of the existing pylons and substation equipment beyond. This is considered to be a negligible beneficial effect.	Small	Minor Adverse	Very Small	Negligible Beneficial
PV2	No View - Representative of the mid-distance, transient, views from PRow footpath 232 to the east of the site. The existing intervening hedgerow and tree belt curtail views of the site. The existing electricity transmission pylons are dominant within the view. Visual susceptibility and therefore sensitivity has been reduced from high to medium as there is no apparent use of this section of public footpath, which was found to be overgrown to such an extent that it was difficult to pass.	Medium Value: Medium Susceptibility: Medium (Disused PRow)	The proposed development would not be visible from this location.	None	Neutral	None	Neutral

1 Sensitivity of Receptor: High, Medium, Low

2 Magnitude of Effect: Large, Medium, Small, Very Small and None

3 Significance of Effect: Major, Moderate, Minor, Negligible, Neutral

4 Type of Effect: Adverse, Neutral, Beneficial

PV3	Limited View – Representative of the mid-distance, filtered, transient and fixed view of motorists and footpath users along Clay Tye Road passing the newly formed entrance. Also representative of a single residential property 'King's Oak' opposite the newly formed entrance. The view is filtered by existing utilitarian metal palisade fencing in the foreground and the existing hedgerow and Warley Electricity Substation equipment in the mid ground. The numerous existing electricity transmission pylons are the dominant feature within the view.	High Value: Medium Susceptibility: High (Residential)	The proposed development would not be visible from this location.	None	Neutral	None	Neutral
PV4	No View – Representative of the middle-distance, open views of footpath users from sections of PRow footpath 233 to the east of the site between Home Farm and Bury Farm. The existing vegetation screens the site. The existing electricity transmission pylons are obvious features on the horizon.	High Value: Medium Susceptibility: High (PRow)	The proposed development would not be visible from this location.	None	Neutral	None	Neutral

1 Sensitivity of Receptor: High, Medium, Low

2 Magnitude of Effect: Large, Medium, Small, Very Small and None

3 Significance of Effect: Major, Moderate, Minor, Negligible, Neutral

4 Type of Effect: Adverse, Neutral, Beneficial

APPENDIX 6: PUBLISHED LANDSCAPE CHARACTER EXTRACTS

Introduction & Summary

Description

Opportunities

Key facts
and data

Landscape
change

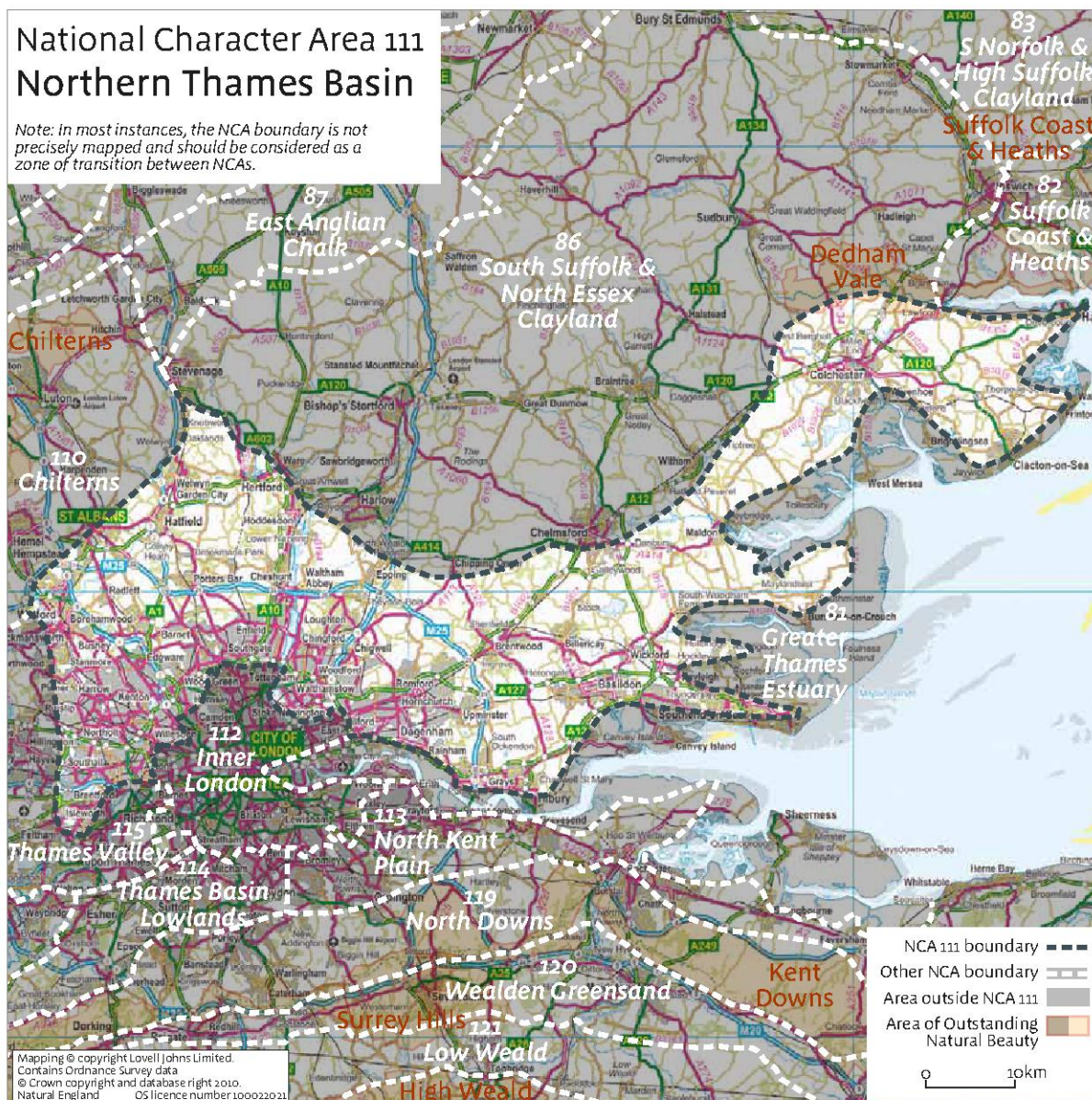
Analysis



Summary

The Northern Thames Basin is a diverse area which extends from in the west to the Essex coast in the east. It is separated from the Thames Estuary by a narrow band of land that makes up the Great Ouse Estuary National Character Area (NCA). Included within this NCA are the suburbs of North London and also historic towns and cities including Welwyn Garden City, Hatfield and Basildon. Although arable agriculture is a large part of the area the soil quality ranges from good to poor quality. The Loess provides a poor quality soil that becomes waterlogged in winter and shrinks in summer. Better quality soil is found in areas that contain deposits from the Thames and other rivers in the area as they have changed position over time.

The Northern Thames Basin is an area rich in geodiversity, archaeological and diverse landscapes ranging from the wooded Hertfordshire plateau to river valleys, to the open landscape and predominantly arable areas and heathlands, with areas of urbanisation mixed in throughout. Urbanisation has been a feature of this area since the 16th century when wealthy merchants were conducting business in London built homes on its outskirts, mainly in the Hertfordshire area. This trend increased dramatically from the mid-19th century as infrastructure improved and people could travel to work in London from the surrounding areas in an hour or less. This has put increased pressure on the area in terms of extra housing developments, schools and other necessities for growing populations, with a consequential reduction in tranquillity. Tranquillity can be found in parts of Hertfordshire and Essex in areas that have a more rural settlement pattern broken up by arable land and semi-natural habitats.



The main changes to the area have resulted from increased construction and commercial-scale farming. Both of these have increased pressures on water availability, water flow, soil quality, biodiversity and sense of place. Although housing, other construction and agriculture are significant for the area it is important that these are developed in a sustainable way so that predicted changes in climate and the effects on the area's character are considered and sense of place and history are preserved.

The main opportunities available to this area are the continuation of the agricultural tradition, but within this land management should consider methods that are more sustainable in terms of water use and soil quality in order for it to continue to be a viable industry in the future. The areas of various semi-natural habitats also present opportunities to improve water storage and soil quality for surrounding agricultural land as well as to increase advantageous species that will aid pollination and reduce pest species. In addition to this the woodlands in the area could be an important resource to supply timber and fuel to the local area if they were managed effectively.



Farmland next to the River Colne in Essex.

Key characteristics

- The landform is varied with a wide plateau divided by river valleys. The prominent hills and ridges of the 'Bagshot Hills' are notable to the north-west and extensive tracts of flat land are found in the south.
- Characteristic of the area is a layer of thick clay producing heavy, acidic soils, resulting in retention of considerable areas of ancient woodland.
- Areas capped by glacial sands and gravels have resulted in nutrient-poor, free-draining soils which support remnant lowland heathlands, although these are now small. Areas that have alluvial deposits present are well drained and fertile.
- The water bearing underlying Chalk beds are a main source of recharge for the principal London Basin Chalk aquifer.
- A diverse landscape with a series of broad valleys containing the major rivers Ver, Colne and Lea, and slightly steeper valleys of the rivers Stour, Colne and Roman. Numerous springs rise at the base of the Bagshot Beds and several reservoirs are dotted throughout the area
- The pattern of woodlands is varied across the area and includes considerable ancient semi-natural woodland. Hertfordshire is heavily wooded in some areas as are parts of Essex, while other areas within Essex are more open in character. Significant areas of wood pasture and pollarded veteran trees are also present.
- The field pattern is very varied across the basin reflecting historical activity. Informal patterns of 18th-century or earlier enclosure reflect medieval colonisation of the heaths. Regular planned enclosures dating from the Romano-British period are a subtle but nationally important feature on the flat land to the south-east of the area. In the Essex heathlands 18th- and 19th-century enclosure of heathlands and commons followed by extensive 20th-century field enlargement is dominant.
- Mixed farming, with arable land predominating in the Hertfordshire plateaux, parts of the London Clay lowlands and Essex heathlands. Grasslands are characteristic of the river valleys throughout. Horticulture and market gardening are found on the light, sandy soils of former heaths in Essex, particularly around Colchester, along with orchards, meadow pasture and leys following numerous narrow rivers and streams.
- The diverse range of semi-natural habitats include ancient woodland, lowland heath and floodplain grazing marsh and provide important habitats for a wide range of species including great crested newt, water vole, dormouse and otter.
- Rich archaeology including sites related to Roman occupation, with the Roman capital at Colchester and City of St Albans (Verulamium) and links to London. Landscape parklands surrounding 16th- and 17th-century rural estates and country houses built for London merchants are a particular feature in Hertfordshire.
- The medieval pattern of small villages and dispersed farming settlement remains central to the character of parts of Hertfordshire and Essex. Market towns have expanded over time as have the London suburbs and commuter settlements, with the creation of new settlements such as the pioneering garden city at Welwyn and the planned town at Basildon.
- Brick-built dwellings are characteristic from the late 17th century onwards. Prior to this dwellings and farm buildings tended to be timber built with weatherboarding, now mainly painted white but traditionally black or tarred, and whitewashed plaster walls.

Statements of Environmental Opportunity

SEO 1: Manage rivers and river valleys to protect and improve water quality and help to alleviate flooding in the downstream urban areas, while also helping to improve aquifer recharge and provide a sufficient store of water to meet future need, especially with predicted climatic changes. Conserve the riparian landscapes and habitats, for their recreational and educational amenity for their internationally significant ecological value.

For example by:

- Managing and enhancing the river valleys and wetland habitats for the important habitats and species that they support, their geodiversity, landscape and recreational value, and to increase water storage capacity to reduce flood events in downstream urban areas.
- Sustainably managing the water resource including watercourses and aquifers, by implementing catchment-wide land management practices to help reduce pollution and aid aquifer recharge.
- Maintaining, enhancing and increasing the network of hedgerows along river valleys, especially in flood plains, to act as water stores which will absorb excess water during high rainfall, slowly release water in drier periods and reduce wind evaporation on fields in drier periods.
- Enhancing and creating riverside buffer strips of natural vegetation, including the conservation and planting of a new generation of riverside willows that will reduce overland run-off and help to minimise the deposition of soil and silt in channels and stop nitrates entering the watercourse in order to prevent adverse effects on aquatic life.
- Creating reedbeds in areas of potential pollution including along roads and near road bridges and agricultural drainage areas. This will help to improve urban diffuse pollution.
- Utilising semi-natural habitats to replace current engineered flood management. Current flood management will be insufficient to counteract future flooding, so allowing natural processes to reduce water levels in priority areas is the most sustainable alternative. Allowing rivers to flood naturally will also increase biodiversity and enhance geomorphology, wetland habitats and riverine character.
- Restoring river valley mineral sites to wetlands and washlands while enhancing geodiversity and archaeological interest.
- Raising awareness within the general public as to how they can individually help to reduce water waste and prevent contamination.
- Encouraging landowners to store water for individual usage, from using water butts for small gardens to larger storage systems for arable land and golf courses.
- Growing crops that are more resilient to drought so that less irrigation is needed in drier periods when water availability decreases.
- Restoring and improving the natural geomorphology of rivers in the area including urban rivers so that the quality of not only the water but also the river ecology as a whole improves by reducing pollution, sedimentation, invasive species etc; reducing the prolificacy of invasive aquatic and marginal plant species, including floating pennywort and Himalayan balsam, which cause waterways to become blocked, increase sedimentation, reduce biodiversity and affect movement of aquatic life as well as recreation activities along watercourses.

SEO 2: Manage the agricultural landscape and diverse range of soils which allow the Northern Thames Basin to be a major food provider, using methods and crops that retain and improve soil quality, water availability and biodiversity.

For example by:

- Retaining the overall agricultural diversity with areas of arable land, horticulture and pasture which are so important for food provision in the area, while encouraging sustainable management to protect agricultural soils and enhance biodiversity. Encouraging the use of sustainable farming methods to enhance soil quality, such as maintaining vegetation cover, reducing tillage and encouraging the use of organic manures and composts. This will help to retain organic matter, which is vital for productive soils.
- Managing, enhancing and, where appropriate, expanding hedgerows and grass strips as field boundaries as these help to bind the soil, reducing soil erosion, while also providing habitats for pollinating insects as well as various farmland birds, mammals and invertebrates. Hedgerows will also create habitat corridors, connecting habitats and so allowing wildlife to disperse and increase its range, creating a more diverse landscape.
- Encouraging a reduction in compaction of the clay-based soils in the area which can damage their structure and drainage potential and reduce aquifer recharge. This includes reduced poaching from livestock and careful use of heavy machinery.
- Encouraging the management of the heathland soils to prevent wind and water erosion using hedgerow and tree boundaries to reduce overland run-off and to act as a wind shield. These soils are more prone to erosion than the more clay-based soils and are usually of high quality in terms of arable usage.
- Encouraging improvements to water management within agricultural land using boundary features such as hedgerows and grass buffer strips to store water during wet periods and retain it in drier periods.
- Adopting land management practices, including the use of buffer strips next to watercourses, to reduce diffuse pollution from agricultural sources, prevent contamination of groundwater and safeguard future water quality and availability.
- Improving biodiversity in the area by putting aside less productive land and creating semi-natural habitats such as wildflower meadows and grasslands. The promotion of agri-environment schemes can help to establish these opportunities

SEO 3: Protect and appropriately manage the historic environment for its contribution to local character and sense of identity and as a framework for habitat restoration and sustainable development, ensuring high design standards (particularly in the London Green Belt) which respect the open and built character of the Thames Basin. Enhance and increase access between rural and urban areas through good green infrastructure links to allow local communities recreational, health and wellbeing benefits.

For example by:

- Conserving historic features in the landscape with heritage interest and improving the condition of heritage assets through appropriate measures, and seeking to reduce conflicting or unsympathetic management regimes.
- Conserving and interpreting archaeological earthworks and sub-surface archaeology while recognising the high potential in this landscape for undiscovered remains.
- Preserving and enhancing current public access sites including nature reserves, common land, country parks and public footpaths and rights of way to attract the wider community.
- Creating better access to the countryside with an increased number of public footpaths and rights of way so that more of the area is open access. Enhancing current public access paths would also be beneficial to make the experience of the countryside more inviting and enjoyable.
- Restoring the connectivity of key habitats as well as expanding and creating new habitats which will maintain and enhance their attraction for visitors. Also, working to increase species diversity and density to increase this attraction for the community.
- Preserving the open landscape, enhancing geodiversity and biodiversity, for example the iconic species and habitats that attract visitors, to preserve their appeal to the wider community.
- Maintaining and enhancing the status of Sites of Special Scientific Interest, Special Protection Areas, Special Areas of Conservation, National Nature Reserves and Ramsar sites. This will preserve the character of the landscape, protecting and enhancing the sense of place.
- Increasing awareness and raising understanding within the community of the natural environment to improve their appreciation of their landscape so as to help to enhance their experience. This will also help to instil a sense of place.
- Planning for future pressure from urban expansion and urban-related development, major roads and other infrastructure as a result of the expansion of Stansted and Luton international airports (impacting from adjacent NCAs) and the impact of strategic growth in and around the NCA, such as at the Thames and Haven Gateways, Chelmsford and Southend, and the regeneration in the Lea Valley. Seeking measures to help to implement the All London Green Grid frameworks in order to ensure that associated design standards are of a high quality and pay due regard to the natural environment for the benefit of people and wildlife.
- Planning for a new vision of agricultural landscapes in areas of significant planned growth such as within the Thames Gateway, Haven Gateway and M11 corridor, including, potentially, the exploration of new forms of community food growing and community land ownership, providing a 21st-century interpretation of the plotlands of the 1920s and 1930s that are characteristic of this NCA.
- Ensuring positive management of land that may be developed in the future to preserve the character of the area and not adversely affect the rural areas that provide many resources, including food provision, carbon sequestration and recreation for the rural and urban communities.

SEO 4: Manage and expand the significant areas of broadleaf woodland and wood pasture, and increase tree cover within urban areas, for the green infrastructure links and important habitats that they provide, for the sense of tranquillity they bring, their ability to screen urban influences and their role in reducing heat island effect and sequestering and storing carbon.

For example by:

- Promoting the establishment of a coherent and resilient network of treescapes (native woodland, wood pasture, parkland, coppice, scrub, field trees and hedgerows) through expanding and linking existing woodland with areas of new planting.
- Managing the area's diverse range of historic woodlands, veteran trees and wood pasture and parklands to enhance landscape character and safeguard their biodiversity value while seeking opportunities to enhance access.
- Expanding current woodlands to create a greater resource and re-introduce coppicing and other management back into woodlands so as to make wood available to be sold commercially.
- Working within established management plans to ensure that the viability of the woodlands is not affected and that biodiversity is maintain or enhanced.
- Creating new woodlands, taking into account natural processes and bringing them into wood production management. Sensitively incorporating them into and around new developments to enhance landscape character. Community woodlands should be maintained and increased where possible for this purpose as well as for recreation.
- Creating new woodlands around or near to urban areas, which will, through carbon sequestration, help to counteract the carbon that is produced. Woodlands within urban areas will help to reduce the heat island effect.
- Incorporating woodland rides and paths within woodlands to allow for public access but also to create a variety of habitats within the woodlands which will increase biodiversity.
- Maintaining and enhancing woodland habitats which support important invertebrate species such as stag beetles, rare fungi and priority species such as dormouse. Ancient woodlands also support ground flora such as bluebells.
- Maintaining the diverse appearance of the landscape and shield developments and infrastructure from the wider landscape. This character should be maintained within any future developments that are built.
- Managing, restoring and re-linking areas of remnant lowland heathland and acid grassland found on areas capped by glacial sands and gravels, notably within the Essex heathlands and wooded hills and ridges.
- Conserving characteristic landscapes linked to the arts, such as Dedham Vale in the north-easternmost corner of the NCA (the inspiration for Constable), and the rich heritage of designed parklands associated with estates (particularly in the Hertfordshire plateaux and river valleys and the Essex wooded hills and ridges).

Additional opportunity

Continue to utilise the mineral resource as appropriate, ensuring screening and restoration plans are in place to protect landscape assets. Restore, enhance and manage previous mineral sites as suitable habitats or sites of key geological importance to demonstrate the significance of the rich mineral resources in shaping the area's landscape, and their potential as recreational and ecological assets of the future.

For example by:

- Appropriately utilising the minerals which are a much-needed resource in the area, with the continuing demand for new housing and other building projects. Ensure long term restoration plans seek landscape and ecological benefit so this resource can provide a source of revenue and jobs for the area as well as an opportunity to enhance our knowledge and awareness of geodiversity, and provide new assets for the community in the long term
- Restoring previous extraction to habitats that are appropriate for the area to improve the network of semi-natural habitats, and the recreational and educational opportunities for local communities.
- Provide appropriate access and interpretation to important geological sites once mineral extraction is completed to use this exposed resource to educate and inform people of the geological and geomorphological features.
- Encouraging an understanding of the interrelationships between the geological and archaeological heritage of the area.
- Ensuring appropriate management, educational access and interpretation of important geological and above and below ground archaeological features and sites throughout the area.

Land of the Fanns Landscape Character Assessment

Final Report

Updated August 2016



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in association with Countryside

3.4 Thurrock Reclaimed Fen



Location and extent

Thurrock Reclaimed Fens is located centrally in the Project Area forming a low lying inland basin which contrasts with the rising land of the Brentwood Wooded Hills to the north, Ockendon Rolling Farmland to the west, Langdon Hills to the east and Orsett Lowland Farmland to the south. These areas of adjacent rising land form an important backdrop and setting to this landscape.

This landscape falls within the Greater London Greenbelt and partly within the Thames Chase Community Forest area.

Key Characteristics

- London Clay geology with alluvial deposits associated with the upper reaches of the Mardyke and tributaries.
- Flat, open and exposed landscape with expansive views extending to the 15-20m contour at its fringes.
- Land use is predominately arable in large to medium sized fields but formerly extensive areas of fen.
- Within the lowest lying areas there are few field boundaries and fields are drained by ditches.
- Hedgerows of mainly blackthorn and elm occur mainly in the outer fringes of the area.
- Woodland blocks are infrequent and rectilinear and recently planted with the exception of Clay Tye Wood.
- Willow and poplar are prevalent along ditches and watercourses.
- Place names reflect former areas of marsh and fen landscape which are steeped in history and folklore.
- Sparse settlement comprising dispersed pattern of farms and village of Bulphan and more recent development at West Horndon associated with the railway.
- There are numerous waterbodies in this landscape including field ponds and also reservoirs which are not visually significant.
- Strong rectilinear patterns as a result of field divisions, drainage

ditches, hedgerows (often gappy) and causeway lanes.

- Settlement is dispersed and sparse and restricted to slight rising land or fen edges.

What makes the Thurrock Reclaimed Fens special?

Strong Rectilinear Patterns

This is a planned landscape with field boundaries marked by drainage ditches and hedgerows. Fields tend to be large and geometric, a pattern reinforced by linear roads along the causeways.

These lanes and tracks are defined by wide grass verges and hawthorn/elm hedgerows. Hedgerow trees are absent but historically, hedgerows would have contained mature Elm trees.

Open Expansive Views

Due to limited tree and hedgerow cover and relatively flat topography this area has an expansive character with extensive views in all directions to the rising land particularly to the Brentwood Hills in the north. The higher land at the edges of this landscape type define its extent and contrast with its simple character and patterns. Vertical structures are highly visible and large farm or industrial buildings, sometimes associated with conifer shelterbelts, form focal points. Wide skies are also a distinguishing feature of this landscape.

Watery Place Names

The village of Bulphan is a significant feature in this otherwise sparsely settled landscape. It lies in the south east of the character area. It is recorded in the Domesday Survey as Bulgenen meaning marshland in a fortified place. Phan, relates to fan, the Saxon word for fen. There are a number of moated houses in the village, including Appleton's Farm, dating from 15th century and Spring Farm on the Orsett Road. The land at Bulphan was owned and farmed by the Abbey of Barking. Farming would not have been the arable farming which now predominates as the landscape will have comprised a mosaic of large tracts of swamp, marsh and perhaps willow scrub and Alder woodland.

West Horndon, in the north of the character area appears to be a larger settlement because there is an industrial estate associated with it. The village was part of land belonging to a number of manors including Tillingham Hall and Little Warley. Tillingham Hall which still exists today, was the seat of the largest manor. It is recorded in the Domesday Book and was passed to the Tillingham family who owned it for several hundred years before it was conveyed to Coggeshall Abbey which restricted the rights of commons in the area meaning that the land became a mixture of scrub, marsh and woodland, ideal as a hunting ground for later landowners.

Little Warley, a small, linear hamlet in the north west of the character area was associated with Little Warley Hall, a 15th century manor house partly

rebuilt during the 16th century. There are fragments of a moat to the south and west of the site which suggests a previous manor may have stood on the site. This was a wooded landscape during the medieval period with marshland sheep pasture.

Highlights in this Area

- Low lying geometric landscape with strong lines and repetitive patterns reflecting early enclosure of fenland and marsh.
- Open and extensive views giving rise to a feeling of relative remoteness and wide skies.
- Bulphan is a medieval village.
- High potential for paleo-environmental deposits and surviving archaeology.
- Significant number of medieval moated sites in area indicative of a dispersed settlement pattern.
- Remnant fen landscape at Orsett Fen, Bulphan Fen and Stringcock Fen.
- Area popular for cycling due to flat topography.

What is changing in this area?

- Intensive agriculture resulting in loss of wet pasture/fen to arable land use, significant field aggregation and loss of infield ponds.
- Loss of traditional boundary features such as hedges impacts on the pattern of the landscape and visual cohesion.
- Development of large farms and associated large scale buildings with planting of conifer wind breaks.
- Growth of settlement and in particular West Horndon with associated industrial estate due to location on railway line.
- Urbanisation adjacent to this landscape can cause visual intrusion on the flat and open character.
- Recreational uses, such as golf courses impact upon the agricultural character of the landscape.

How should we manage the change?

This landscape has a moderate-low landscape quality as a result of intensive farming and gradual loss of defining characteristics which reflected its wetland past. Opportunities include:

- Restore fen landscapes at Orsett Fen, Bulphan Fen and Stringcock Fen - all of which have been lost in the last 50 years, by altering current drainage and land use.
- Restore/reinstate infield ponds and improve management of those that survive.

- Improve interpretation into the historic place names and features in this landscape through use of existing recreational routes, or specific new trails.
- Enhance people's connections with and understanding of this landscape through community archaeological excavations which can help to tell the story of this landscape.
- Restore hedgerows and some areas of small copses and hedgerow trees where feasible to improve landscape structure and legibility whilst still retaining the predominate expansive character of the area.