Issue number: BT-NG-020627-560-0032

Proposed Grid Supply Point Substation off the A131

Environmental Appraisal
Appendix 2: Landscape and Visual Appraisal
April 2022

nationalgrid

Page left intentionally blank

Appendix 2: Landscape and Visual Appraisal

1. Introduction

1.1 Purpose of this document

1.1.1 This appendix presents a landscape and visual appraisal (LVA) of the proposed GSP substation as described in section 2 of the Environmental Appraisal.

1.1.2 The LVA comprises a description of the baseline conditions together with an appraisal of the likely landscape and visual effects of the proposed GSP substation during construction and operation. This appendix is supported by the following annexes and figures:

- Annex 1: Landscape and Visual Appraisal Methodology
- Annex 2: Viewpoint Appraisal Sheets
- Annex 3: Figures
    - Figure A2.1: LVA Study Area, Landscape Designations and Tree Cover
    - Figure A2.2: Landform and Drainage
    - Figure A2.3: Settlements, Infrastructure and Viewpoints
    - Figure A2.4: County Scale Landscape Character
    - Figure A2.5: Essex County and Braintree District Landscape Character
    - Figure A2.6: Local Landscape Character
    - Figure A2.7: Zone of Theoretical Visibility (ZTV)
    - Figure A2.8a: Viewpoint 07 Photomontage (Winter Year 1)
    - Figure A2.8b: Viewpoint 07 Photomontage (Summer Year 15)

2. Scope and methodology

2.1 Approach

2.1.1 A full methodology is included as Annex 1 of this Appendix. It is recommended that this is cross-referenced when reading the appraisal to gain a clear understanding of how judgements have been made.

2.1.2 This LVA has been undertaken based on guidance provided in the GLVIA3. Paragraph 1.11 of GLVIA3 notes that:

> *'the principles and process of LVIA (Landscape and Visual Impact Assessment) can also be used to assist in the 'appraisal' of forms of land use change or development that fall outside of the requirements of the EIA Directive and Regulations. Applying such an approach in these circumstances can be useful in helping to develop the design of different forms of development or other projects that may bring about change in the landscape or visual amenity.'*

2.1.3 Landscape character and resources are considered to be of importance in their own right and are valued regardless of whether they are seen by people. Effects on views and visual amenity as perceived by people are clearly distinguished from, although closely linked to, effects on landscape character and resources. Landscape and visual appraisals are therefore separate, although linked, processes.

2.1.4 This LVA reviews the landscape and visual baseline conditions within the site and the local landscape surrounding the site, where notable landscape and visual changes as a result of the proposed GSP substation have the potential to be readily perceived.

2.2 Study area

2.2.1 Informed by the type and scale of the proposed GSP substation, the study area is defined by a 2km radius from the site. This is illustrated in Figure A2.1. The extent of the study area has also been informed by ZTV mapping and professional judgement gained from similar scale projects which suggest that at distances greater than 2km, notable effects on landscape character and visual amenity are unlikely to occur.

2.3 Scope

2.3.1 The scope of the appraisal has been informed by professional judgement and experience together with pre-application advice and the screening opinion provided by Braintree District Council Landscape Advice Service on the 18 August 2021 as well as feedback from the statutory consultation relating to the wider reinforcement project. The LVA considers the following landscape and visual receptors:

- The physical landscape within the site.
- Landscape character (combinations of elements and aesthetic and perceptual aspects that make an area distinctive) within the 2km study area.
- Views and visual amenity experienced by people living and moving around the local community (within the 2km study area and the ZTV).
- Views and visual amenity experienced by visual receptors engaged in outdoor recreation at representative viewpoints. This includes people using public rights of way (PRoWs) and cycle routes falling within the 2km study area and the ZTV.
- Views and visual amenity experienced by visual receptors engaged in outdoor recreation at representative viewpoints. This includes people visiting recreational features and attractions (some of which may have historic or cultural heritage importance) and all falling within the 2km study area and the ZTV.
- Specific views and visual amenity experienced by sensitive receptors identified outside the 2km study area but falling within the ZTV (this includes views from local communities in the settlements of Audley End and Gestingthorpe in response to concerns raised during the statutory consultation for the wider reinforcement project).

2.3.2 The following receptors have been scoped out of the appraisal:

- Nationally and locally designated landscapes including Dedham Vale Area of Outstanding Natural Beauty (AONB) (approximately 7km away to the south east at its nearest point) and Special Landscape Areas (SLA) (the nearest being Stour Valley SLA, approximately 3.5km away to the east) – these have been excluded because none fall within the 2km study area or within a distance where it is deemed likely for landscape and visual impacts to occur.
- Road users because people using roads are considered to be of relatively low sensitivity.
- St Edmunds Way/ Stour Valley Long Distance Paths as they are located approximately 2km east of the site and would be unlikely to be affected.

- Visual receptors that fall outside the ZTV.

2.4 Consultation

2.4.1 The details of specific issues raised in relation to the LVA during the pre-application and consultation process with the Braintree District Council, including the selection of viewpoints, are set out in Table 2.1 below.

Table 2.1: Consultation summary

Consultee	Date and format	Issue Raised	Response/ Action Taken
Braintree District Council	Pre application meeting Tuesday 5th April 2022	The following was discussed and agreed during the meeting: - Proposed method, following GLVIA3; - The locations and number of viewpoints (13 in total); - The location and number of photomontages (1 in total); - 2km study area (buffered from the red line boundary); - Receptors being considered (Local Landscape Character Areas, communities, people using PRoW and promoted cycle routes); and - The ZTV to be based on gantry locations and heights.	All matters discussed have been accounted for in the landscape and visual assessment and also the landscape plan and photomontages which accompany the planning application.
Braintree District Council	Pre application advice. Letter 18.8.2021 Place Services Landscape Advice Service on behalf of Braintree District Council	Follow GLVIA3 Viewpoints submitted as part of the wider DCO process agreed. Suggest Methodology agreed with Local Planning Authority (LPA). Landscape Institute TGN 06/19 to be followed. Suggest that Type 3 visualisations are used where possible. Use LCA B6 Wickham Farmland Plateau as the landscape baseline but would welcome a detailed analysis and review bearing in mind age of Landscape Character Assessment. Use LI TGN 02/21 Assessing the Value of Landscape Outside National Designations.	GLVIA3 principles followed as set out in Annex 1. Agreed viewpoints are presented in Annex 2. Methodology agreed with LPA in meeting held 05 April 2022. Photomontages are in accordance with Landscape Institute TGN 06/19 Visualisation Type 4, AVR Level 3. Viewpoints are accompanied by 3D Wirelines (Visualisation Type 2). LCA B6 Wickham Farmland Plateau has been referred to in the landscape baseline but the landscape assessment is based on project specific Local Landscape Character Areas (LLCAs).

Consultee	Date and format	Issue Raised	Response/ Action Taken
		Details of mitigation planting submitted at outset. Design recommendations included.	Consideration of the value of the baseline landscape has taken cognisance of LI TGN 02/21. Embedded landscape planting in presented on Figure 4 of the Environmental Appraisal.

2.5 Limitations, assumptions and key parameters for the appraisal

2.5.1 No notable information gaps were identified during the preparation of the LVA, and it is considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and appraisal of likely effects on landscape and visual amenity.

2.5.2 All site visits and photography was undertaken from publicly accessible locations, such as the public highway and PRoWs. The appraisal is based on views from the ground (therefore not taking into consideration private views from upper storeys).

2.5.3 Screening and filtering of views by vegetation does not remain constant throughout the year, and as such the appraisal is primarily based on the worst case scenario of winter views.

Assumed growth rates

2.5.4 The assumed growth rates included below have been used as a guide for appraisal purposes when considering proposed planting at year 1 and year 15. These are purely an indicative illustration adapted from information from commercial nurseries. Table 2.2 below presents the assumptions made in relation to average growth rates for a selection of trees planted at 450mm whips (unbranched young tree seedlings) and the subsequent paragraph makes assumptions of the average growth of trees planted as larger specimens such as 3 – 3.5m standards. These rates assume good cultivation and management.

Table 2.2: Assumed tree and shrub growth rates (planted as 450mm whips)

Indicative species	Subsequent years average growth	Assumed minimum height at year 15
Oak	230mm	3670mm
Hawthorn	450mm	6750mm
Blackthorn	300mm	4650mm
Birch	400mm	6050mm

2.5.5 It is assumed that any tree species which may be planted at standard sizes (i.e. 3-3.5m) would grow at a rate of 300 mm per year and therefore would achieve a minimum height between 7.2-7.7m by year 15.

3. Baseline

3.1 Landscape overview

3.1.1 The extent of the site and study area is shown in Figure A2.1, which also illustrates landscape designations and tree cover.

3.1.2 The site is located between Butler's Wood and Waldegrave Wood, approximately 5km south of Sudbury and 1km northeast of Wickham St Paul. It is accessed directly from the A131 to the east. It consists of largely intact agricultural fields bounded by hedgerows. Mature, mixed deciduous woodland forms its immediate boundary to the north and south. Landform is broadly flat (as illustrated in Figure A2.2), undulating gently from approximately 79m AOD at the western extent of the site to approximately 87m AOD at the east. The existing 400kV overhead line runs from east to west through the site with two steel lattice towers being located within the site. The site includes a small area to the east of the A131 comprising the field boundary and existing hedgerow planting.

3.1.3 The study area comprises gently undulating landform at around 80m to 85m AOD (as illustrated in Figure A2.2). Medium to small scale, irregular arable fields are enclosed by hedgerows and interspersed with small to medium sized blocks of woodland and linear belts of trees along roads and watercourses. These together with the undulating landform, frequently frame and filter views. The A131 runs in a broadly north-south orientation through the centre of the study area. Numerous local roads traverse the area, often sunken and bordered by hedgerows which restrict views.

3.1.4 A network of local PRoW connects properties and settlements (as illustrated in Figure A2.3). The Painters Trail promoted cycle route is located approximately 1.2km to the northeast.

3.1.5 There are a number of small settlements within the study area including Wickham St Paul, Bulmer and Twinstead, the nearest being Wickham St Paul at approximately 1km from the site. Isolated properties and small hamlets are scattered across the study area. The existing 400kV and 132kV overhead lines traverse the study area in a broadly east-west orientation. The overall character is of a well settled rural landscape.

3.2 Landscape designations

3.2.1 Table 3.1 sets out the landscape designations considered in the baseline and provides explanation as to whether they have been taken forward into the appraisal.

Table 3.1: Landscape related designations

Designation	Distance from project boundary	Description
Dedham Vale AONB and its setting	Approximately 7.6km to the east of the site	There would be no effects on the Dedham Vale AONB or its setting due to the distance from the proposed GSP substation. Not considered further within the appraisal.
Stour Valley Project Area (note: this is not a designation)	Approximately 1.1km to the east and north of the site	Small parts of the western extent of the Stour Valley Project Area fall within the 2km study area. While not a designated landscape in itself, the Stour Valley Project Area has been described as having similar picturesque landscape qualities to Dedham Vale AONB. (Land Use Consultants, 2018).

Designation	Distance from project boundary	Description
		The ZTV and visibility studies carried out both from mapping and from site survey confirm that there is very limited intervisibility between the Stour Valley Project Area and the proposed GSP substation. Indirect effects are therefore considered unlikely. Not considered further within the appraisal.
Stour Valley Special Landscape Area (SLA)	Approximately 3.5km to the east and north east of the site	The SLA is a non-statutory local designation defined within the current local planning policy for Babergh and Mid Suffolk district. Due to distance, it is considered that there would be no effects on the SLA. Not considered further within the appraisal.

3.3 Landscape character

3.3.1 In accordance with GLVIA3, published landscape character assessments are considered to inform the baseline study. There is some overlap between the national, county and district scale Landscape Character Types (LCT) and/or Landscape Character Areas (LCA). The study area falls wholly or partly within the LCT/LCA listed within Table 3.2, which also sets out their key characteristics and which have been taken into consideration when considering the landscape character of the study area. This table should be read in conjunction with Figures A2.4 and A2.5 in Annex 3 of this Appendix.

Table 3.2: Published landscape character areas

Landscape Character Type/Area	Description
National Landscape Character Areas	
NCA 86: South Suffolk and North Essex Clayland (Natural England, 2014c)	The key characteristics represented within the study area are; an undulating chalky boulder clay plateau dissected by a number of river valleys; winding watercourses, large, often ancient hedgerows link woods and copses, forming wooded skylines; an agricultural landscape which is predominantly arable with a wooded appearance; irregular field pattern; a rich archaeology; dispersed settlement pattern consisting of small settlements and scattered properties; winding, narrow and sometimes sunken lanes bounded by deep ditches; wide verges and strong hedgerows and a strong network of PRoW.
County Level: Essex Landscape Character Assessment (2003)	
LCA B3 Blackwater and Stour Farmlands (Chris Blandford Associates, 2003)	The majority of the study area and the site itself fall within LCA B3 Blackwater and Stour Farmlands. The key characteristics of this LCA are very gently undulating or flat landform; large scale arable field pattern; infrequent small blocks of woodland; some mature hedgerow trees on field boundaries; wide views across farmland; small villages, hamlets with a wealth of historic buildings; tranquil character. The LCA description notes the presence of pylons being strong features within this landscape and this includes the existing 400kV overhead line running to Pelham west of

Landscape Character Type/Area	Description
	the Twinstead Tee through the site. It also includes the existing 132kV overhead line between Burstall Bridge and Pelham which cross the south of the study area.
LCA C8 Stour Valley (Chris Blandford Associates, 2003)	Parts of the outer edges of the study area fall within LCA C8 Stour Valley. The key characteristics of this LCA are typically wide flat valley floor with floodplain meadows, riverbank willow trees and small wet woodlands; rolling rounded valley sides with a complex mosaic of small woods, pasture and arable fields in the east, gentler arable valley sides in the north and west; church towers, traditional villages, farmsteads, barns and mills are distinctive features; sinuous pattern of lanes and roads and mostly tranquil, secluded character. This LCA is described as having a typically wide, flat valley floor with floodplain meadows, riverbank willow trees and small wet woodlands. Rolling rounded valley sides contain a complex mosaic of small woods, pasture and arable fields in the east and gentler arable valley sides in the north and west. Church towers, traditional villages, farmsteads, barns and mills are listed as distinctive features, as are the sinuous pattern of lanes and roads.
County Level: Suffolk Landscape Character Assessment (2010)	
Ancient Rolling Farmlands LCT (Suffolk County Council, 2010)	The majority of the study area and the site itself fall within Ancient Rolling Farmlands LCT. This landscape is described in the Suffolk Landscape Character Assessment as a rolling, wooded arable landscape dissected by rivers and streams. It is largely in arable use with irregular sinuous field patterns. Ancient woodland is described as a significant feature of the landscape and, in combination with mature oak trees, adds to the perceived wooded feel to the landscape. Networks of winding lanes and paths, often associated with hedges, create visual intimacy. However, areas of field amalgamation also create a contrast to this intimacy with frequent longer views across a rolling and lightly wooded countryside. Scattered settlement is common with clusters of buildings of various sizes, some elongated. Outlying groups of properties are based on green-side and way-side settlement and farmsteads.
Rolling Valley Farmlands LCT (Suffolk County Council, 2010)	Parts of the outer edges of the study area fall within Rolling Valley Farmlands LCT. The landscape is described as containing gently sloping valley sides with a smaller scale field pattern than on the plateau although field size increases towards the plateau fringes. This landscape is comprehensively settled and contains locally distinctive villages often with late medieval cores and churches. Woodland forms a distinctive and constant feature and is often present on the upper slopes where it frames views out from the valley. The steeper valleys and sunken lanes are in contrast to many other valley networks in the county.
District Level: Braintree District Council (2006)	
LCA B6 Wickham Farmland Plateau (Braintree District Council, 2006)	The majority of the study area and the site itself fall within LCA B6 Wickham Farmland Plateau. In the Landscape Character Assessment (Braintree District Council, 2006), the following are noted as key characteristics: Rolling hills and valleys, large scale arable field pattern, infrequent small blocks of deciduous and occasionally coniferous woodland, some mature hedgerow trees on field boundaries, wide views across the farmland, small villages with a wealth of historic buildings and a strong sense of

Landscape Character Type/Area	Description
	tranquillity. The LCA description also notes that 'pylons dominate the skyline throughout the centre of the area' (Page 71).
LCA A2 Stour River Valley (Braintree District Council, 2006	Parts of the outer edges of the study area fall within LCA A2 Stour River Valley. The LCA description notes the following as key characteristics: Gentle rounded arable valley sides; valley sides dissected by tributary valleys; several small settlements are located near the top of the slope or within adjoining valleys; mostly tranquil, secluded character away from the settlements; and sinuous pattern of lanes and roads are generally located at the edges of the valley floor and valley sides. The LCA description also recognises that the 'River Stour forms a key focal point throughout the valley and surrounding slopes' (Page 38) and landmarks are formed by both sewage works / industrial estates on the valley floor and churches on the valley slopes.

3.3.2 Whilst GLVIA3 recommends that existing, published LCT/ LCA descriptions be considered in order to prepare the landscape baseline, it also recommends that such studies be reviewed critically having regard for the date that they were created and the level of detail included.

3.3.3 The pre-application advice received by Essex Place Services landscape advice service on behalf of Braintree District Council dated the 18 August 2021 suggests that the LCA B6 Wickham Farmland Plateau be used as the baseline for landscape receptors to be assessed. The advice also suggested that, due to the age of the LCA descriptions, a detailed landscape analysis and review be undertaken in order to determine effects on the landscape.

3.3.4 Following this review, and for the purposes of this LVA, a number of Local Landscape Character Areas (LLCA) set out within Table 2.5 below have been identified within the study area. The boundaries are shown on Figure A2.6. of Annex 3 of this Appendix. Table 3.3 includes descriptions and confirms whether the landscape receptor has been taken forward to the appraisal.

Table 3.3: Local landscape character areas

Local Landscape Character Area (LLCA)	Description
Stour Valley Rolling Farmlands LLCA	This LLCA is located approximately 750m to the east of the proposed GSP substation. The ZTV and visibility studies carried out both from mapping and from site survey confirm that there is very limited intervisibility between this LLCA and the proposed GSP substation. Indirect effects on landscape character are therefore considered unlikely. This LLCA is not considered further within the appraisal.
Belchamp Brook & Tributaries LLCA	This LLCA is located approximately 200m to the west of the proposed GSP substation. The ZTV and visibility studies carried out both from mapping and from site survey show that there is some limited intervisibility with the proposed GSP substation and therefore some potential for the LLCA to experience indirect effects. This LLCA consists of gentle river valleys containing Belchamp Brook and its tributaries but with some complex and steep slopes. Field pattern is smaller than on the adjacent

Local Landscape Character Area (LLCA)	Description
	plateaux landscape, and here are distinct areas of regular field pattern and small ancient woodlands to the valley fringes. Settlement pattern consists of scattered properties and small settlement connected by local roads. This LLCA is considered to be of community importance and medium value. The character and quality of the landscape is positive and landscape condition moderate to good. There is some sense of place derived from the shallow valley topography and riparian vegetation associated with a small watercourse. Scenic quality and tranquillity are moderate though in places both are reduced due to the perception of the existing 400kV overhead line. The LLCA has few conservation interests. Those present include a scheduled monument and a tree preservation order close to Hole Farm to the west of the study area. This LLCA is locally valued for recreation as reflected by the presence of PRoW. This LLCA is considered further within the appraisal.
Wickham Farmland Plateau LLCA	The proposed GSP substation is located entirely within this LLCA and is therefore directly affected. The landscape within the study area is generally consistent with published County scale character descriptions but less so with regard to the District scale description. The LLCA sits on the plateau of land to the west of the Stour Valley. It is comprised generally of flat arable farmland with wooded horizons and isolated properties and occasional small settlements. Wickham St Paul and Twinstead are the largest settlements and lie 1km to the west and 1.3km to the east respectively. The linear settlement of Audley End also lies to the west of the site. The landscape frequently has a continuous tree lined horizon rather than the published description of a landscape of continuous views of low horizons punctuated by intermittent lines of mature trees. The existing hedgerows are well developed and contain a mix of locally common tree species. Extensive belts of new vegetation, including shelterbelts, hedgerows and scattered trees, have been planted on the farmland immediately to the west of the site. The predominantly agricultural landscape is broadly intact, although has been some hedgerow loss and fields have been enlarged. Historic field patterns have been lost with the expansion of fields around the proposed GSP substation but are still apparent around the nearby settlements. The woodland blocks and belts remain largely intact. The A131 runs north-south through the central part of the study area and disrupts the otherwise general tranquil character of the LLCA. A network of local roads connect Twinstead and Wickham St Paul to the south. There is a relatively dense network of PRoW across the landscape across the LLCA. This LLCA is considered to be of community importance and medium value. The character and quality of the landscape is positive and landscape condition moderate to good. There is some sense of place particularly where the plateau of the LLCA is punctuated by the adjacent valley landscapes and in relation to historic settlements and large blocks of ancient woodland. Scenic quality and tranquillity are locally moderate due to the influence of the existing 400kV overhead line and the A131. The LLCA has relatively few conservation interests. Those present include several large blocks of ancient woodland and a number of listed buildings and tree preservation orders

Local Landscape Character Area (LLCA)	Description
	associated with settlements. This LLCA is locally valued for recreation as reflected by the presence of PRoW. **This LLCA is considered further within the appraisal.**

3.3.5 The site itself consists of arable farmland between two large blocks of ancient woodland (Butler's Wood and Waldegrave Wood) which lie immediately to the north and south. The existing hedgerows are well developed and contain a mix of locally common tree species. Significant belts of new vegetation, including shelterbelts, hedgerows and scattered trees, have been planted on the farmland immediately to the west of the site. Although the published landscape character area descriptions state that that tranquillity is a key characteristic of the wider LCAs, the site is heavily influenced by the proximity to the A131, which passes close to its eastern boundary, in addition to the existing 400kV overhead line which passes through the proposed GSP substation site between the two blocks of woodland.

3.4 Visual

Visibility overview

3.4.1 The ZTV presented in Figure A2.7 illustrates the screening effect of Butler's and Waldegrave Woods to the north and south of the site respectively.

3.4.2 Overall, views of the field between Butler's Wood and Waldegrave Wood tend to be restricted to a localised area. More distant views toward the field are largely screened by the existing woodland, becoming increasingly less discernible in longer distance views.

Visual receptors

3.4.3 Potential Visual Receptors include:

- Local community, including people living and moving around settlements and isolated properties scattered across the study area;
- Recreational users of cycle routes; and
- Recreational users of the local PRoW network.

3.4.4 Site visits have been undertaken to verify the receptors in the ZTV that would be likely to experience views of the proposed GSP substation. Using analysis of the ZTV, site surveys and professional judgement, the following visual receptors have been identified, set out within Table 3.4 below. A full list of viewpoints selected to represent these visual receptors is presented in Table 3.5 and referenced below under each receptor group.

Table 3.4: Visual Receptors

Receptor	Description and value
People using the local PRoW network	There are no National Trails or long distance footpaths in the study area. There are however a number of PRoW in the area, some of which have views towards the gap between Butler's and Waldegrave Woods, particularly from PRoW in close vicinity to the west. Views towards the proposed GSP Substation from PRoWs to the north and south are generally restricted by woodland, although there are some views possible from PRoWs to the south.

Receptor	Description and value
	Considered further within the appraisal Representative views found in Annex 2 of this Appendix are: **Viewpoint 1**: View from PRoW in Gestingthorpe near Audley End, **Viewpoint 3**: View from All Saints Church on Church Road, **Viewpoint 5**: View from Green Lane to the north of Twinstead Green, **Viewpoint 6**: View from PRoW to the south east of Wickham St Paul, **Viewpoint 7**: View from PRoW to the east of Wickham St Paul, **Viewpoint 8**: View from PRoW to north east of Wickham St Paul near Butlers Hall Farm, **Viewpoint 9:** View from PRoW between Butlers Hall Farm and Old Road, **Viewpoint 10**: View from PRoW on Old Road, **Viewpoint 11**: View from PRoW off Watery Lane and **Viewpoint 13**: View from Painters Trail to the south of Little Henny.
People using promoted cycle routes	There are no regional or National Cycle Networks in the study area. The Painters Trail promoted cycle route, which uses a mixture of quiet roads and well surfaced tracks, is located approximately 1.2km to the north east of the site. **Considered further within the appraisal** Representative views found in Annex 2 of this Appendix are: **Viewpoint 12:** View from Painters Trail between Bulmer Tye and Little Henny and **Viewpoint 13**: View from Painters Trail to the south of Little Henny.
People living in the local community - settlements	Small parts of the local community within northern extents of the hamlet of Twinstead Green lie approximately 300m south east of the site. The nearest villages to the location of the proposed GSP substation, within the landscape and visual study area, are Wickham St Paul (to the south west) and Twinstead (to the east), both approximately 1km away. Slightly further away to the north and north east are the hamlets of Bulmer Tye and Great Henny and the small village of Little Henny (approximately 1.5 to 2km away). The settlements of Gestingthorpe and Audley End are located to the north west outside the study area (approximately 2.9km). Views toward the proposed GSP substation from these locations are generally limited by intervening hedgerows and mature trees and also the existing large woodland blocks immediately to the north and south. **Considered further within the appraisal** Representative views found in Annex 2 of this Appendix are: **Viewpoint 1**: View from PRoW in Gestingthorpe near Audley End, **Viewpoint 3**: View from All Saints Church on Church Road, **Viewpoint 4**: View from Rectory Lane on the edge of Wickham St Paul, **Viewpoint 5**: View from Green Lane to the north of Twinstead Green and **Viewpoint 12:** View from Painters Trail between Bulmer Tye and Little Henny.
People living in the local community - scattered settlement	Isolated and small groups of properties are scattered across the study area. The nearest are the few individual farmsteads and other groups of houses approximately 500m away to the north east and north west of the site. **Considered further within the appraisal** Representative views found in Annex 2 of this Appendix are: **Viewpoint 2**: View from Headingham Road to north of Whickham St Paul, **Viewpoint 3**: View from All Saints Church on Church Road**, Viewpoint 5**: View from Green Lane to the north of Twinstead Green**, Viewpoint 6**: View from PRoW to the south east of Wickham St Paul, **Viewpoint 8**: View from PRoW to north east of Wickham St Paul near Butlers Hall Farm and **Viewpoint 11**: View from PRoW off Watery Lane and **Viewpoint 13**: View from Painters Trail to the south of Little Henny.

3.5 Viewpoints

3.5.1 The viewpoints have been selected as representative of the different types of receptors at a range of distances and viewing angles. It is not an exhaustive list of locations from which the proposed GSP substation would be visible but have been selected in order that an overall appraisal can be made.

3.5.2 A total of 13 viewpoints have been selected through desk study, site work and agreed in consultation with stakeholders.

3.5.3 The viewpoints used to assess the visual effects are listed in Table 3.5 below and their locations are shown within Figure A2.3. Judgements relating to the value of views for each viewpoint are presented in Annex 2 (Viewpoint Appraisal) of this appendix.

Table 3.5: Viewpoints

Viewpoint number	Description	Approximate distance from site	Reason for selection
1	View from PRoW in Gestingthorpe near Audley End	2900m	Representative of views experienced by people living and moving around Gestingthorpe. Users of the local PRoW network
2	View from Headingham Road to north of Wickham St Paul	1300m	Representative of views experienced by people living and moving between the communities of Bulmer Tye, Gestingthorpe and Wickham St Paul.
3	View from All Saints Church on Church Road	1350m	Representative of views of people living and moving around the community of Wickham St Paul and visiting All Saints Church.
4	View from Rectory Lane on the edge of Wickham St Paul	1000m	Representative of views experienced by people living and moving around the community of Wickham St Paul.
5	View from Green Lane to the north of Twinstead Green.	310m	Representative of views experienced by people using the local PRoW network.
6	View from PRoW to the south east of Wickham St Paul	1050m	Representative of views experienced by the local community and people using the local PRoW network.
7	View from PRoW to the east of Wickham St Paul	800m	Representative of views experienced by people living and moving around the community of Wickham St Paul and people using the local PRoW network.
8	View from PRoW near Butler's Hall Farm	580m	Representative of views experienced by people using the local PRoW network.

Viewpoint number	Description	Approximate distance from site	Reason for selection
9	View from PRoW between Butler's Hall Farm and Old Road	260m	Representative of views experienced by people using the local PRoW network. It is next to the proposed substation location.
10	View from PRoW on Old Road	290m	Representative of views experienced by people using the local PRoW network.
11	View from PRoW off Watery Lane	690m	Representative of views experienced by people using the local road network to the west of Great Henny and users of the local PRoW network.
12	View from the Painters' Trail between Bulmer Tye and Little Henny	1640m	Representative of views experienced by people living and moving between Bulmer Tye and Little Henny.
13	View from the Painters' Trail to the south of Little Henny	1480m	Representative of views experienced by people living and moving around the more scattered community of Little Henny and people using the PRoW network.

3.6 Future Baseline

3.6.1 The future baseline is related to landscape changes which are considered certain or likely to happen, including consented proposals which are not yet present in the landscape but are expected to be constructed.

3.6.2 There are applications for development within the study area, which may affect the landscape character or result in changes to visual amenity and people's views. These are discussed within Section 3.12 of the Environmental Appraisal.

3.6.3 Ash (*Fraxinus excelsior*) trees within the study area may be affected by ash dieback. This is a disease of ash trees caused by a fungus of Asian origin called *Hymenoscyphus fraxineus* (*H. fraxineus*; formerly called *Chalara fraxinea*). The disease causes leaf loss and crown dieback in affected trees and is usually fatal. Mapping by the Department for Environment, Food and Rural Affairs (Defra) and the Forestry Commission confirms the presence of ash dieback in Essex and Suffolk. The future baseline therefore assumes that there would be loss of ash trees in the long term across the study area, but that other tree species would occupy gaps created in the short term, and overall levels of vegetation would remain similar to existing.

3.6.4 Appendix 5 (Arboricultural Assessment) explains that a survey examined the woodland species composition and structure within Butler's Wood and Waldegrave to consider their resilience to biotic and climatic disturbances. Some evidence of decline was observed of individual oak trees within the woodlands. However, this had not developed significantly and was not considered significant in relation to the resilience of the woodland to climatic and biotic stresses. The intimate mixture of tree species reinforces the resilience of the woodlands to individual tree losses and the affected trees were irregularly scattered and there was no clear evidence of disease.

3.6.5 In contrast to expected loss of ash trees, some positive landscape changes might also be anticipated. These relate to agri-environment and woodland planting schemes would enhance the landscape.

3.6.6 As previously stated, it is recognised that no landscape is static and that the landscape across the study area is under different pressures and continually changing, albeit over relatively long timeframes. Further to a review of the above, in terms of landscape character, it is considered that the character of the baseline landscape would not notably change in the future during construction or operation.

4. Potential sources of impact

4.1.1 The appraisal considers the construction and operation impacts of the proposed GSP substation.

4.1.2 The potential sources of likely impacts during construction include the following: construction activities such site clearance; removal of hedgerow sections; excavation and earthworks; temporary construction activities including the movement of large scale construction equipment, construction related traffic; the introduction of compounds and temporary buildings required for construction; parking on site; hoardings and/or security fencing or signage; and materials stockpiles.

4.1.3 The potential sources of likely impacts during operation include the introduction of a new permanent access road and surfacing associated with the GSP substation; the introduction of new above ground infrastructure in the landscape including gantries; and effects of proposed planting and landscape mounding shown in Figure 4 of the Environmental Appraisal.

4.1.4 The likely effects on landscape and visual resources, as a result of these potential impacts, include the following:

- Direct, temporary and reversible loss of landscape elements (e.g. removal of ditches, arable fields and grass verges).
- Direct permanent loss of landscape elements (e.g. removal of a section of hedgerow, a section of ditch, arable fields and grass verges).
- Direct permanent addition of landscape elements (e.g. above ground electrical equipment, security fencing and surfacing, woodland, scrub, hedgerows, hedgerow trees, ditches, and grassland).
- Direct, permanent changes to landform (e.g. areas of cut and fill, and mounding).
- Direct physical change to landscape character, both temporary (during construction) and permanent (during operation). This may be either positive or negative.
- Direct and indirect perceptual change to landscape character and changes in visual amenity, both temporary (during construction) and permanent (during operation). This may be either positive or negative.

4.1.5 There may be requirements for construction site lighting during the winter months; however, Appendix 1 (CEMP) contains guidance on measures to reduce impacts.

4.1.6 During operation, there would also be low lux level light-emitting diode type luminaires with directable light output to minimise light pollution except at each access gate where individual passive infrared sensor motion activated lighting shall be provided to facilitate safe entry at night. The installation shall be designed to reduce visual intrusion outside the

main substation periphery in accordance with the Chartered Institution of Building Services Engineers and the Institution of Lighting Professional's guidance note 08/18 on Bats and Artificial Lighting in the UK.

4.1.7 Although lighting may be a source of night time impact during construction and operation, it is not considered that it would give rise to notable effects due to the short term and temporary nature of any lighting that may be required in combination with the measures outlined in the CEMP.

5. Measures to Avoid or Reduce Impacts

5.1 Introduction

5.1.1 Details of embedded measures that have been incorporated into the overall design of the proposed GSP substation are presented in Section 3.1 of the Environmental Appraisal.

5.1.2 During the ongoing design process, there has been a continuing exploration of opportunities to avoid or reduce impacts through consideration of the siting of the proposed GSP substation and design of the planting and landscape mounding proposals.

5.2 Construction Phase

5.2.1 The Code of Construction Practice (CoCP) in Annex 1 of Appendix 1 (CEMP) contains a list of relevant good practice measures, including the following key commitments relating to the LVA:

- GG20: Construction lighting will be of the lowest luminosity necessary to safely perform each task. It will be designed, positioned and directed to reduce the intrusion into adjacent properties, protected species and habitats.
- LV03: A five-year aftercare period will be established for all reinstatement and mitigation planting.
- Measures in Section 4 of Appendix 1 (CEMP) details regarding the reinstatement and additional planting. This will also take into account biodiversity net gain targets as detailed in Appendix 4 of the Environmental Appraisal.

5.3 Operational Phase

5.3.1 The avoidance or reduction of landscape and visual effects during the operational phase of the proposed GSP substation is predominantly the result of the embedded measures described in Section 3.1 of the Environmental Appraisal. This is part of an iterative design process avoiding sensitive features such as larger settlements and woodlands through the options appraisal. Embedded measures relevant to the LVA are as follows:

- The location and design of the proposed GSP substation has been developed in order that the existing woodlands of Butler's and Waldegrave Woods screen, filter and soften views of the proposed GSP substation. Unrestricted views of the fields which form the site are generally limited by these woodlands. No felling of trees is required within the boundary of these woodlands as part of the proposed GSP substation.
- Embedded landscape planting is included within the area illustrated within Figure 4 of the Environmental Appraisal. Offsets between embedded landscape planting and components of the proposed GSP substation, accompanying works and the existing 400kV overhead line are required to protect equipment.

6. Landscape and visual effects

6.1 Introduction

6.1.1 The appraisal of effects considers the good practice measures and embedded set out in Section 4 of this appendix.

6.1.2 Judgements relating to the susceptibility of visual receptors are presented in Annex 2 (Viewpoint Appraisal) of this appendix. These judgements have been considered together with the value of the views to determine visual receptor sensitivity as presented in Table 6.1.

6.1.3 Judgements relating to landscape sensitivity are also presented in Table 6.1 and described in the following paragraphs.

6.1.4 Belchamp Brook & Tributaries LLCA has a medium-high susceptibility to a new GSP substation. Although the landform of the shallow valleys and the presence of nearby existing overhead line infrastructure suggest lower susceptibility, the more open nature of the larger arable fields combined with the intimate scale of fields near scattered and historic settlement increase the susceptibility of this LLCA to a new GSP substation. Taking into account the medium value and medium-high susceptibility of this LLCA, overall landscape sensitivity is judged to be medium.

6.1.5 Wickham Farmland Plateau LLCA has a medium susceptibility to a new GSP substation. The plateau landform in combination with some large woodland blocks, arable farmland and presence of existing overhead line infrastructure and A131 main road are indicative of lower susceptibility to a new GSP substation. In areas closer to historic settlement and away from main road and overhead line infrastructure the small field pattern and frequency of hedgerows and trees increase susceptibility. Taking into account the medium value and medium susceptibility of this LLCA, overall landscape sensitivity is judged to be medium.

6.1.6 The anticipated landscape and visual effects of the proposed GSP substation are summarised in Table 6.1 and the subsequent text below. This section should be read in conjunction with Annex 2 (Viewpoint Appraisal) of this appendix.

Table 6.1: Summary of landscape and visual effects

	Overall magnitude of change		
Receptor (sensitivity)	**Construction Phase**	**Operation Year 1 (Winter)**	**Operation Year 15 (Summer)**
Landscape Receptors			
Belchamp Brook & Tributaries LLCA (medium sensitivity receptor)	Small	Small	Negligible
Wickham Farmland Plateau LLCA (medium sensitivity receptor)	Medium-small	Medium-small	Small

Receptor (sensitivity)	Overall magnitude of change		
	Construction Phase	Operation Year 1 (Winter)	Operation Year 15 (Summer)
Visual Receptors			
Local community – settlements (high sensitivity receptor)	Small	Small	Negligible
Local community - scattered properties (high sensitivity receptor)	Small m	Small	Negligible
Local PRoW network (high sensitivity receptor)	Medium-small	Medium-small	Small
Cycle Routes (high sensitivity receptor)	Negligible	Negligible	Negligible
Viewpoint Appraisal			
VP01 View from PRoW in Gestingthorpe near Audley End (high sensitivity receptor)	Small	Negligible	Negligible
VP02 View from Headingham Road to north of Wickham St Paul (high sensitivity receptor)	Small	Small	Negligible
VP03 View from All Saints Church on Church Road (high sensitivity receptor)	Small	Small	Negligible
VP04 View from Rectory Lane on the edge of Wickham St Paul (high sensitivity receptor)	Negligible	No change	No change
VP05 View from Green Lane to the north of Twinstead Green (high sensitivity receptor)	Small	Small	Small

Receptor (sensitivity)	Overall magnitude of change		
	Construction Phase	Operation Year 1 (Winter)	Operation Year 15 (Summer)
VP06 View from PRoW to the south east of Wickham St Paul (high sensitivity receptor)	No change	No change	No change
VP07 View from PRoW to the east of Wickham St Paul (high sensitivity receptor)	Medium-small	Medium-small	Small
VP08 View from PRoW near Butlers Hall Farm (high sensitivity receptor)	Medium-small	Medium-small	Small
VP09 View from PRoW between Butlers Hall Farm and Old Road (high sensitivity receptor)	Medium	Medium	Small
VP10 View from PRoW on Old Road (high sensitivity receptor)	Medium-small	Medium-small	Small
VP11 View from PRoW off Watery Lane (high sensitivity receptor)	Negligible	No change	No change
VP12 View from Painters' Trail between Bulmer Tye and Little Henny (high sensitivity receptor)	Negligible	No change	No change
VP13 View from Painters' Trail to the south of Little Henny (high sensitivity receptor)	Small	Small	Negligible

6.2 Construction

Landscape

6.2.1 With respect to potential impacts on landscape character during construction, the grouping of construction operations and machinery near to Butler's and Waldegrave Woods would introduce increased levels of activity within the landscape. Construction would require machinery and possibly cranes; these would be different to those typically notable in the landscape as part of regular farming practice.

6.2.2 The construction of the proposed GSP substation would be perceptible from small parts of the Belchamp Brook & Tributaries LLCA but would not directly affect it. The scale of change to the character of this landscape would be relatively small and the perception of construction activities would be short term and temporary. This would result in a small magnitude of change during construction.

6.2.3 Construction activities would give rise to a noticeable change over a limited area within Wickham Farmland Plateau LLCA as it would be directly affected. With the exception of localised long term changes to landform, at a site level, the majority of construction activities would be short term and temporary and result in a slight change to the perception of the landscape over a wider area. This would result in a medium-small magnitude of change during construction.

6.2.4 Because construction operations are considered to be temporary effects and activity would be focused on one part of the landscape to enable construction. As such, the proposed GSP substation is not expected to result in likely significant effects on the landscape designations or landscape character during construction (or decommissioning).

Visual

6.2.5 People living and moving within and around local communities whose views are most likely to be affected during the construction of the proposed GSP substation are those that are located closer to the site. Due to the positioning of the proposed GSP substation between Butler's Wood and Waldegrave Wood, views of the construction of the proposed GSP substation would be screened or filtered to some extent from the majority of the local community.

6.2.6 There are some existing views from nearest properties at Twinstead Green; however, mature vegetation to garden curtilages filters these views. There are also some views towards the proposed GSP substation from the individual farmsteads and other small groups of scattered houses but intervening vegetation is again expected to limit these. Views from Wickham St Paul would likely be limited and filtered by intervening hedgerows and mature trees. Views from Twinstead, Great Henny and Little Henny, Gestingthorpe and Audley End would be more distant and likely filtered again by intervening vegetation. It is unlikely that there would be views from Bulmer Tye.

6.2.7 The local community travelling along the A131 may have views of the construction of the GSP substation from a very short section of the road immediately adjacent. Views from the local community travelling along other roads in the area would be generally limited as minor roads and lanes are characteristically sunken and hedge-lined and the two adjacent woods screen most views.

6.2.8 People engaged in outdoor recreation who are likely to have views of the construction of the proposed GSP substation include people using PRoWs in the area, particularly to the west in closer proximity to the site. It is also considered likely that also there would be visual effects on recreational receptors within close proximity to the proposed GSP

substation due to the presence of construction traffic, equipment and storage of materials and construction activities including earthworks, these would be short term and temporary in nature.

6.2.9 Construction operations are considered to be temporary effects and activity would be focused on one part of the landscape to enable construction. Given the short term, temporary nature of the construction works together with the presence of intervening vegetation and, the siting of much of the works between two woodlands, construction of the proposed GSP substation is not expected to result in likely significant visual effects.

6.3 Operation

Landscape

6.3.1 The proposed GSP substation is between two areas of mature woodland and is adjacent to an existing 400kV overhead line. It would not be necessary to fell any trees from these woodlands to accommodate the proposed GSP substation. The proposed GSP substation would likely be integrated into the landscape through the pattern of existing vegetation including hedgerows with trees and woodland. Landscape proposals include planting and landscape mounding to the west and east of the site and would further assist in integrating the proposed GSP substation into the landscape.

6.3.2 In the short term (at year 1), parts of the proposed GSP substation would be perceptible from limited areas of the Belchamp Brook & Tributaries LLCA. The magnitude of change to the character of this landscape would be small at year 1 and greatly reduce with time as proposed planting establishes. By year 15 the magnitude of change would be negligible.

6.3.3 The operation of the proposed GSP substation would give rise to a noticeable change in landscape character over a limited area of Wickham Farmland Plateau LLCA due to the introduction of equipment, security fencing, access road and surfacing of the proposed GSP substation. This landscape would be directly affected in terms of changes to landform and land use at a site level. However, the landscape is already influenced by the existing 400kV overhead line and the existing blocks of woodland to the north and south of the site would reduce the perceptibility of the proposed GSP from much of the wider landscape. In the short term (at year 1) there would be a medium-small magnitude of change on Wickham Farmland Plateau LLCA. This would reduce with time as proposed planting establishes and further reduces the influence of the proposed GSP substation. The proposed planting would physically and visually reconnect the existing blocks of woodland to the north and south of the site. By year 15 the magnitude of change would be small.

6.3.4 As proposed planting establishes, the proposed GSP substation would become more integrated into the landscape, reducing impacts over time. Therefore, the proposed GSP substation is not expected to result in likely significant landscape effects during operation.

Visual

6.3.5 In the short term (at year 1), whilst planting establishes, there are likely to be visual effects on recreational receptors within close proximity to the proposed GSP substation. These relate to people using PRoW within close proximity to the proposed GSP substation; albeit these receptors already have close up views of the existing 400kV overhead line. The greatest effects would be seen from the PRoW between Butler's Hall Farm and Old Road as represented by Viewpoint 9.

6.3.6 With the combination of intervening existing vegetation, proposed planting landscape mounding forming part of the proposed GSP substation, the operational visual impacts are

unlikely to have significant visual effects on people living and moving around the local community.

6.3.7 The proposed GSP substation is unlikely to result in notable visual effects during operation (year 15). This is because embedded measures including planting and mounding would limit visibility in the long term.

6.3.8 The embedded measures included as part of the design are anticipated to avoid, reduce or offset potential landscape and visual effects of the proposed GSP substation and therefore no significant landscape or visual effects are anticipated.

References

Braintree District Council (2006). Landscape Character of Braintree District.

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

Defra and Forestry Commission. Chalara (*Hymenoscyphus fraxineus*) - infections confirmed in the Wider Environment as of 21 April 2022. (Online). Available from http://chalaramap.fera.co.uk/ (Accessed 1 March 2022).

Land Use Consultants (2018). Dedham Vale AONB and Stour Valley Project Area, State of the AONB Report. 2018 Headline Findings (Online). Available from: https://arcg.is/0T1CTn (Accessed 1 March 2022).

Landscape Institute (2013). GLVA3 Statement of Clarification 1/133.

Landscape Institute (2019). Technical Guidance Note 06/19. Visual Representation of Development Proposals.

Landscape Institute (2021). Technical Guidance Note 02/21. Assessing the Value of Landscape Outside National Designations.

Landscape Institute and IEMA (2013). Guideline for Landscape and Visual Impact Assessment. 3rd edn. Routledge.

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

Natural England (2014). National Character Area Profile: 86. South Suffolk and North Essex Clayland.

Natural England (2019). An approach to Landscape Sensitivity Assessment – to Inform Spatial Planning and Land Management.

Suffolk County Council (2010). Suffolk Landscape Character Assessment. (Online). Available from https://suffolklandscape.org.uk/map/ (Accessed 8 March 2021).

Annex 1: Landscape and Visual Appraisal Methodology

1. Introduction

1.1.1 This annex has been produced to support Appendix 2: Landscape and Visual Appraisal. It sets out the approach followed in relation to assessing the likely landscape and visual effects arising from the construction and operation of the proposed GSP substation.

1.1.2 The approach and methodology used in the preparation of this landscape and visual appraisal (LVA) is based on guidance provided in the Landscape Institute and Institute of Environmental Management & Assessment: Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA3). As recommended by GLVIA3, this is not a generic LVA methodology, but has been tailored to be proportionate to the nature and location of the proposed GSP substation and has been agreed with the Braintree District Council and Essex Place Services. The methodology also considers the following guidance:

- Landscape Institute (2013), GLVA3 Statement of Clarification 1/133;
- Landscape Institute (2019), 'Visual Representation of Development Proposals', Technical Guidance Note (TGN) 06/19;
- Landscape Institute (2021), 'Assessing the Value of Landscapes Outside National Designations', Technical Guidance Note (TGN) 02/21;
- Natural England (2014), 'An Approach to Landscape Character Assessment'; and
- Natural England (2019), An approach to Landscape Sensitivity Assessment – to Inform Spatial Planning and Land Management.

2. Scope of appraisal

2.1.1 In accordance with GLVIA3, the LVA has identified and described:

- Effects on the landscape as a resource (landscape effects); and
- Effects on views and visual amenity as experienced by people (visual effects).

2.1.2 The approach to the LVA is summarised at a high level below:

- Establish baseline conditions against which the impacts of the proposed GSP substation will be assessed, including judgements on the value of landscape receptors and value of existing views. This includes consideration of how the landscape and visual baseline may change in the future irrespective of the proposed GSP substation.
- Determine the sensitivity of the landscape and visual receptors likely to be affected, which combines judgements about the value attached to receptors and susceptibility to change arising from a specific proposal.
- Predict the nature or magnitude of the change likely to occur during construction, operation year 1 (winter) and operation year 15 (summer), which combines judgements about the likely size and scale of the change, the geographical extent of the area over which it is likely to occur, whether the impact would be direct or indirect, temporary (typically construction), long-term (typically operational) and whether it is positive, neutral or negative.

2.1.3 Operational effects have been assessed at winter year 1 when the proposed GSP substation has been built and again at summer year 15 when embedded mitigation planting proposals have developed and reached a level of maturity.

2.2 Definitions

2.2.1 For the purposes of the LVA:

- Landscape effects means impacts or effects on 'the landscape as a resource in its own right' (GLVIA3, page 21, paragraph 2.21). It includes direct impacts upon the fabric of the landscape (such as the addition, removal or alteration of structures, woodlands, trees, or hedgerows), which may alter the character and perceived quality of the area, or more general effects on landscape character and designated areas of landscape arising from the introduction of new man-made features. The assessment of landscape effects is described in GLVIA3 as *'An assessment of landscape effects deals with the effects of change and development on landscape as a resource. The concern ... is 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.... The area of landscape that should be covered in assessing landscape effects should include the site itself and the full extent of the wider landscape around it which the proposed development may influence in a significant manner*' (Paragraphs 5.1 and 5.2).
- Visual effects mean impacts or effects on 'specific views and on the general visual amenity experienced by people' (GLVIA3, page 21, paragraph 2.21). These relate to specific changes in the composition of views and the effects of those changes on visual receptors and wider visual amenity. In accordance with GLVIA3, the appraisal is focused on publicly accessible views experienced by those groups of people who are likely to be most sensitive to the effects of the proposed GSP substation. This includes local communities where views contribute to the landscape setting enjoyed by residents in the area and people using recreational routes, features and attractions.
- Cumulative effects are the effects of the proposed GSP substation adding to the effects of other proposed developments. There are two main types of cumulative effect. Intra-project cumulative effects are those effects which arise from different environmental factors affecting a single receptor (for example a community may be affected by impacts on visual amenity and air quality). Inter-project cumulative effects arise from the additional effects caused by the proposed GSP substation interacting with the effects of other similar developments in the locality.

3. Data sources

3.1.1 A review of data sources including relevant legislation and planning policy relating to electricity transmission infrastructure and the landscape has been undertaken. The following data sources have informed the production of the LVA appraisal and its figures.

3.2 National and local planning advice and polices

3.2.1 National and local planning advice and policies have been taken into consideration as listed in the Planning Statement accompanying the planning application.

3.3 Other data sources

- Aerial photography;
- Site visits undertaken between Winter 2020/21 and Spring 2022;

- OS mapping (1:25,000);
- OS Terrain® 5 mid-resolution height data (DTM);
- Google Earth Pro aerial photography and terrain; and
- Datasets sourced from data.gov.uk website (including National Forest Inventory, Open Access Land and Registered Common Land).

3.3.1 In addition, the following project related guidance has been taken into consideration:

- National Grid Company plc (2003). The Horlock Rules – Guidelines on the Siting and Design of National Grid Substations; and
- Hinton, C. and Holford, W. (1959). The Holford Rules – Guideline for the Routeing of New High Voltage Overhead Transmission Lines.

4. Study area

4.1.1 The LVA focuses on those areas which are likely to experience the greatest effects. The LVA study area shown in Figure A2.1 encompasses an area up to 2km from the extent of the site.

4.1.2 To support the definition of the study area and the assessment process, a Zone of Theoretical Visibility (ZTV) map has been produced (Figure A2.6). This illustrates theoretical visibility during the operational phase. The ZTV has been produced using a 5km buffer to demonstrate that the 2km study area is appropriate and to help identify any particularly sensitive visual receptors which may be within or just outside 2km.

4.1.3 The 2km study area has been monitored throughout the preparation of the LVA. No sensitive receptors beyond 2km have been identified as being likely to be noticeably affected by the proposed GSP substation during site visits. Consideration of views from the local communities of Gestingthorpe and Audley End (approximately 2.7km to the north west of the site) have however been considered following concerns raised during the Statutory Consultation period for the wider reinforcement project.

5. Technical analysis

5.1 ZTV mapping

5.1.1 The ZTV mapping has been generated using GIS and is modelled based on the following:

- the gantry locations proposed within the proposed GSP substation and single circuit cable sealing end (CSE) compound (this is because these are the tallest elements of the proposed GSP substation);
- maximum gantry height of 12.43m within the proposed GSP substation;
- maximum gantry height of 12.64m within the proposed single circuit CSE compound;
- a combination of Ordnance Survey (OS) ‘terrain 5’ and ‘terrain 50’ topographical data; and
- receptor eye level set at 1.5m.

5.1.2 The ZTV is not based on bare-earth alone but takes into consideration existing woodland blocks as defined by desk-top study using the National Forest Inventory mapping dataset. These woodland blocks have been assigned a 15m height. This is considered a conservative approach to represent the likely screening/filtering effects of mature

woodland. The ZTV does not take into account the additional screening and filtering effects of hedgerow and field trees, small copses or more recently planted trees, woodland and hedgerows which are found in places throughout the study area. The ZTV also does not consider planting or mounding proposed as part of the proposed GSP substation.

5.1.3 The ZTV mapping is broken down to show the following:

- the areas from which the gantries (within the proposed GSP substation and single circuit CSE compound) may theoretically be visible, from the ground level to the top;
- the areas from which the top half of the gantries (within the proposed GSP substation and single circuit CSE compound) may theoretically be visible; and
- the areas from which the very top of the gantries (within the proposed GSP substation and single circuit CSE compound) may theoretically be visible, but the rest would not be (this is based on the very tip of the gantries).

5.2 Use of viewpoints and wirelines

Viewpoint selection

5.2.1 The selection of viewpoints has been informed by ZTV analysis, site visits, desk-based research on access and recreation (including Public Rights of Way (PRoW), tourism including popular vantage points, and by the distribution of the different groups of visual receptors. Where possible the viewpoints have been selected in places where they represent several different receptor groups (e.g. on the edge of a settlement and on a PRoW). The locations of these viewpoints has been agreed with the Local Planning Authority.

5.2.2 It should be noted that it is the people who would be experiencing the view from the viewpoint that are the receptor, not the viewpoint itself. The location affords the view to the recipient, and whilst the location cannot change, the opinion of the viewer can be variable. People generally have different responses to a change in view depending on their location, the activity they are engaged in and other factors, including the weather and the time of day/year.

Viewpoint photography

5.2.3 A series of visual site surveys have been undertaken for the agreed representative public viewpoints. Surveys took place in winter/spring 2020/21 and winter/spring 2021/22 in clear weather conditions.

5.2.4 For each viewpoint, a number of handheld photographs were taken for use on viewpoint sheets and as a record of the site visit (as presented in Annex 2). Photography was taken in accordance with the following method:

- photographs were taken using a Canon EOS 6D camera with a Canon EF 50mm f/1.8 fixed focal lens;
- the time and date of the photography was recorded together with prevailing weather conditions;
- the location of the viewpoint was recorded by a hand held GPS and coordinates cross checked against aerial mapping;

- when taking photographs, the photographer turned the camera round with the lens directly over their left foot which is regarded as good practice for taking panoramic photography in the field without a tripod;
- the camera was focused once to the middle distance and then set to manual focus to ensure all shots are consistent in focus distance;
- all images were captured in jpeg format;
- panoramas were produced by stitching multiple site photographs into single panoramic images (using PTGui stitching software);
- single shot images were captured as required to capture particular landscape features/elements for use in the understanding of landscape character; and
- an overlap of at least 25% was allowed between shots to create the panoramic photo.

5.2.5 In relation to panoramic photography, professional judgement is exercised. Full 360-degree photography was only taken where access (e.g. not in proximity to residential properties) and safety allows. In all other cases, photographic coverage is proportionate to the coverage required to illustrate the visual effects of the proposed GSP substation in context. Generally, for panoramas, 180-degree coverage is sufficient.

Wirelines

5.2.6 Wireframe (or wireline) diagrams show the outline of the proposed GSP substation in the context of the baseline. These are computer-generated line drawings, based on the digital terrain model combined with information about the location and scale of components of the proposed GSP substation, to give a relatively simple indication of how the it would appear from different viewpoints. Wireframe diagrams are produced for all viewpoints to assist the assessment process (refer to Annex 2).

5.2.7 For each viewpoint, wireframe renders are generated using software called TrueViewVisuals. These are produced based on a digital terrain dataset (Ordnance Survey (OS) Terrain 5) using a model of the proposed GSP substation to provide an accurate depiction of its appearance.

5.2.8 The wireframes are representative of the maximum theoretical visibility of the proposed GSP substation on bare ground (i.e. assuming no vegetation, buildings, mounding proposed as part of the proposed GSP substation or other vertical structures are present). In reality, the visibility of the proposed GSP substation would be variable and would also depend on both the weather and the lighting conditions.

5.2.9 As both the existing 400kV overhead line and 132kV overhead line are integral parts of the baseline, these are represented on baseline wireframes for comparison against the wireframes of the proposed GSP substation.

Viewpoint analysis

5.2.10 Viewpoint analysis involves visiting each viewpoint location and viewing the wireframes prepared for each location. Fieldwork has been conducted in a range of conditions, all viewpoints being visited at least once in fine weather conditions and good visibility and considering seasonal changes of reduced leaf cover.

5.2.11 Viewpoints are examined in detail to determine the value of the view and the magnitude of change that would be likely to arise from the proposed GSP substation during construction, operation Year 1 and operation Year 15. The value of a view and magnitude

of change does not change depending on the receptor and can therefore be reported on by viewpoint.

5.2.12 The viewpoint assessment is used to inform the overall visual assessment which focuses on the wider visual amenity of people living and moving around settlements or aggregated groups of dispersed properties and people engaged in outdoor recreation.

5.2.13 The viewpoints are presented in Annex 2 together with a brief explanation as to why they have been chosen, which groups of receptors are represented, baseline descriptions and appraisals of magnitude of change as a result of the proposed GSP substation.

6. Baseline

6.1 Introduction

6.1.1 In order to undertake a LVA it is essential to establish the baseline landscape context, character, and visual amenity of the study area against which the proposed GSP substation is appraised. This forms the basis for the identification and description of the changes that may result from the proposed GSP substation. This is done through a combination of desk top study and site visits.

6.2 Landscape baseline

6.2.1 The first stage in the landscape appraisal is to establish the nature of the existing landscape including *'its constituent elements and features, its character and the way this varies spatially, its history (which may require its own specialist study), condition, the way it is experienced, and the value attached to it. This is referred to as the 'landscape baseline''* (GLVIA3 Page 32, paragraph 3.15).

6.2.2 The landscape baseline forms the basis for the identification and description of the landscape changes that may result from the proposed GSP substation.

6.2.3 The landscape baseline has been established through desk study and field work. It includes a consideration of the key characteristics of the wider landscape with reference to published landscape character assessments at a national, regional, and local level where available. Elements and features within the site and the wider landscape are identified.

Landscape value

6.2.4 Irrespective of the presence, or not, of a formal designation, an area of landscape may be valued for many reasons. These reasons may include its quality, scenic beauty, tranquillity or remoteness, its recreation opportunities, nature conservation or its historic and cultural associations. Development will not necessarily be incompatible with valued qualities of a landscape as this will depend on the nature of the proposal and the characteristics of the landscape.

6.2.5 In terms of landscape value, nationally and internationally designated landscapes are generally accorded the highest value. The absence of a formal landscape designation, however, does not necessarily imply that a landscape is of lower value. Paragraph 5.19 of GLVIA3 describes value as:

'*…the relative value that is attached to different landscapes by society, bearing in mind that a landscape may be valued by different stakeholders for a whole variety of reasons. …[A] review of existing landscape designations is usually the starting point in understanding landscape value, but the value attached to undesignated landscapes also*

needs to be carefully considered…. Landscapes or their component parts may be valued at the community, local, national or international level….'

6.2.6 In response to this, Table 1 sets out the typical importance of landscape receptors, which is one factor when considering the value of a landscape.

Table 1: Typical Importance of Landscape Receptors

Importance	Description
International/national	Landscapes which are internationally or nationally designated for their landscape value e.g. AONBs
Regional/local	Regionally or locally designated landscapes including Special Landscape Areas
Community importance	Everyday landscape, which may be valued by the local community but has little or no wider recognition of its value.
Limited	Despoiled or degraded landscape with little or no evidence of being valued by a community.

6.2.7 The quality of a valued landscape is often explained in a citation for a designation, but where this is not available, value can be assessed through the application of a criteria-based comparative landscape approach supported by published documentation such as tourist leaflets, art, and literature. This is in line with the latest guidance from Natural England (2019) which promote an 'all-landscapes approach', founded on the recognition of value in all landscapes.

6.2.8 An appraisal of value considers the following factors:

- landscape character and quality;
- scenic quality;
- conservation interests;
- recreation value;
- perceptual aspects and tranquillity; and
- associations.

6.2.9 Judgements regarding the value of the character of the landscape are based on published local landscape character areas. Each character area is systematically assessed against the value factors shown in Table 2 and judgements made on a sliding scale indicating a lower or higher value. These judgements are then considered together to inform an overall evaluation of the relative value of the landscape, which is described as either high, medium-high, medium, medium-low, or low.

Table 2: Factors Contributing to Landscape Value

Factors Used to Judge Value	Definition	
	Lower Value	Higher Value
	Areas where the landscape character/quality is positive and intact are likely to have a higher value than areas where landscape character/quality has been lost or is perceived as negative.	

Factors Used to Judge Value	Definition	
	Lower Value	**Higher Value**
Landscape character and quality	Intactness of the landscape is demonstrated by, amongst other things, presence of characteristic natural and man-made elements, which are generally in good condition; and absence of significant incongruous or detractive elements.	
	The landscape has relatively low landscape quality Indicators: *Weak or negative sense of place* *Poor condition*	 The landscape has relatively high landscape quality Indicators: *Strong or positive sense of place* *Good condition*
Scenic quality	Areas of attractive scenery, sense of place and local distinctiveness will typically be more highly valued than less scenic areas. This includes landscapes designated for their natural beauty but also areas of undesignated landscape. Scenic landscapes are typically those that appeal to the senses through, for example, combinations of some of the following: distinctive, dramatic, or striking landform or patterns of land cover; strong aesthetic qualities such as scale, form, colour, and texture; or visual diversity which contributes to the appreciation of the landscape.	
	The area of landscape under consideration has relatively low scenic quality Indicators: *Unattractive* *Negative/weak character/sense of place*	 The area of landscape under consideration has relatively high scenic quality Indicators: *Attractive* *Strong/positive character/sense of place*
Conservation interests	The presence of multiple designated cultural heritage and ecological features and designated landscapes is indicative of a higher value landscape, for example: • Where a landscape falls within a designated landscape such as a National Park, AONB, Special Landscape Area, etc., this is reflective of a more highly valued landscape; albeit value may vary locally within a designated landscape. • The presence of internationally or nationally designated heritage assets: World Heritage Sites; scheduled monuments. • The presence of historic landscape assets, which although not protected by designation are considered to be of national value: registered parks and gardens. • The presence of internationally or nationally designated natural heritage assets: Ramsar sites; Special Areas of Conservation (SACs); Special Protection Areas (SPAs); Sites of Special Scientific Interest (SSSIs); National Nature Reserves and ancient woodland.	
	The area of landscape under consideration has few or no designated sites	 *The area of landscape under consideration has a high density of designated sites*
Recreation value	The extent to which experience of the landscape makes an important contribution to recreational use and enjoyment of an area is a measure of landscape value and is indicated by	

Factors Used to Judge Value	Definition	
	Lower Value	**Higher Value**
	the presence of features such as country parks, nationally designated and regionally promoted trails, formal cycle routes, promoted viewpoints, visitor facilities such as car parks, density of the local Public Right of Way network and key focal/designated visitor attractions such as hillforts/castles/church towers. Landscapes can be highly valued at different scales ranging from large nationally valued landscapes such as National Parks, through smaller locally valued landscapes to those which are valued for recreation at a small-scale community level.	
	The area of landscape under consideration has low recreational value. Indicators: *Low density of recreational features including rights of way, open access land and visitor attractions where an appreciation of the landscape is integral to the visitor experience*	The area of landscape under consideration has relatively high recreational value. Indicators: *High density of recreational features including rights of way, open access land and visitor attractions where an appreciation of the landscape is integral to the visitor experience*
Perceptual aspects and tranquillity	The extent to which the landscape provides opportunities to experience a sense of relative remoteness and/or relative tranquillity. This may be influenced by presence or lack of overt man-made structures and visual and audible intrusions.	
	The landscape has a low relative remoteness and/or tranquillity, with overt man-made structures and/or visual and audible intrusion. Indicators: *Noisy; threatening; unattractive* *Weak or negative sense of place* *Close to visible signs of human activity and development*	The landscape has a high relative remoteness and/or relative tranquillity, including a lack of overt man-made structures, freedom from visual and audible intrusion and a perceived naturalness. Indicators: *Remote; tranquil; attractive; peaceful* *Strong or positive sense of place* *Physically or perceptually remote or tranquil – no audible, visual intrusion*
Associations	The extent to which the landscape is associated with particular people, such as artists or writers, or events in history that contribute to the perceptions of the natural beauty of the area.	
	The landscape has none or very few associations with particular people, such as artists or writers. Indicators: *None or very limited evidence of the fact that the landscape has associations with artists or writers.* *No or very limited evidence that the landscape has associations to events in history that contribute to*	The landscape has notable or many associations with particular people, such as artists or writers. Indicators: *Clear evidence of the fact that the landscape has strong associations with artists or writers.* *Clear evidence that the landscape has strong associations to events in history that contribute to the*

Factors Used to Judge Value	Definition	
	Lower Value	Higher Value
	the perceptions of the natural beauty of the area.	*perceptions of the natural beauty of the area.*

6.3 Visual baseline

6.3.1 The first stage in the visual assessment is to establish the nature of the existing views and visual amenity experienced by people in the locality, as this forms the basis for the identification and description of the likely visual changes that may result from the proposed GSP substation.

6.3.2 This involves establishing the areas from where the proposed GSP substation may be seen, the different groups of people who may have views of the different components, the locations or viewpoints where they would be affected, and the nature of the existing views experienced at those viewpoints. This is referred to as the 'visual baseline' (GLVIA3 Page 32, paragraph 3.15).

6.3.3 The landscape (and therefore views) is dynamic and is influenced by social, economic, technological and climatic changes, all of which can influence patterns of land use, land cover and land management. As such, the baseline for the visual assessment is constantly evolving.

6.3.4 The area within which the proposed GSP substation may be theoretically visible has been established using a digitally created ZTV. Site knowledge gathered between winter 2020/21 and spring 2022 has also been used to further understand the potential areas from where the proposed GSP substation would be likely to be screened or views filtered by intervening landform, vegetation or buildings.

Value of the view

6.3.5 Judgements on the value attached to a view are unrelated to the nature of the proposed GSP substation, whilst judgements on susceptibility may vary depending on the type of receptor and the level of interest they may have in their surroundings.

6.3.6 In terms of value, at one end of the scale are locations where receptors experience a highly valued, impressive or well composed view, with no detracting features. These locations are likely to be frequented by relatively high numbers of people. At the other end of the scale are locations where the nature of the view is of limited value or poorly composed with numerous detracting features. Such locations are less likely to be popular.

6.3.7 The value of a view is discussed in GLVIA3 as dependant on:

- *'recognition of the value attached to particular views, for example in relation to heritage assets, or through planning designations;*
- *indicators of the value attached by visitors, for example through appearances in guidebooks or on tourist maps, provision of facilities for their enjoyment…and references to them in literature or art….'* GLVIA3 Page 114. Para 6.37.

6.3.8 In terms of visual appraisal, promoted views from or toward heritage assets and planning designations are considered to be of higher value. Indicators of value attached to views by visitors, such as public benches on the edge of open access land and interpretative materials are also often used to form a judgement on the value of views.

7. Appraisal of effects

7.1 Introduction

7.1.1 The following sections describe the method and approach used in the determination of landscape and visual sensitivity and magnitude of effects.

7.2 Sensitivity

Evaluating landscape sensitivity

7.2.1 The sensitivity of landscape receptors is determined by combining judgements about the value attached to the landscape (which is established and reported as part of the baseline) with judgements about the susceptibility of the landscape to change arising from the proposed GSP substation.

7.2.2 Judgements on the value attached to the landscape baseline are unrelated to the nature of a proposed project , whilst judgements on susceptibility may vary in response to the type of project proposed and the attributes of the area in which it is to be located.

Landscape susceptibility

7.2.3 Paragraph 5.40 of GLVIA3 defines the susceptibility of the landscape as, '*the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular landscape type or area, or an individual element and/or features, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or achievement of landscape planning policies and strategies.'*

7.2.4 Unlike judgements on the value attached to the landscape, the assessment of landscape susceptibility should reflect the characteristics of a proposed project and requires:

- identification of the important components of the landscape that make up a particular landscape and how they are likely to be affected; and
- identification of the various aspects of a proposed project, at all stages, that are likely to have an effect on those important components.

7.2.5 Judgements regarding the susceptibility of the character of the landscape to the proposed GSP substation are based on published district-scale landscape character areas. A number of factors are considered (including physical, perceptual and experiential), all of which may contribute to landscape character and may be affected by the proposed GSP substation. The existing 400kV and 132kV overhead lines are considered as components of the baseline landscape. The susceptibility of the landscape to the proposed GSP substation differs depending on the component being assessed.

7.2.6 Landscapes are assessed against each of the susceptibility factors shown in Tables 3, 4 and 5, and judgements made on a sliding scale indicating a lower or higher susceptibility. The table also identifies which of the Horlock Rules (National Grid, 2009) are applicable to the factors.

7.2.7 The susceptibility of the landscape is described as high, medium-high, medium, medium-low or low. When assessing the value, susceptibility, sensitivity and magnitude of change, some of the threshold categories have been subdivided to better reflect the nuances of the local landscape or visual conditions found within the study area. The rationale in support of the assessment is set out for each receptor so that it is clear how each judgement has been made.

Table 3: Factors used to judge the susceptibility of the landscape to a GSP substation

Factors Used to Judge Susceptibility	Definition	
	Lower Susceptibility	**Higher Susceptibility**
Landform Horlock Rule 4	Steep, dramatic or elevated landforms will typically be more susceptible to a GSP substation. This is because they are often prominent and distinctive in character and typically require more extensive modification during construction. Single and narrow ridges are particularly vulnerable, especially where the slopes of the ridgeline are well defined, steep or with rock outcrops. More complex landforms may provide some screening/backclothing opportunities, but care has to be taken not to dominate intricate landforms. Valleys and low rolling hills are generally less susceptible because they have greater potential to provide backclothing and enclosure, limiting the perceptibility of a GSP substation. Landforms that are smooth, regular and convex, or flat and uniform, may be less susceptible, particularly if there is frequent tree cover and other man-made elements to provide screening and context. Valleys and low rolling hills are generally less susceptible because they have greater potential to provide backclothing, screening and enclosure, limiting perceptibility.	
	A new GSP substation may be accommodated well into the landform. Indicators: *Valleys and low rolling hills* *Simple featureless landform* *Flat and uniform landform*	A new GSP substation may conflict with prominent and distinctive landforms. Indicators: *Dramatic or rugged hills* *Irregular or complex landform* *Steep and elevated landforms* *Prominent or distinctive landforms*
Landcover pattern	This factor is not concerned with the particular material sensitivity of a type of landcover (which is considered in other environmental topics), but with the character of the landscape created through the landscape pattern resulting from the landcover. Open, simple and uncluttered landscapes where there are few characteristic landscape features are more susceptible, particularly where there is sparse tree cover. Landscapes with a very intricate, complex mosaic of characteristic or high frequency/density of susceptible landscape features, such as trees and woodlands, hedgerows or traditional/historic field patterns, and designed landscapes with formal patterns, are typically also more vulnerable as the scale and nature of the infrastructure may conflict with the landscape. Where landscape complexity is due to past or current commercial/industrial influences, this indicates lower rather than higher susceptibility. Areas of commercial forestry and intensive farming may also indicate lower susceptibility. Agricultural landscapes which are characterised by a varied landcover pattern which incorporates frequent woodland blocks and trees are typically less vulnerable. Tree and woodland cover offers the potential to screen (particularly in combination with undulating landform), although care must be taken not to allow a proposed project to detract from or dominate locally distinctive features such as tree knolls, ancient specimen trees or avenue trees.	

Factors Used to Judge Susceptibility	Definition	
	Lower Susceptibility	**Higher Susceptibility**
	A new GSP substation may be accommodated well within land cover. Indicators: *Medium-scale, lowland, rural landcover with small blocks of woodland and/or frequent hedgerow trees* *Developed land, derelict or waste ground* *Commercial forestry*	A new GSP substation may interrupt distinctive landcover patterns. Indicators: *High density of sensitive landscape features* *Complex, irregular or intimate landscape* *Open hillsides* *Water bodies* *Simple landscapes with low density of landscape features* *Simple, featureless, regular or uniform landscape*
Field pattern, scale and enclosure	Landscapes with more regular, medium- to large-scale field patterns are less sensitive, whereas small-scale intimate landscapes with more complex, smaller and irregular field patterns are considered to be highly sensitive. For instance, if a GSP substation were developed within a number of adjacent irregular and smaller sized fields, disrupting the boundaries, this could affect the perceived character, pattern and scale of the landscape. Furthermore, care has to be taken to reduce the risk that the apparent scale of the field pattern is diminished by the size of the infrastructure. Landscapes which are large to vast in scale with no field boundaries, such as flat coastal and unenclosed upland landscapes, are similarly high in sensitivity as this type of infrastructure would disrupt the distinct open character of the landscape. Landscapes which are characterised by high/overgrown hedgerows or field boundaries with frequent trees are considered less susceptible, whereas landscapes with field boundaries bounded by low, managed hedgerows, walls and fences are considered more susceptible as these are more open.	
	The proposed GSP substation may be accommodated well within the scale of the landscape. Indicators: *Medium- to large-scale fields with frequent hedgerow trees* *Simple/regular/uniform field pattern* *A large proportion of unmanaged/ high hedgerows/field boundaries*	The proposed GSP substation may appear out of scale within the landscape. Indicators: *Intricate small-scale fields* *Mosaic of complex/rugged/ irregular field patterns* *Intimate landscapes* *Large to vast, unenclosed landscapes* *Ancient field patterns* *Open landscapes with field boundaries characterised by a*

Factors Used to Judge Susceptibility	Definition		
	Lower Susceptibility		**Higher Susceptibility**
			large proportion of well-managed, low hedgerows, fences and/or walls.
Human influence	This factor is concerned with the presence of built structures and human intervention in the landscape. The scale and style of the proposed GSP substation is important in this regard as design can help it integrate into the context of the landscape. The presence of modern infrastructure (particularly agricultural or commercial buildings of a similar scale to a GSP substation), in addition to transport, utility or communication infrastructure or industrial development, may reduce landscape susceptibility as may the visible influence of quarrying, commercial forestry or landfill. The frequency of built form and human intervention in more contemporary, densely settled areas may also indicate a reduced susceptibility to the introduction of a GSP substation, although settlements and buildings of a more historic or of vernacular character may sit less comfortably with a GSP substation, thereby increasing sensitivity.		
	The landscape includes overt man-made structures or land use, and the proposed GSP substation would be relatively unobtrusive. Indicators: *Modern urban development/ infrastructure* *Inappropriate use of construction materials* *Presence of industrial-scale movement (e.g. quarrying, commercial forestry)* *Busy, frequently accessed*	⟷	The landscape does not include overt man-made structures or land use, and the proposed GSP substation may form a substantial intrusion. Indicators: *Sparsely settled/rural/farms* *Unpopulated areas* *Presence of historic/vernacular buildings/structures or settlement* *Small-scale residential settlement/ no large-scale modern development* *Quiet, calm* *Rarely accessed*

Landscape sensitivity

7.2.8 The susceptibility and value of each landscape receptor are considered together to determine the sensitivity of the receptor. It should be noted that the relationship between susceptibility to change and value can be complex and is not linear. For example, a highly valued landscape (such as a nationally designated landscape) may in some areas have a low susceptibility to change, due to the characteristics of the landscape and the nature of a proposed project.

7.2.9 Paragraph 5.46 of GLVIA3 recognises that the complexity of the relationship between the value of a landscape (in policy terms) and its susceptibility to a proposed project is an important consideration when assessing the changes in, or close to, designated landscapes. The following examples are provided:

- *'An internationally, nationally or locally valued landscape does not automatically, or by definition, have high susceptibility to all types of change.*
- *It is possible for an internationally, nationally or locally valued landscape to have relatively low sensitivity to change resulting from the particular type of development in question, by virtue of both the characteristics of the landscape and the nature of the proposal.*
- *The particular type of landscape change or development proposed may not compromise the specific basis for the value attached to the landscape.'*

7.2.10 GLVIA3 recognises that designated landscapes do not necessarily have high sensitivity, particularly if they lie to the edge of a designated area. This is because the boundaries of designated landscapes were often defined following roads or other physical features and potentially included land within the boundary that did not necessarily meet the designation criteria. Conversely, an area close to, but outside of, a designated area may have very high sensitivity if it forms part of the setting of the designated area.

7.2.11 The sensitivity of the landscape is described as very high, high, medium-high, medium, medium-low or low as set out within Table 4 below:

Table 4: Criteria for Determining Landscape Sensitivity

Landscape Sensitivity	Landscape Criteria
Very high	The key characteristics and qualities of the landscape are very highly susceptible to change from the type and scale of the proposed project being assessed; and/or the value of the landscape is notably high. Key landscape characteristics are very highly vulnerable and unable to accommodate a proposed project without significant consequences for character.
High	The key characteristics and qualities of the landscape are highly susceptible to change from the type and scale of the proposed project being assessed; and/or the value of the landscape is medium-high to high. Key landscape characteristics are highly vulnerable and unable to accommodate the project without significant consequences for character.
Medium-High	The key characteristics and qualities of the landscape are very susceptible to change from the type and scale of the proposed project being assessed; and/or the value of the landscape is medium to medium-high. Key landscape characteristics are vulnerable and unable to accommodate the proposed project without some significant consequences for character. Parts of the landscape may be able to accommodate the proposed project but only in limited situations without significant character change or adverse effects.
Medium	Some of the key characteristics and qualities of the landscape are susceptible to change from the type and scale of the proposed project being assessed; and/or the value of the landscape is medium-low to medium. Although the landscape may be able to absorb some development if sensitively sited and designed, it may introduce new inappropriate characteristics or result in a change in character. Parts of the landscape may have potential to accommodate the proposed project in some defined situations without significant character change or adverse effects.
Medium-Low	Few of the key characteristics and qualities of the landscape are susceptible to change from the type and scale of the proposed project being assessed; and/or the value of the landscape is medium-low to medium-high.

Landscape Sensitivity	Landscape Criteria
Low	Key characteristics and qualities of the landscape are robust or degraded and are not susceptible to change; and/or the value of the landscape is low. The landscape is unlikely to be adversely affected by the type and scale of the project being assessed.

Evaluating visual sensitivity

7.2.12 An assessment of the sensitivity of visual receptors is made by combining judgements about the value attached to the view (which is established and reported as part of the baseline) with judgements about the susceptibility of the receptor to change arising from the proposed project being assessed. However, for visual receptors the sensitivity is primarily born from the susceptibility of the visual receptor to the project proposed.

Susceptibility of visual receptors

7.2.13 In terms of peoples' susceptibility to changes to their view, GVLIA3 defines this as, '*the ability of a defined visual receptor to accommodate the specific proposed development without undue negative consequences.'*

7.2.14 The primary determinant of visual susceptibility is the main activity of the receptor. For example, people engaged in outdoor recreation where the focus of the activity is on the enjoyment of the landscape, are assessed to be of higher susceptibility. People who are travelling on road, rail or other transport routes tend to be less sensitive and placed in the medium or low category. Exceptions to this include a road that is specifically recognised as a scenic route when awareness of the landscape is likely to be particularly high. People engaged in outdoor recreation or sport which does not involve or depend on an appreciation of the landscape and people at their place of work, where the setting is not important to the quality of working life, are assessed to be of low susceptibility. Susceptibility is recorded as high, medium or low.

7.2.15 These divisions are not black and white, and the nature of the groups of people who are likely to be affected and the extent to which their attention is likely to be focused on views and visual amenity, as well as the nature of the baseline view, has to be carefully considered. The specific circumstances behind individual judgements are explained in each case and linked back to the visual baseline assessments.

Sensitivity of visual receptors

7.2.16 Table 5 provides guidance on the evaluation of visual sensitivity. For visual receptors the sensitivity is primarily born from the susceptibility of the visual receptor to the project proposed, though the value of the view does have influence. Receptors are classified into one of four threshold categories of sensitivity; very high, high, medium, and low. These serve to capture all visual receptor groups that might potentially be affected by a proposed project.

Table 5: Criteria for Determining Visual Sensitivity

Visual Sensitivity	Visual Criteria
Very High	Locations which people might visit purely to experience a highly scenic view, and which typically offer a prolonged viewing opportunity, including: • panoramic viewpoints (often marked on OS plans and providing interpretation facilities);

Visual Sensitivity	Visual Criteria
	• mountain and hilltops; • tourist, visitor and other destinations where the view is of paramount importance and contributes to the experience; and • publicly accessible heritage destinations affording a specific, important and highly valued view (note: the visual assessment considers people as receptors and not the heritage asset itself. Impacts on heritage assets and their setting are considered in Section 3.4 (Historic Environment) of the Environmental Appraisal).
High	Locations where people are likely to pause to appreciate a scenic view, including: • local communities within which people are living and moving around; • promoted scenic drives or tourist routes; • designed landscapes/parks and gardens with specific views/vistas/borrowed landscapes and visual experiences which are fundamental to the appreciation of the attraction; • tourist, visitor or heritage destinations where views of the surroundings are fundamental to the experience (note: the visual assessment considers people as receptors and not the heritage asset itself. Impacts on heritage assets and their setting are considered in Section 3.4 (Historic Environment) of the Environmental Appraisal); • viewpoints marked on road atlases, or referred to in guidebooks, and which have brown road signage and/or interpretation boards; and • nationally/regionally promoted walks and cycle routes.
Medium	People with a general interest in their surroundings or with transient viewing opportunities combined with a view of average scenic quality, including: • people using incidental footpaths and local PRoWs; • people travelling on residential distributor routes and the local road network; • people using general public open spaces, greenspace, recreation grounds and play areas; • people in rural offices and business parks; and • rural outdoor workers and those engaged in marine surface-based activities such as fishing.
Low	People with limited opportunity to enjoy the view due either to the speed of travel or because their attention is elsewhere, combined with a view of limited scenic quality, including: • workers in industrial and commercial buildings; • people in schools; • people travelling on main roads (although susceptibility may be higher in scenic locations); • people in indoor facilities; • commuters; and • people engaged in outdoor sport or recreation which does not depend on an appreciation of views of their surroundings.

7.2.17 In formulating sensitivity categories, it is important to acknowledge the special circumstances where peoples' expectations in relation to the view are enhanced and where a sensitivity category of 'very high' has been introduced. The ‘very high’ category applies only to designed landscapes/parks/gardens and/or specific promoted views, vistas and visual experiences which are the main focus of the activity and fundamental to

the appreciation of that location. If the sensitivities of all receptors within nationally designated landscapes were defined as 'very high' then this would undervalue the primacy of panoramic viewpoints (such as those identified on OS maps) and designated views or particularly valued viewpoints where the prime objective is for receptors to be able to absorb the valued view.

7.2.18 The rationale and justification behind attributing a 'high' rather than 'very high' sensitivity for people living in local communities also needs clarification. People living in settlements are acknowledged as having a higher than average sensitivity to the proposed GSP substation (even though local residents are potentially habituated to it, due to the presence of the existing 400kV and 132kV overhead lines). They do not, however, have the highest level of sensitivity unless standing at a specific destination and/or valued viewpoint in which case they are captured under that category of visitor.

7.3 Magnitude of change

7.3.1 As explained in paragraphs 5.48 and 6.38 of GLVIA3, the nature or magnitude of landscape and visual change that is likely to occur is determined by considering the following factors:

- size/scale;
- geographical extent; and
- duration and reversibility.

Size/scale of landscape change

7.3.2 The size/scale of a landscape change is determined by considering the amount of change experienced, including the extent or proportion of loss or addition of existing landscape elements, the degree to which aesthetic or perceptual aspects of the landscape may be altered and whether the change affects its key characteristics and overall character (Table 6).

Table 6: Judging the size/scale of change on landscape

Smaller Scale		Larger Scale
A proposed project would be accommodated satisfactorily within the landscape context (i.e. it fits into the landscape) and would not alter the perception of the landscape. It would not affect the key characteristics of the landscape.		A proposed project would have a strong influence on perception of the landscape and would conflict with or override its key characteristics.

Size/scale of visual change

7.3.3 The size/scale of visual change is determined by considering the amount of change experienced by a receptor, which is influenced by a combination of the following factors:

- Scale: The scale of change in the view with respect to the loss or addition of features in the view and changes in its composition including the proportion of the view occupied by a proposed project. This is described in the assessment by reference to the proportion and components of the proposed GSP substation which appear in the view, as well as by the field of view that they occupy. It is described by words such as 'dominant', 'prominent', 'noticeable' and 'negligible'.

- Contrast: The degree of contrast or integration of any new features or changes in the view with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, line, height, colour and texture. Developments which contrast or appear incongruous with their surroundings are more likely to be visible and lead to a higher magnitude of change.
- Duration: Whether the change in the view is temporary or permanent.
- Speed of travel: This affects how long a view would be experienced (continuously, intermittently, glimpsed either once or repeatedly and sequentially along a route) and the possibility that a development would be noticed.
- Screening: Screening by buildings, landform or vegetation (including seasonal variations in deciduous leaf cover) may wholly or partly obstruct or screen views of a proposed project. Visual receptors with open views are more likely to experience a larger magnitude of visual change.
- Skylining/backgrounding: Whether a development is viewed against the sky or against a solid background such as landform or vegetation can affect the level of contrast and scale. For example, gantries, pylons, conductors and other electricity infrastructure are more difficult to discern when viewed against a textured background than against an open sky background. Any backgrounding reduces the scale of change on the view as is acknowledged in the Holford Rules.

Geographical extent of landscape change

7.3.4 For landscape, the geographical extent is often described at the site level within the red line boundary, within the immediate setting of the proposed GSP substation, at the scale of the local character area or on a larger scale and affecting several character areas (Table 7).

Table 7: Judging the geographical extent of change on landscape

Limited extent		Wider extent
A proposed project would be seen only locally, with limited consequences on wider landscape character.	⟷	A proposed project would have a widespread influence on perception of the landscape.

Geographical extent of visual change

7.3.5 The geographical extent varies with different viewpoints and is likely to reflect:

- Angle of view: This applies both horizontally and vertically. Views looking up towards a development are generally considered to be of greater magnitude due to the enhanced vertical height of the structures than views looking down to a development where the apparent height appears reduced. Developments which would be seen directly in front of the viewer are likely to be more visible than developments which would be seen obliquely. Road users are typically more aware of the views in the direction of travel, whilst rail users tend to be more aware of views to the side.
- Distance: The distance of the viewpoint from development is measured objectively and used to determine the apparent height of the project in the landscape at the viewpoint. Apparent height[1] or angular size of an object is the height that an object appears at

[1] The apparent height or angular size of an object is defined as the height that an object would appear at arm's length (61 cm) from the viewer and is calculated by considering the known height of an object and distance from that object

arm's length and is calculated by considering the known height of an object and distance from that object. For information, for a 12.5m tall gantry, the apparent height at 3km is 0.25cm, at 2km is 0.38cm, at 1km is 0.76cm and at 500m is 1.53cm. Distance can be a strong indicator of the magnitude of visual change, although apparent height of a development can be affected by the landscape surrounding it.

- Extent of visibility: The geographical extent of the area over which the changes to the view would be visible, which is defined by the distance, area and the horizontal and vertical field of the view affected.

7.3.6 It is important to note that geographical extent is the area over which changes in landscape or visual change is experienced. It is not the same as size/scale as a small-scale change may cover a wider area, or vice versa.

Duration and reversibility

7.3.7 In accordance with GLVIA3, duration is a separate, but linked, consideration and the duration of landscape and visual change may be described as:

- short term (0–5 years);
- medium term (5–15 years); or
- long term (>15 years).

7.3.8 A development may also be considered in terms of whether the changes are reversible or irreversible. Reversibility refers to whether the predicted effects are reversible, rather than the development itself. Whilst in theory all landscape and visual effects are reversible, through complete removal of a proposed development and reinstatement of existing conditions, this is not always the case, whether related to reinstatement following temporary works or mitigation of effects of permanent works.

Overall judgement of magnitude of change

7.3.9 The judgements on the size/scale of changes resulting from the proposed GSP substation, geographical extent and duration and reversibility are considered together to derive an overall magnitude of predicted change for each receptor, which is determined through informed professional judgement guided by the indicative criteria set out in Tables 8 and 9.

7.3.10 The magnitude of both landscape and visual change is described as large, medium-large, medium, medium-small, small, negligible or no change. The rationale in support of the assessment is set out for each receptor so that it is clear how each judgement has been made.

7.3.11 For some receptors, the judgement on magnitude may need to be adjusted (either up or down) to reflect the duration of the change and whether it is likely to be reversible.

7.3.12 Table 8 sets out the indicative criteria considered for determining magnitude of landscape change. Table 9 sets out the indicative criteria considered for determining magnitude of visual change.

Table 8: Criteria for determining magnitude of landscape change

Magnitude	Landscape Criteria
Large	Considerable change to the landscape over a wide area or intensive change over a limited area with dramatic consequences for the elements, character and quality of the baseline landscape. A proposed project would form a dominant landscape element and post development the baseline situation would be fundamentally changed, potentially creating a different landscape character.
Medium-Large	Substantial change to the landscape over a wide area or considerable change over a limited area, with consequences for the elements, character and quality of the baseline landscape. A proposed project would form a prominent landscape element and post development the baseline situation would be substantially changed.
Medium	Noticeable change to the landscape over a wide area or conspicuous change over a limited area, with some consequences for the elements, character and quality of the baseline landscape. A proposed project would form a conspicuous landscape element and post development the baseline situation may be noticeably changed.
Medium-Small	Slight change to the landscape over a wide area or noticeable change over a limited area, with few consequences for the elements, character and quality of the baseline landscape. A proposed project would be perceptible and post development, the baseline landscape may exhibit some differences but would be largely unchanged.
Small	Inconspicuous change to the landscape over a wide area or slight change over a limited area, with very limited consequences for elements, character and quality of the baseline landscape. A proposed project would be just perceptible and post development, the baseline landscape would appear largely unchanged.
Negligible	Almost indiscernible change to the landscape, with no consequences for elements, character and quality of the baseline landscape. A proposed project would be barely perceptible and post development, the baseline landscape would appear unchanged.
No Change	The assessment also identifies areas where no landscape change is anticipated. In these instances, 'no change' is inserted into the appropriate magnitude of change column.

Table 9: Criteria for determining magnitude of visual change

Magnitude	Visual Criteria
Large	A proposed project would form a dominant element in the view and result in a dramatic change to the character and quality of the existing view and how it is perceived. Typically, this would be where a proposed project would be seen in very close proximity with a large proportion of the view affected by no or minimal screening/filtering or backgrounding of views. A proposed project would dominate the view and may also be long-term and seen by many people.
Medium-Large	A proposed project would be a prominent feature and result in a substantial change to the character and quality of the existing view and how it is perceived.

Magnitude	Visual Criteria
	Typically, this would be where a proposed project would be seen in close proximity with a large proportion of the view affected by little filtering or backgrounding. A proposed project would affect the main focus of the view and may also be long-term and seen by many people.
Medium	A proposed project would be a conspicuous element in the view and result in a noticeable change to the character and quality of the existing view and how it is perceived. Typically, this would be where A proposed project would be seen in views where a moderate proportion of the view is affected, although there may be some screening or backgrounding. A proposed project would be clearly visible and well-defined. It may be also medium-term and seen by a number of people.
Medium-Small	A proposed project would form a small part of the view and result in a slight change to the character and quality of the existing view and how it is perceived. Typically, this would be where a proposed project would be seen in distant views, where only a small proportion of the view is affected, where the magnitude is reduced due to a high degree of filtering or backgrounding or where there is a low scale of change from the existing view. A proposed project would be visible but indistinct and/or partially obscured. It would be seen only briefly and by few people.
Small	A proposed project would be perceptible but result in an inconspicuous change to the character and quality of the existing view and how it is perceived. Typically, this would be where a proposed project would form a barely perceptible part of a long-distance panoramic view and/or where a very small proportion of the view was affected. A proposed project would be barely discernible and likely to be visible only under certain weather or lighting conditions.
Negligible	Almost indiscernible change to the view, with no consequences for the character and quality of the view. A proposed project would be barely perceptible and post development, the baseline view would appear unchanged.
No Change	The assessment also identifies areas where no visual change is anticipated. In these instances, 'no change' is inserted into the appropriate magnitude of change column.

7.3.13 It should be noted that for the assessment of magnitude of impact for the construction phase, the presence of the proposed GSP substation itself is not considered. The parts of the proposed GSP substation are considered as an operational impact only, to avoid assessing the same impact twice. This focuses the reporting on the impacts of the construction activities taking place.

Bramford to Twinstead

Environmental Report

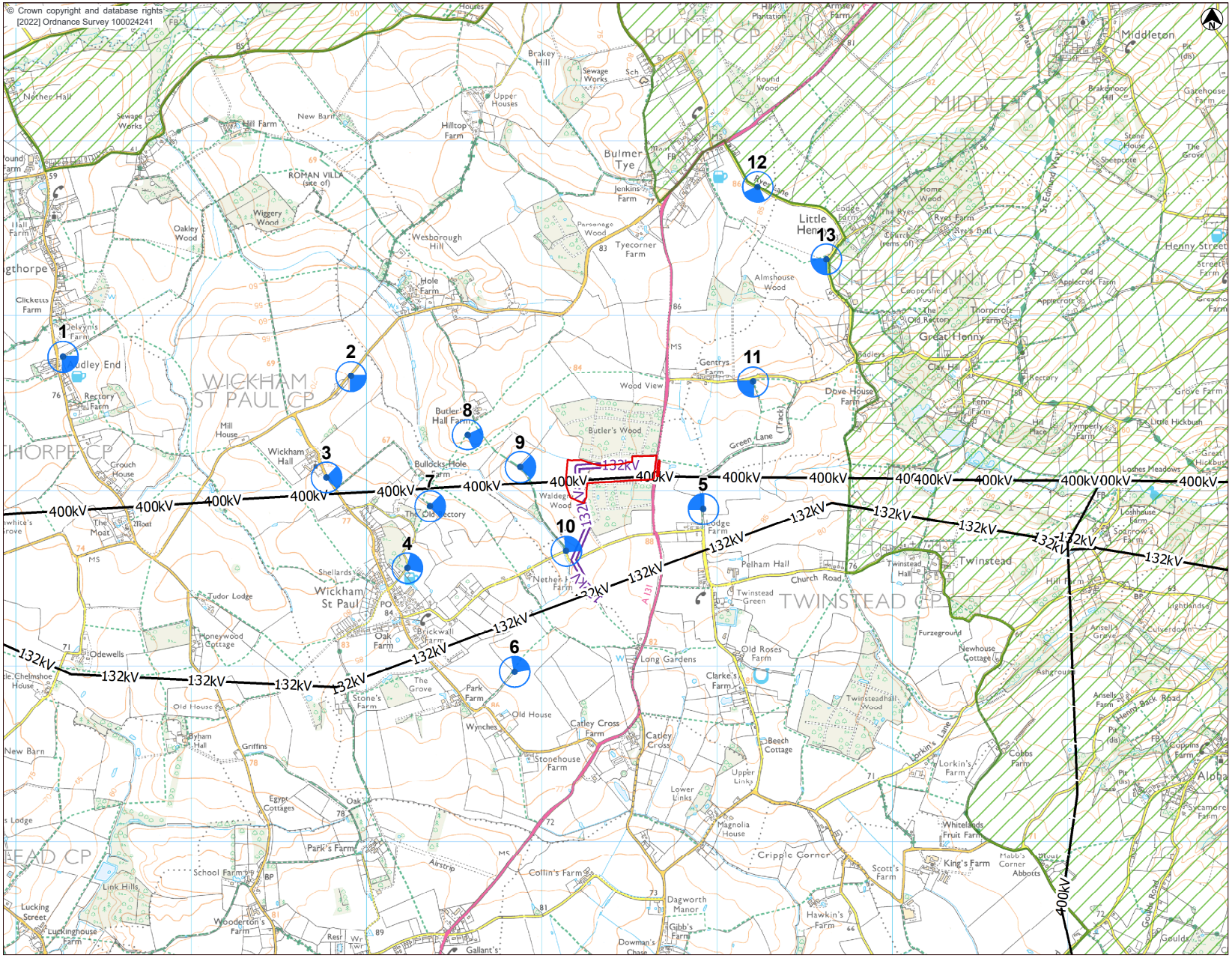
Appendix 2, Annex 2: Viewpoint Appraisal

Proposed GSP Substation off the A131

nationalgrid

Page intentionally blank

VIEWPOINT LOCATION OVERVIEW MAP

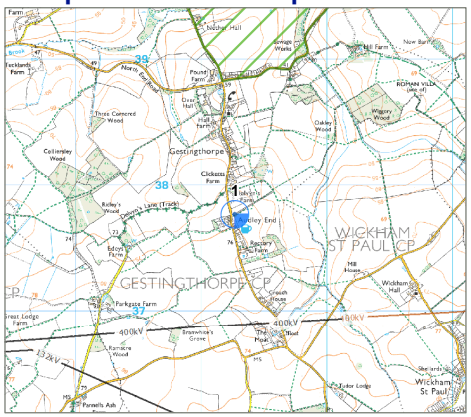


KEY:

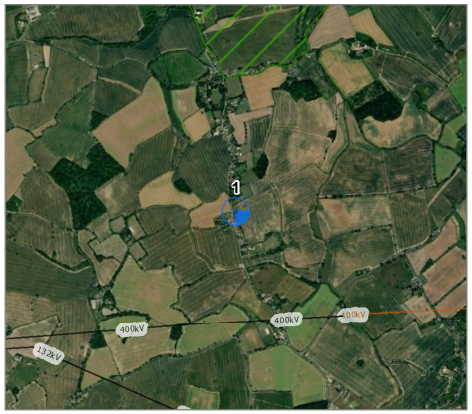
- VIEWPOINT LOCATION
- RED LINE BOUNDARY
- STOUR VALLEY PROJECT AREA
- EXISTING 132KV
- EXISTING 400KV
- PROPOSED 132KV UNDERGROUND CABLES

VIEWPOINT 1: VIEW FROM PUBLIC RIGHT OF WAY IN GESTINGTHORPE NEAR AUDLEY END

Viewpoint Location Map



Aerial Photo



Reasons for Selection

- [x] Local Community
- [x] Road Network
- [ ] National Cycle Route
- [ ] Local Cycle Route
- [x] Public Right of Way
- [ ] Landscape Designation
- [ ] Heritage Asset
- [ ] Promoted Viewpoint
- [ ] Trig Point

Notes on Viewpoint Location

Grid Reference	581267 , 237766 (52.008720 , 0.639682)
Approx Elevation	75m AOD
General Direction of View	SE
Approx. Distance to the Proposed GSP Substation	2900m
Time / Date	16.44 / 21st April 2021
Weather / Visibility	Clear / Good
Camera	Canon EOS 6D, Canon EF 50 mm f/1.8 fixed focal lens

This viewpoint is representative of views experienced by people living and moving around Gestingthorpe and people using the public right of way network. Residents of Gestingthorpe and users of the PRoW are of a **high** susceptibility to the proposed GSP substation.

Description of Visual Baseline

The foreground of the view comprises an agricultural field bound by hedgerows and trees. A farm track/footpath is visible to the left of the view where the landform falls away slightly. In the mid-ground, there are scattered dwellings set amongst small groups of trees. The background of the view is predominantly comprised of a well wooded skyline on rising landform. Overhead line (OHL) infrastructure is a feature of the view. A low voltage OHL on wooden pole and the existing 132kV OHL is visible on the skyline on the right-hand side of the view. The existing 400kV OHL is visible on the skyline. Whilst the colour tone of the vegetation would change in the summer months, and its screening effects increase, the components of the view would remain largely unchanged. Seasonal variation is therefore anticipated to be limited.

Value of View - **Medium**

Supplementary Context Photos

View north-east towards properties along Sudbury Road

View south towards Rectory Farm

Photograph of existing landscape from viewpoint (90 Degree)

Description of Effects

Construction Year

It is anticipated that receptors would have long-range views of the short term construction activities associated with the proposed GSP substation. It is predicted that the majority of low level activity would be at least partially screened by intervening vegetation. Movement associated with construction activities and vehicles may be glimpsed intermittently through the intervening vegetation. The works would be temporary, short-term and reversible resulting in a **small** magnitude of change in the view.

Operation - Year 1

All of the proposed GSP substation would be screened by Butler's Wood and the low level elements of the single circuit CSE would be obscured by intervening vegetation. Taller elements within the single circuit CSE, such as gantries, may be visible but would be very small elements backclothed by trees at Waldegrave Wood which would reduce perceptibility. Due to the distance and intervening vegetation, it is anticipated that the magnitude of change in the view would be **negligible**.

Operation - Year 15

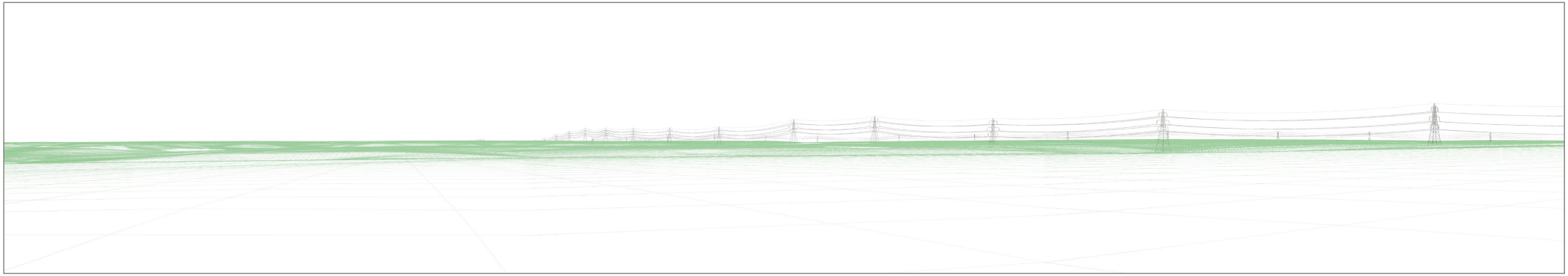
Once embedded mitigation measures begin to mature at year 15, it is anticipated that the views of the single circuit CSE would become even more filtered and as such the magnitude of change in the view would be **negligible**.

Accompanying Works

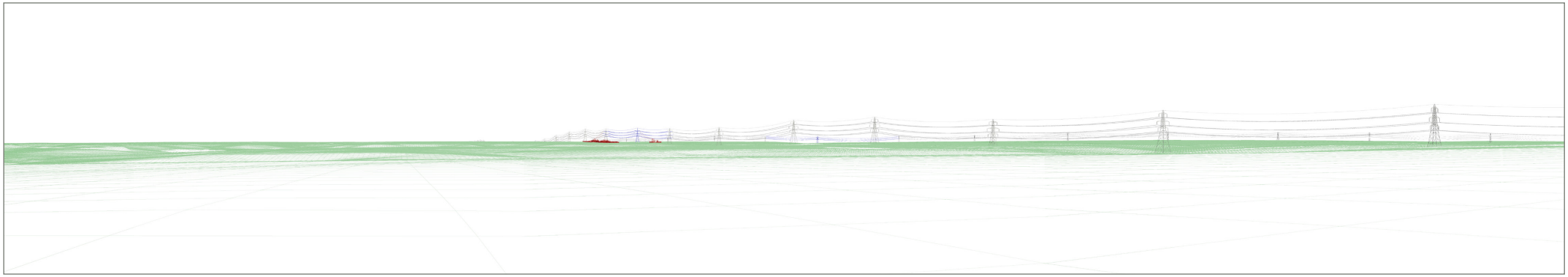
During construction, up to two temporary pylons would be required to divert the 400kV overhead line. These would be present for up to a year. The temporary pylons would be visible on the skyline, but within the extent of the existing overhead line. Reconductoring works may be perceptible but would be a very small element within the view. Construction works associated with the 132kV OHL and UGC would not be visible from this viewpoint. Overall, construction activities associated with the accompanying works would be temporary, short-term and reversible resulting in a **small** magnitude of change in the view.

In operation, one 400kV pylon (4YL081), will be removed and replaced with a new pylon. From this viewpoint, the change would be perceptible, but the new pylon would appear in a similar location and at a similar scale to the existing. The new 132kV CSE platform pylon would be screened by intervening vegetation. The magnitude of change as a result of the accompanying works would be **negligible**. This combined with the negligible magnitude of change arising from the proposed GSP substation is anticipated to result in an overall **negligible** magnitude of visual change in operation in the long term.

Wireframe of the existing 400kV overhead line from the viewpoint (90 Degree)

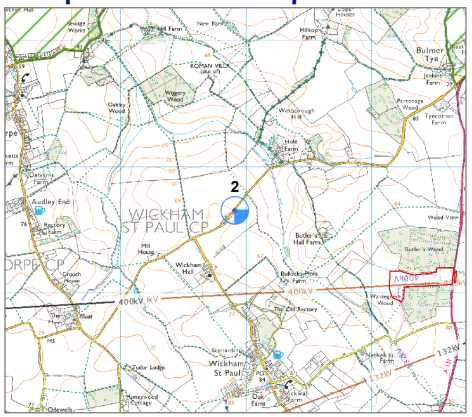


Wireframe of the proposed GSP substation (proposed elements shown in red) and accompanying works (proposed elements shown in blue) (90 Degree)

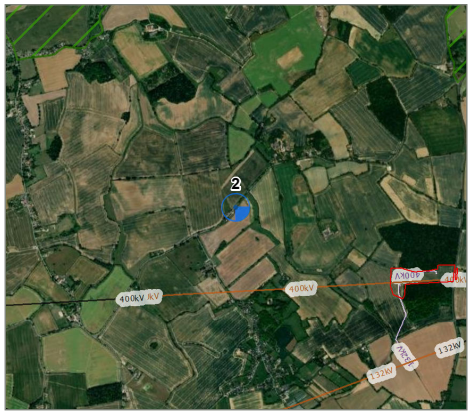


VIEWPOINT 2: VIEW FROM HEADINGHAM ROAD TO NORTH OF WICKHAM ST PAUL

Viewpoint Location Map



Aerial Photo



Reasons for Selection

- [x] Local Community
- [x] Road Network
- [ ] National Cycle Route
- [ ] Local Cycle Route
- [ ] Public Right of Way
- [ ] Landscape Designation
- [ ] Heritage Asset
- [ ] Promoted Viewpoint
- [ ] Trig Point

Notes on Viewpoint Location

Grid Reference	582910 , 237653 (52.007171 , 0.663532)
Approx Elevation	69m AOD
General Direction of View	SE
Approx. Distance to the Proposed GSP Substation	1300m
Time / Date	15.47 / 21st April 2021
Weather / Visibility	Cloudy / Good
Camera	Canon EOS 6D, Canon EF 50mm f/1.8 fixed focal lens

This viewpoint is representative of views experienced by people living in scattered properties and moving between the communities of Bulmer Tye, Gestingthorpe and Wickham St Paul. Local scattered community are of a **high** susceptibility to the proposed GSP substation.

Description of Visual Baseline

The foreground of the view comprises an agricultural field bounded by a line of gappy hedgerows and trees. The mid-ground of the view consists of further, more undulating fields, which rise to a well wooded background. A backclothed low voltage OHL carried on wooden poles is almost imperceptible in the mid-ground to the right of the view. Scattered dwellings set amongst small groups of trees are visible. The existing 400kV OHL is partially screened by intervening vegetation but prominent where it is visible on the skyline. Whilst the colour tone of the vegetation would change in the summer months, and its screening effects increase, the components of the view would remain largely unchanged. Seasonal variation is therefore anticipated to be limited.

Value of View - **Medium**

Supplementary Context Photos

View north-east along Headingham Road

View south-east towards the fences at the property edges of 3 and 4 Hollyhocks

Photograph of existing landscape from viewpoint (90 Degree)

Description of Effects

Construction Year

It is anticipated that receptors would have limited views of the short term construction activities associated with the proposed GSP substation. The majority of low level activity associated with with proposed GSP substation would be partially screened by intervening vegetation and existing buildings at Butler's Hall Farm. The construction of the single circuit CSE would be more visible but filtered by vegetation. Movement associated with construction activities and vehicles may be glimpsed intermittently through the intervening vegetation. The works would be temporary, short-term and reversible resulting in a **small** magnitude of change in the view.

Operation - Year 1

The proposed GSP substation would be visible as a small part of the view, noting that there are not any long-ranging views from this location. Many of the elements associated with the proposed GSP substation would be obscured by vegetation and buildings at Butler's Hall Farm. The single circuit CSE may be visble, but heavily filtered by intervening vegetation and backclothed by vegetation at Waldegrave Wood which would reduce perceptibility. It is anticipated that the magnitude of change in the view would be **small**.

Operation - Year 15

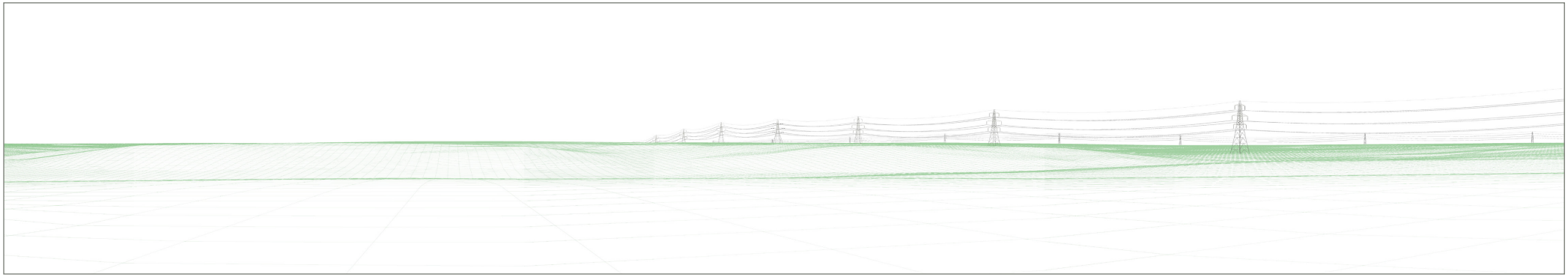
Once embedded mitigation measures begin to mature at year 15, it is anticipated that any views of the proposed GSP substation and single circuit CSE would be heavily filtered and as such the magnitude of change in the view would be **negligible**.

Accompanying Works

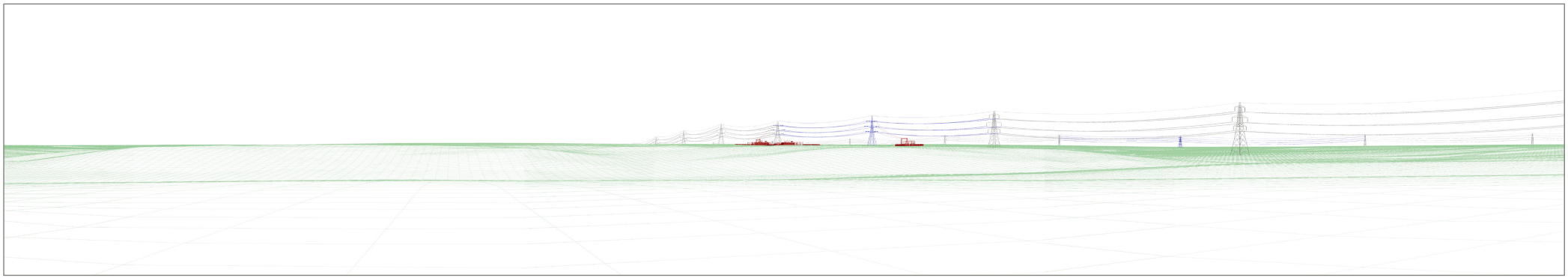
During construction, up to two temporary pylons would be required to divert the 400kV overhead line. These would be present for up to a year. The temporary pylons would be visible on the skyline, but within the extent of the existing overhead line. Reconductoring works may be perceptible but would be a very small element within the view. Construction works associated with the 132kV UGC would not be visible from this viewpoint. The temporary pylon associated with the 132kV diversion may be visible above the vegetation, but would only be present for up to three months. Overall, construction activities associated with the accompanying works would be temporary, short-term and reversible resulting in a **small** magnitude of change in the view.

In operation, one pylon (4YL081), will be removed and replaced with a new pylon. From this viewpoint, the change would be perceptible, but the new pylon would appear in a similar location and at a similar scale to the existing. The new 132kV CSE platform pylon would be visible from this viewpoint, but would appear as the existing, the platform screened by vegetation. The magnitude of change as a result of the accompanying works would be **negligible**. This combined with the negligible magnitude of change arising from the proposed GSP substation is anticipated to result in an overall **negligible** magnitude of visual change in operation in the long term.

Wireframe of the existing 400kV overhead line from the viewpoint (90 Degree)

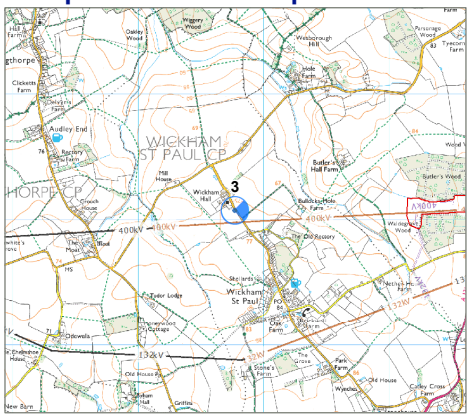


Wireframe of the proposed GSP substation (proposed elements shown in red) and accompanying works (proposed elements shown in blue) (90 Degree)



VIEWPOINT 3: VIEW FROM ALL SAINTS CHURCH ON CHURCH ROAD

Viewpoint Location Map



Background Mapping information has been reproduced from the OS map by permission of OS on behalf of The controller of Her Majesty's Stationery Office. ©Crown Copyright Ordnance Survey. National Grid Electricity - 100024241 National Grid Gas -100024886

Aerial Photo

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Esri, HERE, DeLorme, TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Reasons for Selection

- [x] Local Community
- [x] Road Network
- [ ] National Cycle Route
- [ ] Local Cycle Route
- [x] Public Right of Way
- [ ] Landscape Designation
- [x] Heritage Asset
- [ ] Promoted Viewpoint
- [ ] Trig Point

Notes on Viewpoint Location

Grid Reference	582770 , 237075 (52.002023 , 0.661188)
Approx Elevation	77m AOD
General Direction of View	E
Approx. Distance to the Proposed GSP Substation	1350m
Time / Date	15.17 / 21st April 2021
Weather / Visibility	Cloudy / Very Good
Camera	Canon EOS 6D, Canon EF 50 mm f/1.8 fixed focal lens

This viewpoint is representative of views experienced by people living and moving around the community of Wickham St Paul and visiting All Saints Church. Residents and users of the PRoW are of a **high** susceptibility to the proposed GSP substation.

Description of Visual Baseline

The foreground of the view comprises a relatively flat agricultural field bounded by a hedgerow and trees. The ditch which separates the field from Church Road is just visible in the immediate foreground. There is a low voltage OHL mounted on wooden poles running parallel to the road visible to the right of the view. The mid-ground consists of further undulating agricultural fields which rise gently to a well wooded background. Overgrown hedgerows in the mid ground give an appearance of a relatively well treed landscape with occasional farmstead visible amongst trees. The existing 400kV OHL is visible to the right of the view. Whilst intervening vegetation screens or provides a backcloth to the lower parts of the steel towers, the upper parts are prominent on the skyline to the right of the view. Whilst the colour tone of the vegetation would change in the summer months, and its screening effects increase, the components of the view would remain largely unchanged. Seasonal variation is therefore anticipated to be limited.

Value of View - **Medium**

Supplementary Context Photos

View north-west along Church Road towards All Saints Church

View south-east along Church Road

Photograph of existing landscape from viewpoint (90 Degree)

Description of Effects

Construction Year

It is anticipated that receptors would have mid-range views of the short term construction activities associated with the proposed GSP substation and single circuit CSE. The majority of low level activity would be filtered by intervening vegetation. Movement associated with construction activities and vehicles may be glimpsed intermittently through the intervening vegetation. The works would be temporary, short-term and reversible resulting in a **small** magnitude of change in the view.

Operation - Year 1

The proposed GSP substation and single circuit CSE would be visible as a small part of the view, noting that there are not any long-ranging views from this location. Taller elements within the single circuit CSE, such as gantries, may be visible but would be very small elements backclothed by trees at Waldegrave Wood which would reduce perceptibility. It is anticipated that the magnitude of change in the view would be **small**.

Operation - Year 15

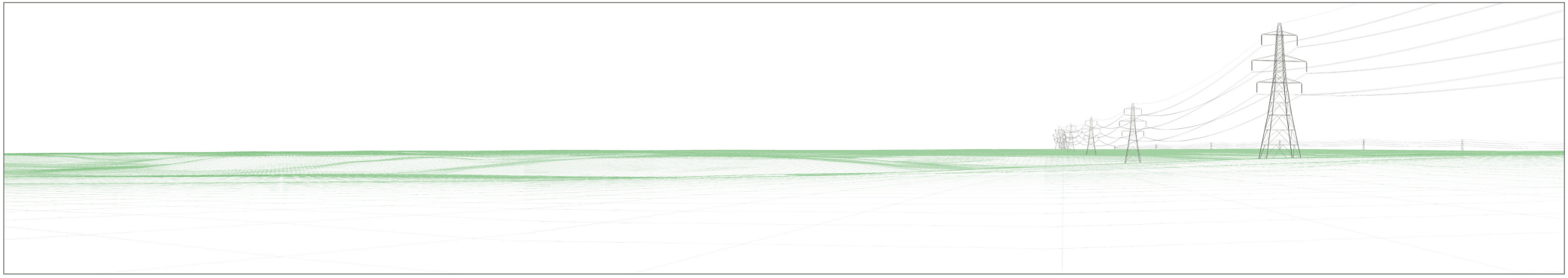
Once embedded mitigation measures begin to mature at year 15, it is anticipated that views of the proposed GSP substation and single circuit CSE would be heavily filtered and as such the magnitude of change in the view would be **negligible**.

Accompanying Works

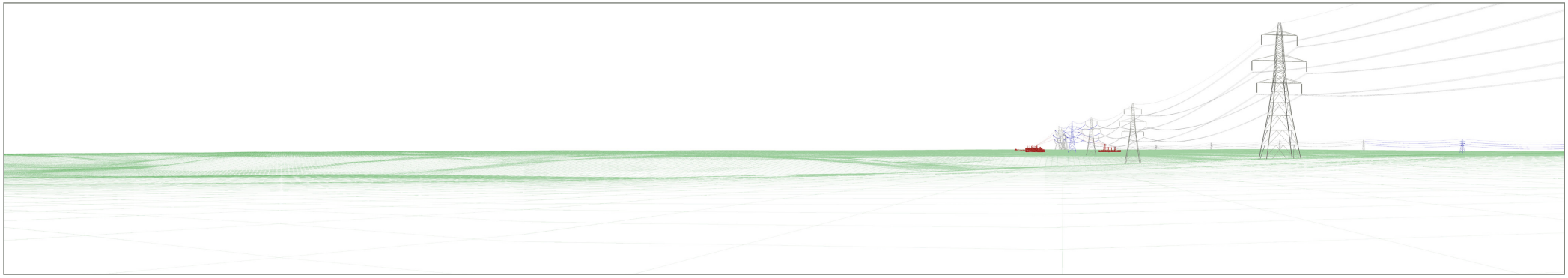
During construction, up to two temporary pylons would be required to divert the 400kV overhead line. These would be present for up to a year. The temporary pylons would be visible on the skyline, appearing slightly offset to the existing 400kV OHL. Reconductoring works may be perceptible but would be a very small element within the view. Construction works associated with the 132kV OHL and UGC would not be visible from this viewpoint. Overall, construction activities associated with the accompanying works would be temporary, short-term and reversible resulting in a **small** magnitude of change in the view.

In operation, one pylon (4YL081), will be removed and replaced with a new pylon. From this viewpoint, the change would be perceptible, but the new pylon would appear in a similar location and at a similar scale to the existing. The new 132kV CSE platform pylon would be screened by intervening vegetation. The magnitude of change as a result of the accompanying works would be **negligible**. This combined with the negligible magnitude of change arising from the proposed GSP substation is anticipated to result in an overall **negligible** magnitude of visual change in operation in the long term.

Wireframe of the existing 400kV overhead line from the viewpoint (90 Degree)

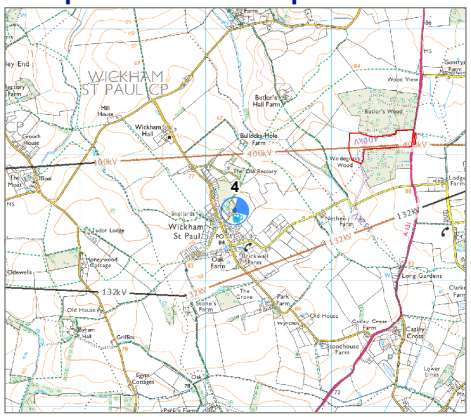


Wireframe of the proposed GSP substation (proposed elements shown in red) and accompanying works (proposed elements shown in blue) (90 Degree)



VIEWPOINT 4: VIEW FROM RECTORY LANE ON THE EDGE OF WICKHAM ST PAUL

Viewpoint Location Map



Background Mapping information has been reproduced from the OS map by permission of OS on behalf of The controller of Her Majesty's Stationery Office. ©Crown Copyright Ordnance Survey. National Grid Electricity - 100024241 National Grid Gas -100024886

Aerial Photo

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Esri, HERE, DeLorme, TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Reasons for Selection

- [x] Local Community
- [x] Road Network
- [ ] National Cycle Route
- [ ] Local Cycle Route
- [ ] Public Right of Way
- [ ] Landscape Designation
- [ ] Heritage Asset
- [ ] Promoted Viewpoint
- [ ] Trig Point

Notes on Viewpoint Location

Grid Reference	583232 , 236558 (51.997225 , 0.667629)
Approx Elevation	81m AOD
General Direction of View	NE
Approx. Distance to the Proposed GSP Substation	1000m
Time / Date	15.09 / 21st April 2021
Weather / Visibility	Clear / Excellent
Camera	Canon EOS 6D, Canon EF 50 mm f/1.8 fixed focal lens

This viewpoint is representative of views experienced by people living and moving around the community of Wickham St Paul. Residents are of a **high** susceptibility to the proposed GSP substation.

Description of Visual Baseline

The foreground of the view comprises a pastoral field bounded by post and wire fencing which separates it from Rectory Lane in the immediate foreground. The landform is largely flat with vegetation on the skyline in the mid-ground largely enclosing the view and screening the higher landform just visible above the tree line to the centre of the view. A low voltage OHL mounted on wooden poles is visible in the mid ground but is largely screened by vegetation. The existing 400kV OHL is visible to the background of the view with the upper parts of the steel towers visible on the skyline. Whilst the colour tone of the vegetation would change in the summer months, and its screening effects increase, the components of the view would remain largely unchanged. Seasonal variation is therefore anticipated to be limited.

Value of View - **Medium**

Supplementary Context Photos

View north-west along Rectory Lane leading to The Old Rectory

View east showing horsiculture fencing

Photograph of existing landscape from viewpoint (90 Degree)

Description of Effects

Construction Year

It is anticipated that receptors would have very limited views of the short term construction activities associated with the proposed GSP substation and single circuit CSE due to intervening vegetation. All of the low level activity would be completely obscured by intervening vegetation at Waldegrave Wood. There may be glimpses of taller equipment, for example cranes. The works would be temporary, short-term and reversible resulting in a **negligible** magnitude of change in the view.

Operation - Year 1

The proposed GSP substation and single circuit CSE would not be visible from this location. It is anticipated that there would be **no change** in the view.

Operation - Year 15

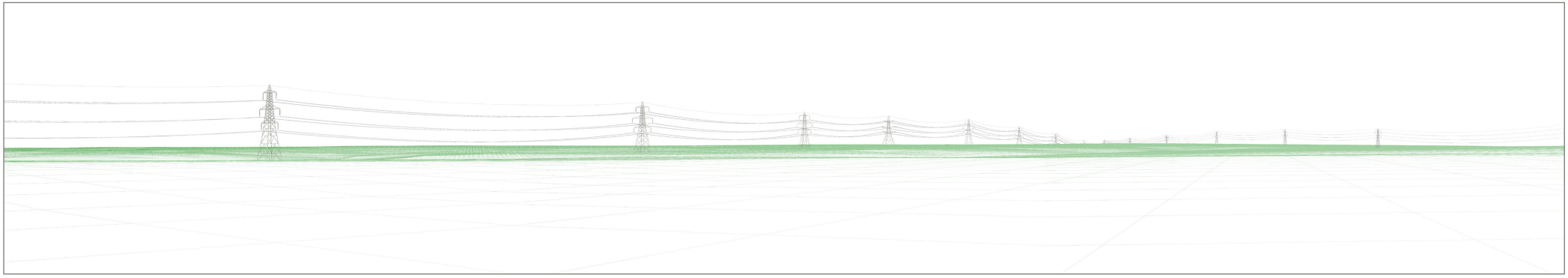
The proposed GSP substation and single circuit CSE would not be visible from this location. It is anticipated that there would be **no change** in the view.

Accompanying Works

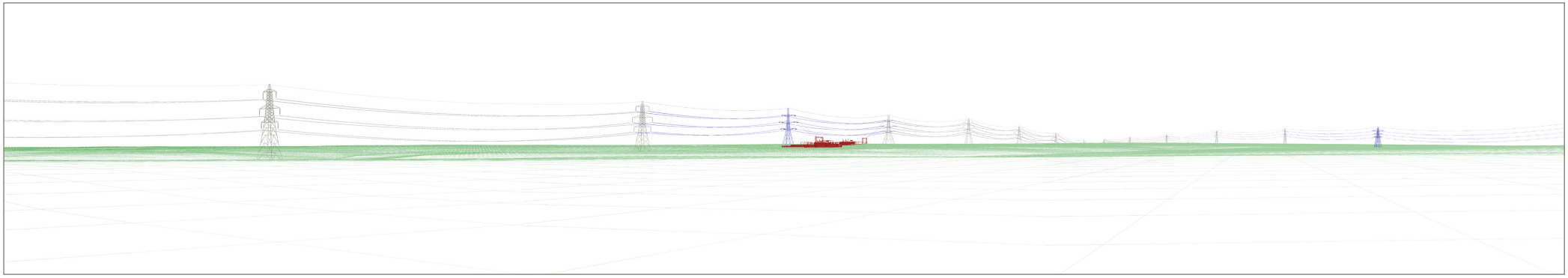
During construction, up to two temporary pylons would be required to divert the 400kV overhead line. These would be present for up to a year. The temporary pylons would be predominantly screened by intervening vegetation, but may be visible above the tree line. Reconductoring works may be perceptible but would be a very small element within the view. Construction works associated with the 132kV OHL and UGC would not be visible from this viewpoint. Overall, construction activities associated with the accompanying works would be temporary, short-term and reversible resulting in a **negligible** magnitude of change in the view.

In operation, one pylon (4YL081), will be removed and replaced with a new pylon. From this viewpoint, the change may be perceptible, but the new pylon would appear in a similar location and at a similar scale to the existing and heavily screened by vegetation. The new 132kV CSE platform pylon would not visible from this viewpoint. The magnitude of change as a result of the accompanying works would be **negligible**. As the proposed GSP would not be visible in operation, there is no combined effect. The overall result would remain a **negligible** magnitude of visual change in operation in the long term.

Wireframe of the existing 400kV overhead line from the viewpoint (90 Degree)

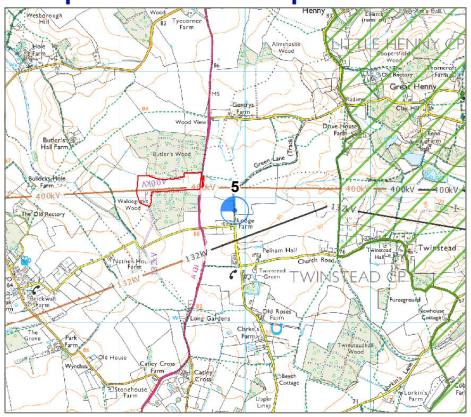


Wireframe of the proposed GSP substation (proposed elements shown in red) and accompanying works (proposed elements shown in blue) (90 Degree)



VIEWPOINT 5: VIEW FROM GREEN LANE TO THE NORTH OF TWINSTEAD GREEN

Viewpoint Location Map



Aerial Photo

Reasons for Selection

- [x] Local Community
- [ ] Road Network
- [ ] National Cycle Route
- [ ] Local Cycle Route
- [x] Public Right of Way
- [ ] Landscape Designation
- [ ] Heritage Asset
- [ ] Promoted Viewpoint
- [ ] Trig Point

Notes on Viewpoint Location

Grid Reference	584919 , 236897 (51.999718 , 0.692353
Approx Elevation	87m AOD
General Direction of View	NW
Approx. Distance to the Proposed GSP Substation	310m
Time / Date	16.39 / 21st April 2021
Weather / Visibility	Overcast / Good
Camera	Canon EOS 6D, Canon EF 50 mm f/1.8 fixed focal lens

This viewpoint is representative of views experienced by people living in the local community and using the local public right of way network. Users of the PRoW are of a **high** susceptibility to the proposed GSP substation.

Description of Visual Baseline

The foreground of the view comprises a flat, arable field bound by trees and hedgerows. The mid ground of the view consists of a wooded skyline with Butler's Wood visible to the centre of the view and screening the landform beyond. The movement of traffic on the A131 is visible in the middle distance. The existing 400kV OHL is visible on the skyline in the centre of the view. Whilst the colour tone of the vegetation would change in the summer months, and its screening effects increase, the components of the view would remain largely unchanged. Seasonal variation is therefore anticipated to be limited.

Value of View - **Medium**

Supplementary Context Photos

View north along Green Lane, a public right of way

Photograph of existing landscape from viewpoint (90 Degree)

Description of Effects

Construction Year

It is anticipated that receptors would have filtered views of the short term construction activities associated with the proposed GSP substation. Much of the low level activity would be obscured by intervening vegetation at Waldegrave Wood and hedgerow planting along the A131, though a small proportion of the works would be visible. Construction activities associated with the single circuit CSE would be completely screened by Waldegrave Wood. The traffic movement associated with the construction would not be out of the place in the context of the existing traffic travelling along A131. The works would be temporary, short-term and reversible resulting in a **small** magnitude of change in the view.

Operation - Year 1

A small proportion of the proposed GSP substation would be visible within a small extent of the view, noting that there are not any long-ranging views from this location. Many of the elements associated with the proposed GSP substation would be obscured by intervening vegetation at Waldegrave Wood. It is anticipated that the magnitude of change in the view would be **small**.

Operation - Year 15

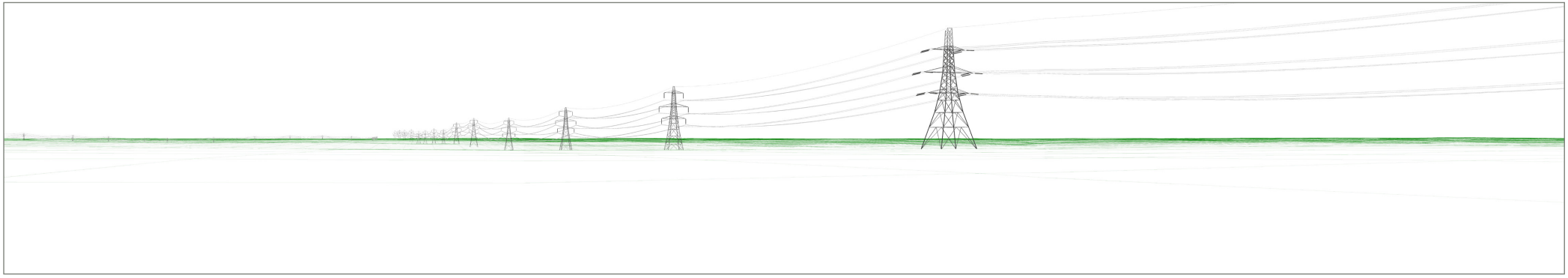
It is anticipated that views of the proposed GSP substation in year 15 would be filtered due to maturation of embedded mitigation planting however the top of the gantry would be visible and as such the magnitude of change in the view would be **small**.

Accompanying Works

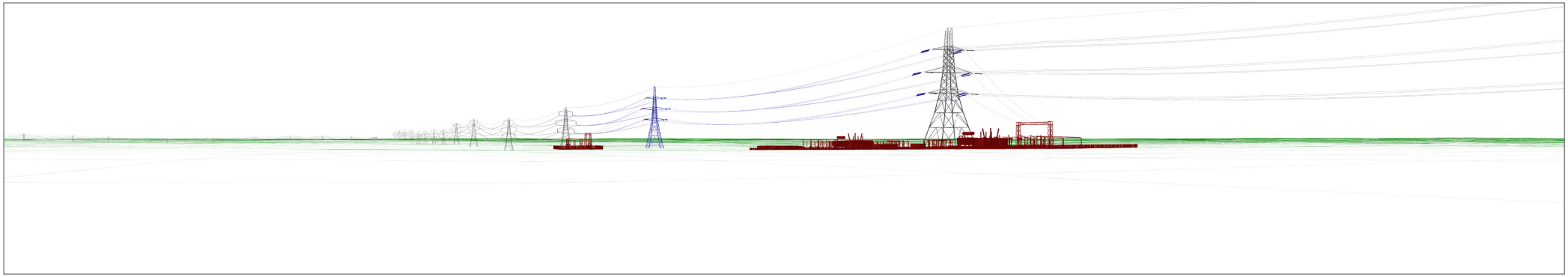
During construction, up to two temporary pylons would be required to divert the 400kV overhead line. These would be present for up to a year. The temporary pylons would be predominantly screened by intervening vegetation, but may be visible above the tree line. Reconductoring works may be perceptible but would be a very small element within the view. Construction works associated with the 132kV OHL and UGC would not be visible from this viewpoint. Overall, construction activities associated with the accompanying works would be temporary, short-term and reversible resulting in a **negligible** magnitude of change in the view.

In operation, one pylon (4YL081), will be removed and replaced with a new pylon. From this viewpoint, the change may be perceptible, but the new pylon would appear in a similar location and at a similar scale to the existing and heavily screened by vegetation. The new 132kV CSE platform pylon would not visible from this viewpoint. The magnitude of change as a result of the accompanying works would be **negligible**. This combined with the small magnitude of change arising from the proposed GSP substation is anticipated to result in an overall **small** magnitude of visual change in operation in the long term.

Wireframe of the existing 400kV overhead line from the viewpoint (90 Degree)

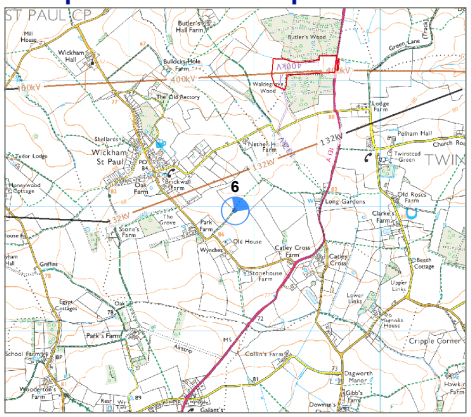


Wireframe of the proposed GSP substation (proposed elements shown in red) and accompanying works (proposed elements shown in blue) (90 Degree)



VIEWPOINT 6: VIEW FROM PUBLIC RIGHT OF WAY TO THE SOUTH EAST OF WICKHAM ST PAUL

Viewpoint Location Map



Aerial Photo

Reasons for Selection

- [x] Local Community
- [ ] Road Network
- [ ] National Cycle Route
- [ ] Local Cycle Route
- [x] Public Right of Way
- [ ] Landscape Designation
- [ ] Heritage Asset
- [ ] Promoted Viewpoint
- [ ] Trig Point

Notes on Viewpoint Location

Grid Reference	583844 , 235968 (51.991731 , 0.676228)
Approx Elevation	84m AOD
General Direction of View	NE
Approx. Distance to the Proposed GSP Substation	1050m
Time / Date	14.45 / 21st April 2021
Weather / Visibility	Clear / Excellent
Camera	Canon EOS 6D, Canon EF 50 mm f/1.8 fixed focal lens

This viewpoint is representative of views experienced by the local community and people using the local public right of way network. Users of the PRoW are of a **high** susceptibility to the proposed GSP substation.

Description of Visual Baseline

The foreground of the view comprises a largely flat arable field with a footpath running through the centre of the view. The field is bounded by hedgerow and trees and a low voltage OHL mounted on wooden poles is visible on the skyline as it crosses the field. The mid-ground is comprised of further arable fields, just visible through intervening vegetation. Landform rises to the north east, forming the background of the view. The uppermost parts of the existing 132kV OHL and 400kV OHL are visible on the skyline, the lower parts being partially screened to varying extents by the intervening vegetation. Whilst the colour tone of the vegetation would change in the summer months, and its screening effects increase, the components of the view would remain largely unchanged. Seasonal variation is therefore anticipated to be limited.

Value of View - **Medium**

Supplementary Context Photos

View north-west towards existing 132kV overhead line

View south towards Old House

Photograph of existing landscape from viewpoint (90 Degree)

Description of Effects

Construction Year

It is anticipated that receptors would have no view of the short term construction activities associated with the proposed GSP substation or single circuit CSE. It is anticipated that there would be **no change** in the view.

Operation - Year 1

The proposed GSP substation and single circuit CSE would not be visible from this location. It is anticipated that there would be **no change** in the view.

Operation - Year 15

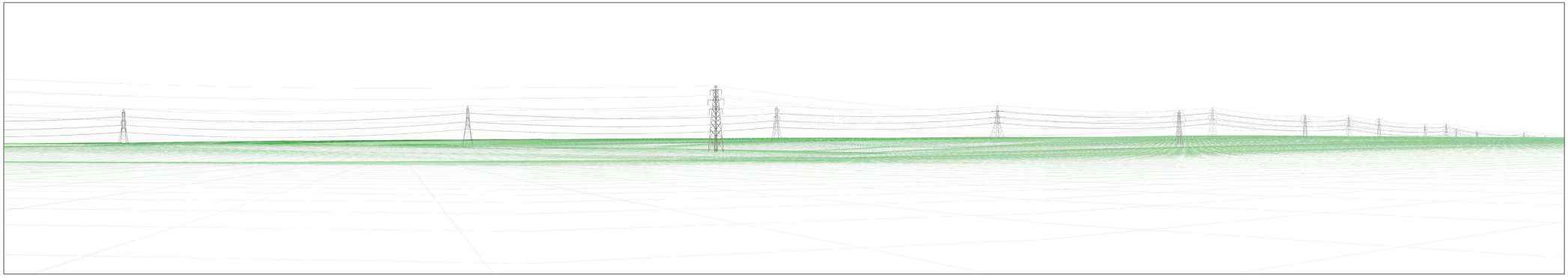
The proposed GSP substation and single circuit CSE would not be visible from this location. It is anticipated that there would be **no change** in the view.

Accompanying Works

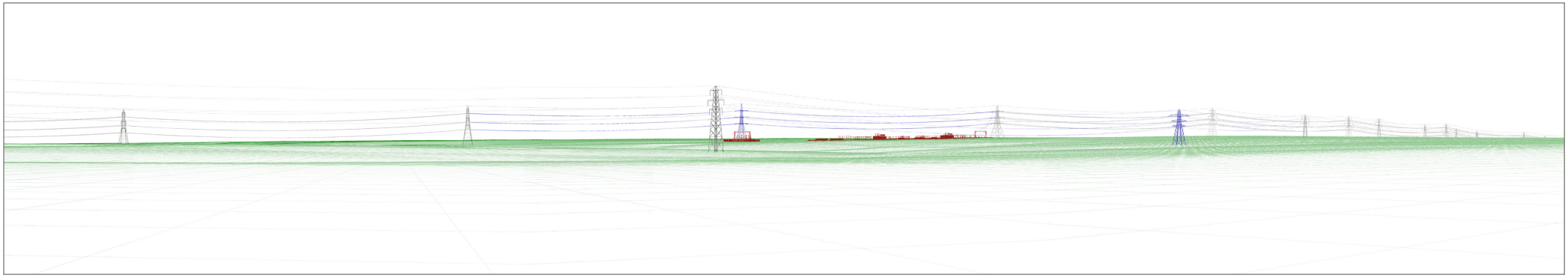
During construction, up to two temporary pylons would be required to divert the 400kV overhead line. These would be present for up to a year. The temporary pylons would be predominantly screened by intervening vegetation, but may be visible above the tree line. Reconductoring works may be perceptible but would be a very small element within the view. The construction works associated with the 132kV CSE platform pylon and 132kV UGC may be visible. Movement of construction vehicles may be visible, filtered by vegetation. The temporary pylon associated with the 132kV diversion may be visible above the vegetation, but would only be present for up to three months. Overall, construction activities associated with the accompanying works would be temporary, short-term and reversible resulting in a **small** magnitude of change in the view.

In operation, one pylon (4YL081), will be removed and replaced with a new pylon. From this viewpoint, the change may be perceptible, but the new pylon would appear in a similar location and at a similar scale to the existing and heavily screened by vegetation. The new 132kV CSE platform pylon would be visible from this viewpoint, but would appear as the existing, the platform screened by vegetation. The magnitude of change as a result of the accompanying works would be **negligible**. As the proposed GSP would not be visible in operation, there is no combined effect. The overall result would remain a **negligible** magnitude of visual change in operation in the long term.

Wireframe of the existing 400kV overhead line from the viewpoint (90 Degree)

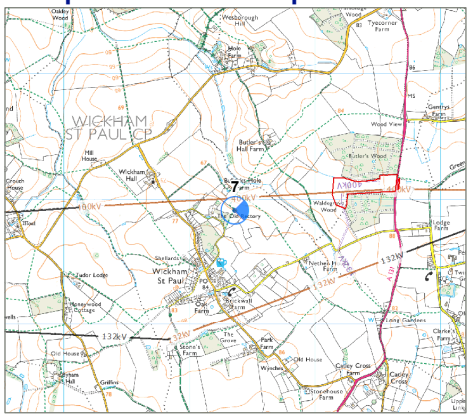


Wireframe of the proposed GSP substation (proposed elements shown in red) and accompanying works (proposed elements shown in blue) (90 Degree)

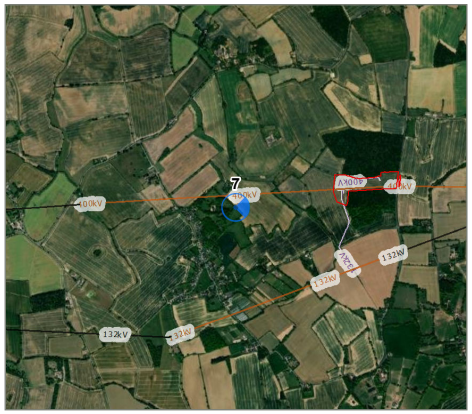


VIEWPOINT 7: VIEW FROM PUBLIC RIGHT OF WAY TO THE EAST OF WICKHAM ST PAUL

Viewpoint Location Map



Aerial Photo



Reasons for Selection

- ○ Local Community
- ○ Road Network
- ○ National Cycle Route
- ○ Local Cycle Route
- ☑ Public Right of Way
- ○ Landscape Designation
- ○ Heritage Asset
- ○ Promoted Viewpoint
- ○ Trig Point

Notes on Viewpoint Location

Grid Reference	583361 , 236913 (52.000372 , 0.669700)
Approx Elevation	65m AOD
General Direction of View	East
Approx. Distance to the Proposed GSP Substation	800m
Time / Date	13.53 / 21st April 2021
Weather / Visibility	Clear / Excellent
Camera	Canon EOS 6D, Canon EF 50 mm f/1.8 fixed focal lens

This viewpoint is representative of views experienced by people using the local public right of way network. Users of the PRoW are of a **high** susceptibility to the proposed GSP substation.

Description of Visual Baseline

The foreground of the view comprises an arable field with an existing 400kV OHL prominent as it traverses the field and heads eastwards into the distance. To the mid-ground, landform undulates gently upwards towards Waldegrave Wood which provides the backdrop to the centre of the view. The existing 400kV OHL passes through a gap in the woodland to the background, with the upper parts of the infrastructure prominent on the skyline. Whilst the colour tone of the vegetation would change in the summer months, and its screening effects increase, the components of the view would remain largely unchanged. Seasonal variation is therefore anticipated to be limited.

Value of View - **Medium**

Supplementary Context Photos

View north towards Bullocks Hole Farm

View south-east towards Nether House Farm

Photograph of existing landscape from viewpoint (90 Degree)

Description of Effects

Construction Year

It is anticipated that receptors would have mid to long-range views of the short term construction activities associated with the proposed GSP substation and single circuit CSE. Some of the low level activity would be screened by intervening vegetation such as mature hedgerow field boundaries. The construction of the single circuit CSE would be more visible but filtered by vegetation. Movement associated with construction activities and vehicles may be glimpsed intermittently through the intervening vegetation. The works would be temporary, short-term and reversible resulting in a **medium-small** magnitude of change in the view.

Operation - Year 1

The proposed GSP substation would be visible as a small part of the view. Some of the elements associated with the proposed GSP substation would be obscured by intervening vegetation. Taller elements within the proposed GSP substation may be visible above intervening vegetation. The single circuit CSE would be more visible but would be backclothed by trees at Waldegrave Wood which would reduce perceptibility. The gantry would not break the skyline. It is anticipated that the magnitude of change in the view would be **medium-small**.

Operation - Year 15

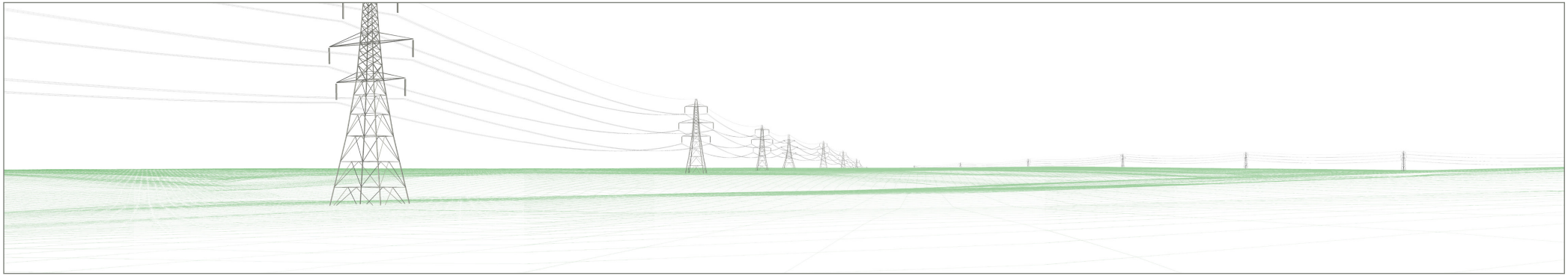
Once embedded mitigation measures begin to mature at year 15, it is anticipated that views of the proposed GSP substation would be heavily filtered and as such the magnitude of change in the view would be **small**.

Accompanying Works

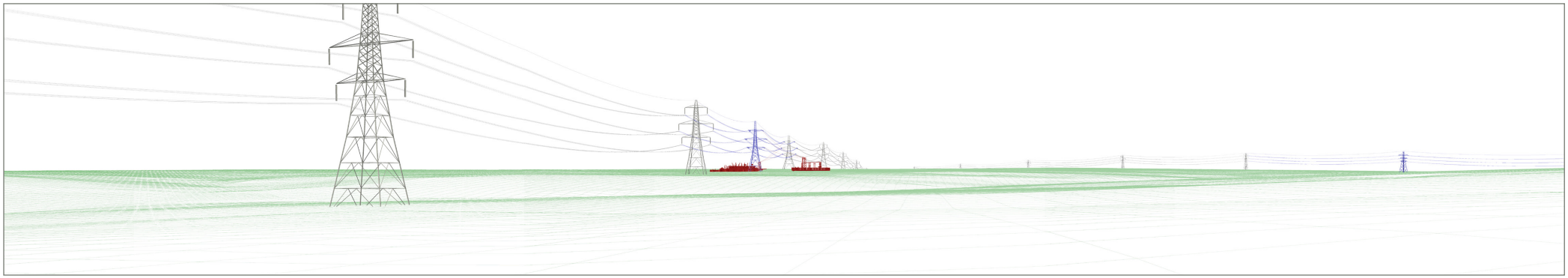
During construction, up to two temporary pylons would be required to divert the 400kV overhead line. These would be present for up to a year. The temporary pylons would be visible on the skyline, but within the extent of the existing overhead line. Reconductoring works may be perceptible but would be a very small element within the view. The construction works associated with the 132kV CSE platform pylon and 132kV UGC may be visible. Movement of construction vehicles may be visible, filtered by vegetation. The temporary pylon associated with the 132kV diversion may be visible above the vegetation, but would only be present for up to three months. Overall, construction activities associated with the accompanying works would be temporary, short-term and reversible resulting in a **medium-small** magnitude of change in the view.

In operation, one pylon (4YL081), will be removed and replaced with a new pylon. From this viewpoint, the change would be perceptible, but the new pylon would appear in a similar location and at a similar scale to the existing. The new 132kV CSE platform pylon would be visible from this viewpoint, but would appear as the existing, the platform screened by vegetation. The magnitude of change as a result of the accompanying works would be **small**. This combined with the small magnitude of change arising from the proposed GSP substation is anticipated to result in an overall **small** magnitude of visual change in operation in the long term.

Wireframe of the existing 400kV overhead line from the viewpoint (90 Degree)

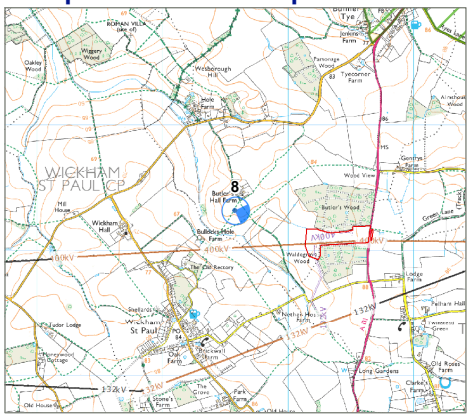


Wireframe of the proposed GSP substation (proposed elements shown in red) and accompanying works (proposed elements shown in blue) (90 Degree)



VIEWPOINT 8: VIEW FROM PUBLIC RIGHT OF WAY NEAR BUTLER'S HALL FARM

Viewpoint Location Map



Background Mapping information has been reproduced from the OS map by permission of OS on behalf of The controller of Her Majesty's Stationery Office. ©Crown Copyright Ordnance Survey. National Grid Electricity - 100024241 National Grid Gas -100024886

Aerial Photo

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Esri, HERE, DeLorme, TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Reasons for Selection

- [x] Local Community
- [ ] Road Network
- [ ] National Cycle Route
- [ ] Local Cycle Route
- [x] Public Right of Way
- [ ] Landscape Designation
- [ ] Heritage Asset
- [ ] Promoted Viewpoint
- [ ] Trig Point

Notes on Viewpoint Location

Grid Reference	583576 , 237320 (52.003957 , 0.673042)
Approx Elevation	74m AOD
General Direction of View	SE
Approx. Distance to the Proposed GSP Substation	580m
Time / Date	14.06 / 21st April 2021
Weather / Visibility	Clear / Excellent
Camera	Canon EOS 6D, Canon EF 50 mm f/1.8 fixed focal lens

This viewpoint is representative of views experienced by people living in scattered properties in the local community and using the local public right of way network. Users of the PRoW and scattered local community are of a **high** susceptibility to the proposed GSP substation.

Description of Visual Baseline

The foreground of the view comprises a flat agricultural field bounded by gappy hedgerows and trees. The mid-ground of the view comprises further agricultural fields which undulate gently upwards. The background of the view is formed by Butlers and Walgreave Wood which create a continuous, treed skyline. The upper parts of the existing 400kV OHL is visible above the tree line on the skyline, passing between the two woodlands. Whilst the colour tone of the vegetation would change in the summer months, and its screening effects increase, the components of the view would remain largely unchanged. Seasonal variation is therefore anticipated to be limited.

Value of View - **Medium**

Supplementary Context Photos

View south-west towards Bullocks Hole Farm

View north towards Butler's Hall Farm

Photograph of existing landscape from viewpoint (90 Degree)

Description of Effects

Construction Year

It is anticipated that receptors would have filtered views of the short term construction activities associated with the proposed GSP substation and single circuit CSE. Some of the low level activity would be screened by intervening vegetation such as mature hedgerow field boundaries. The construction of the single circuit CSE would be more visible but filtered by vegetation. Movement associated with construction activities and vehicles may be glimpsed intermittently through the intervening vegetation. The works would be temporary, short-term and reversible resulting in a **medium-small** magnitude of change in the view.

Operation - Year 1

The proposed GSP substation would be visible as a small part of the view, enclosed by landform and Butler's Wood and Waldegrave Wood. The majority elements associated with the proposed GSP substation would be obscured by intervening vegetation. The single circuit CSE would be more visible but would be backclothed by trees at Waldegrave Wood which would reduce perceptibility. The gantry would not break the skyline. It is anticipated that the magnitude of change in the view would be **medium-small**.

Operation - Year 15

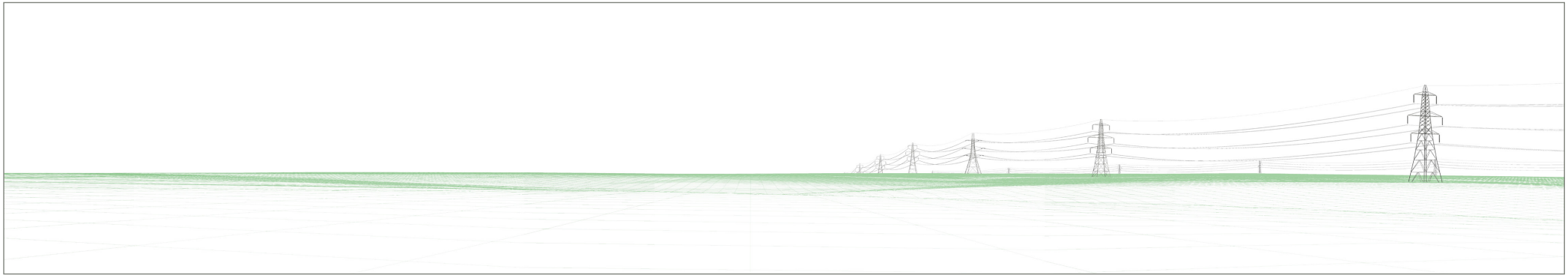
Once embedded mitigation measures begin to mature at year 15, it is anticipated that views of the proposed GSP substation would be heavily filtered and as such the magnitude of change in the view would be **small**.

Accompanying Works

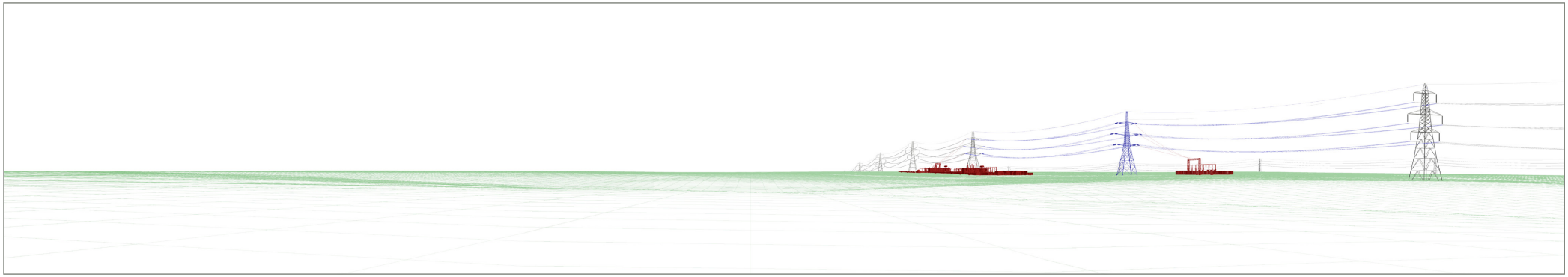
During construction, up to two temporary pylons would be required to divert the 400kV overhead line. These would be present for up to a year. The temporary pylons would be visible on the skyline, but within the extent of the existing overhead line and partly screened by vegetation. Reconductoring works may be perceptible but would be a very small element within the view. Construction works associated with the 132kV UGC would not be visible from this viewpoint. The temporary pylon associated with the 132kV diversion may be visible above the vegetation, but would only be present for up to three months. Overall, construction activities associated with the accompanying works would be temporary, short-term and reversible resulting in a **medium-small** magnitude of change in the view.

In operation, one pylon (4YL081), will be removed and replaced with a new pylon. From this viewpoint, the change would be perceptible, but the new pylon would appear in a similar location and at a similar scale to the existing. The new 132kV CSE platform pylon would be visible from this viewpoint, but would appear as the existing, the platform screened by vegetation. The magnitude of change as a result of the accompanying works would be **small**. This combined with the small magnitude of change arising from the proposed GSP substation is anticipated to result in an overall **small** magnitude of visual change in operation in the long term.

Wireframe of the existing 400kV overhead line from the viewpoint (90 Degree)

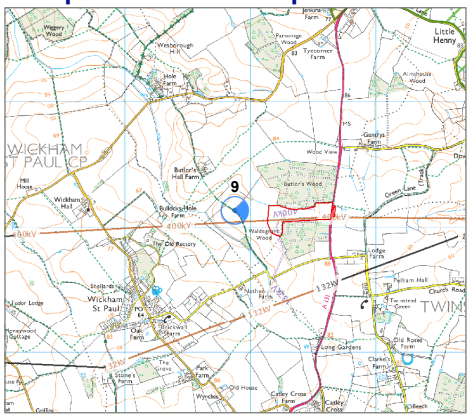


Wireframe of the proposed GSP substation (proposed elements shown in red) and accompanying works (proposed elements shown in blue) (90 Degree)



VIEWPOINT 9: VIEW FROM PUBLIC RIGHT OF WAY BETWEEN BUTLER'S HALL FARM AND OLD ROAD

Viewpoint Location Map



Aerial Photo

Reasons for Selection

- ○ Local Community
- ○ Road Network
- ○ National Cycle Route
- ○ Local Cycle Route
- ☑ Public Right of Way
- ○ Landscape Designation
- ○ Heritage Asset
- ○ Promoted Viewpoint
- ○ Trig Point

Notes on Viewpoint Location

Grid Reference	583876 , 237134 (52.002193 , 0.677310)
Approx Elevation	77m AOD
General Direction of View	E
Approx. Distance to the Proposed GSP Substation	260m
Time / Date	14.44 / 21st April 2021
Weather / Visibility	Clear / Very Good
Camera	Canon EOS 6D, Canon EF 50 mm f/1.8 fixed focal lens

This viewpoint is representative of views experienced by people using the local public right of way network. It is next to the proposed GSP substation location. Users of the PRoW are of a **high** susceptibility to the proposed GSP substation.

Description of Visual Baseline

The foreground of the view comprises a largely flat arable field bounded by hedgerow and trees with a bridleway running along its south western edge, visible to the right of the view. Landform to the mid ground consists of further agricultural fields which undulate gently upwards towards Butlers and Waldegrave Woods. The existing 400kV OHL is visible as it cut across the view and passes between the two woods. Whilst woodland provides a backcloth to some parts of the infrastructure, in view of the angle of the view, several steel towers are visible in their entirety to the back ground of the view. Whilst the colour tone of the vegetation would change in the summer months, and its screening effects increase, the components of the view would remain largely unchanged. Seasonal variation is therefore anticipated to be limited.

Value of View - **Medium**

Supplementary Context Photos

View south towards properties on Old Road

View eastwards from pylon approximately 100m south of the viewpoint

Photograph of existing landscape from viewpoint (90 Degree)

Description of Effects

Construction Year

It is anticipated that receptors would have open views of the short term construction activities associated with the proposed GSP substation and single circuit CSE. Much of the low level activity would be visible along a short section of the PRoW. The works would be temporary, short-term and reversible resulting in a **medium** magnitude of change in the view.

Operation - Year 1

The proposed GSP substation and single circuit CSE would be visible as a small part of the view, the proposed GSP substation enclosed on either side by Butler's Wood and Waldegrave Wood and the single circuit CSE backclothed by Waldegrave Wood where it would not break the skyline. The majority of the elements associated with proposed GSP substation and single circuit CSE would be visible. It is anticipated that the magnitude of change in the view would be **medium**.

Operation - Year 15

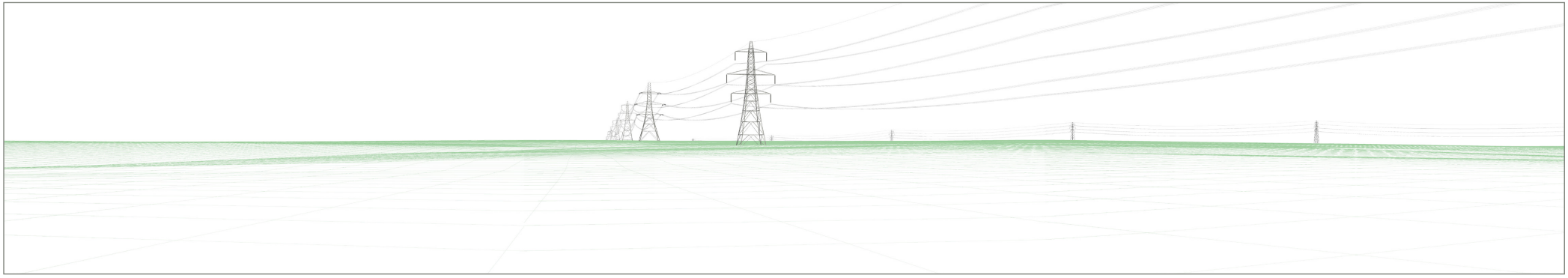
Once embedded mitigation measures begin to mature at year 15, it is anticipated that views of the proposed GSP substation and single circuit CSE would be heavily filtered and as such the magnitude of change in the view would be **small**.

Accompanying Works

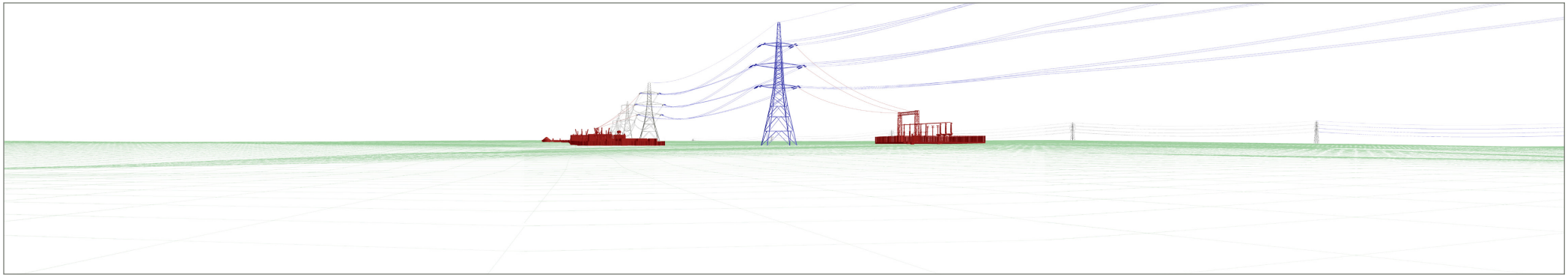
During construction, up to two temporary pylons would be required to divert the 400kV overhead line. These would be present for up to a year. There would be open views towards the temporary pylons. Reconductoring works may be perceptible but would be a very small element within the view. Construction works associated with the 132kV UGC would be visible. Vehicle movements and trenching would be apparent, extending the effect of construction across the view. Construction works associated with the 132kV CSE platform pylon would not be visible from this viewpoint. Overall, construction activities associated with the accompanying works would be temporary, short-term and reversible resulting in a **medium** magnitude of change in the view.

In operation, one pylon (4YL081), will be removed and replaced with a new pylon. From this viewpoint, the change would be noticeable, but the new pylon would appear in a similar location and at a similar scale to the existing. The new 132kV CSE platform pylon would not be visible from this viewpoint, screened by vegetation. The magnitude of change as a result of the accompanying works would be **medium-small**. This combined with the small magnitude of change arising from the proposed GSP substation is anticipated to result in an overall **medium-small** magnitude of visual change in operation in the long term.

Wireframe of the existing 400kV overhead line from the viewpoint (90 Degree)

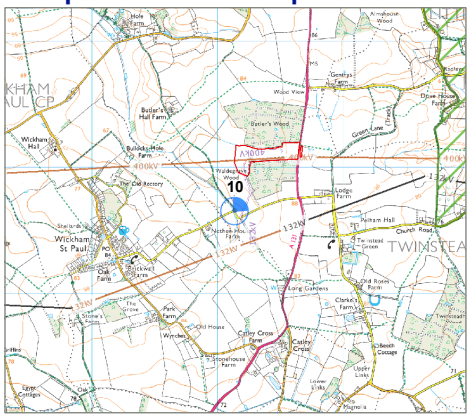


Wireframe of the proposed GSP substation (proposed elements shown in red) and accompanying works (proposed elements shown in blue) (90 Degree)



VIEWPOINT 10: VIEW FROM PUBLIC RIGHT OF WAY ON OLD ROAD

Viewpoint Location Map



Aerial Photo

Reasons for Selection

- ○ Local Community
- ☑ Road Network
- ○ National Cycle Route
- ○ Local Cycle Route
- ☑ Public Right of Way
- ○ Landscape Designation
- ○ Heritage Asset
- ○ Promoted Viewpoint
- ○ Trig Point

Notes on Viewpoint Location

Grid Reference	584138 , 236657 (51.997814 , 0.680863)
Approx Elevation	74m AOD
General Direction of View	NE
Approx. Distance to the Proposed GSP Substation	290m
Time / Date	14.44 / 21st April 2021
Weather / Visibility	Clear / Very Good
Camera	Canon EOS 6D, Canon EF 50 mm f/1.8 fixed focal lens

This viewpoint is representative of views experienced by people using the local public right of way network. Users of the PRoW are of a **high** susceptibility to the proposed GSP substation.

Description of Visual Baseline

The foreground of the view comprises a gently sloping arable field bounded by gappy hedgerows and trees. A broad verge is just visible in the immediate foreground which separates the field from the PRoW from where the view is taken. The rising landform foreshortens the view, with the mid to back ground being formed by Butlers and Waldegrave Wood, the latter of which forms the central focus of the view. The existing 400kV OHL is visible on the skyline, partially screened by the woodland. Whilst the colour tone of the vegetation would change in the summer months, and its screening effects increase, the components of the view would remain largely unchanged. Seasonal variation is therefore anticipated to be limited.

Value of View - **Medium**

Supplementary Context Photos

View north-west along public right of way

Photograph of existing landscape from viewpoint (90 Degree)

Description of Effects

Construction Year

It is anticipated that receptors would have some views of the short term construction activities associated with the proposed GSP substation and single circuit CSE. Waldegrave Wood obscures the majority of the site from this location, however construction activities associated with the single circuit CSE would be visible to the left of the woodland. Movement associated with construction activities at the proposed GSP substation would be seen above the rising landform. The works would be temporary, short-term and reversible resulting in a **medium-small** magnitude of change in the view.

Operation - Year 1

The proposed GSP substation would be screened visible by rising landform and Waldegrave Wood. However, the taller parts of the single circuit CSE would be visible, the gantry visible across the field. It is anticipated that the magnitude of change in the view would be **medium-small**.

Operation - Year 15

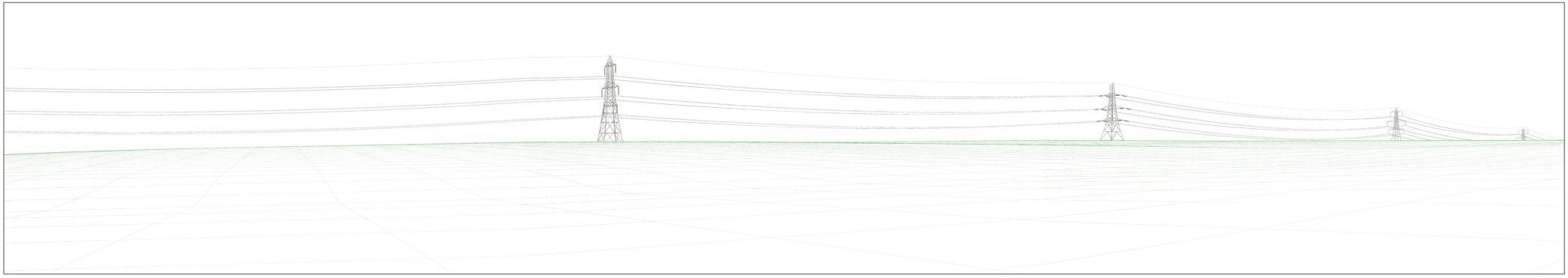
Once embedded mitigation measures begin to mature at year 15, views of the single circuit CSE would become more filtered visible and would be largely screened. Taller parts like the gantry may be visible. It is anticipated that the magnitude of change in the view would be **small**.

Accompanying Works

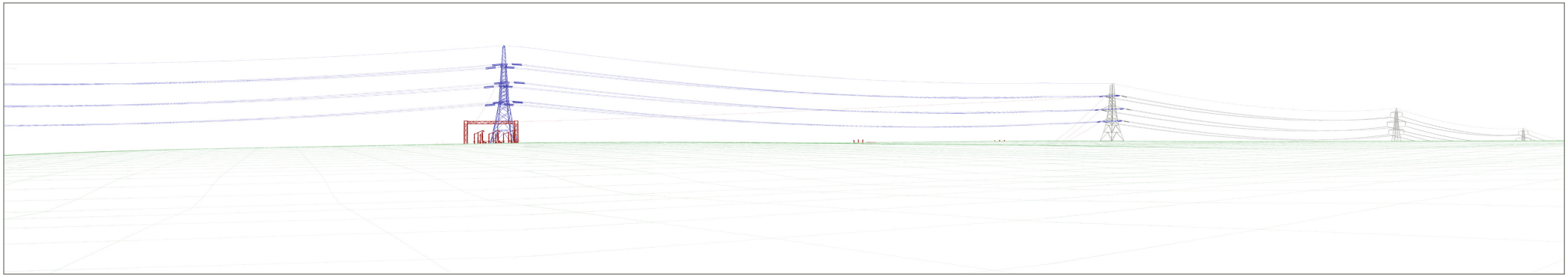
During construction, up to two temporary pylons would be required to divert the 400kV overhead line. These would be present for up to a year. There would be open views towards the temporary pylons. Reconductoring works may be perceptible but would be a very small element within the view. Construction works associated with the 132kV UGC would be visible. Vehicle movements and trenching would be apparent, extending the effect of construction across the view. The temporary pylon associated with the 132kV diversion may be visible above the vegetation, but would only be present for up to three months. Overall, construction activities associated with the accompanying works would be temporary, short-term and reversible resulting in a **medium** magnitude of change in the view.

In operation, one pylon (4YL081), will be removed and replaced with a new pylon. From this viewpoint, the change would be noticeable, the new pylon appear further to the left of the view and less filtered by vegetation, but of a similar scale to the existing. The new 132kV CSE platform pylon would be visible from this viewpoint, but would appear as the existing, the platform screened by landform. The magnitude of change as a result of the accompanying works would be **medium-small**. This combined with the small magnitude of change arising from the proposed GSP substation is anticipated to result in an overall **medium-small** magnitude of visual change in operation in the long term.

Wireframe of the existing 400kV overhead line from the viewpoint (90 Degree)

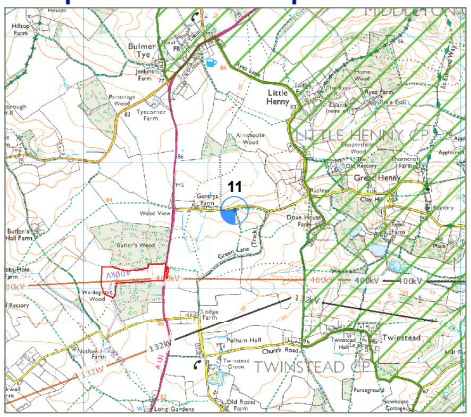


Wireframe of the proposed GSP substation (proposed elements shown in red) and accompanying works (proposed elements shown in blue) (90 Degree)



VIEWPOINT 11: VIEW FROM PUBLIC RIGHT OF WAY OFF WATERY LANE

Viewpoint Location Map



Background Mapping information has been reproduced from the OS map by permission of OS on behalf of The controller of Her Majesty's Stationery Office. ©Crown Copyright Ordnance Survey. National Grid Electricity - 100024241 National Grid Gas -100024886

Aerial Photo

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Esri, HERE, DeLorme, TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Reasons for Selection

- [x] Local Community
- [x] Road Network
- [ ] National Cycle Route
- [ ] Local Cycle Route
- [x] Public Right of Way
- [ ] Landscape Designation
- [ ] Heritage Asset
- [ ] Promoted Viewpoint
- [ ] Trig Point

Notes on Viewpoint Location

Grid Reference	585206, 237622 (52.006131, 0.696933)
Approx Elevation	76m AOD
General Direction of View	SW
Approx. Distance to the Proposed GSP Substation	690m
Time / Date	10.30 / 4th November 2021
Weather / Visibility	Overcast / Good
Camera	Canon EOS 6D, Canon EF 50 mm f/1.8 fixed focal lens

This viewpoint is representative of views experienced by scattered local community, people using the local road network to the west of Great Henny and users of the local public right of way network. Users of the PRoW and scattered local community are of a **high** susceptibility to the proposed GSP substation.

Description of Visual Baseline

The foreground of the view comprises an arable field with a rising landform which continues into the mid-ground. The properties along Watery Lane are visible to the right of the view. The rising landform foreshortens the view to the south east, seen to the left of the view. Waldegrave Wood and Butler's Wood form the background to the centre and right of the view. There is an existing low voltage overhead line crossing the field in the centre of the view. Whilst the colour tone of the vegetation would change in the summer months, and its screening effects increase, the components of the view would remain largely unchanged. Seasonal variation is therefore anticipated to be limited.

Value of View - **Medium**

Supplementary Context Photos

View westwards from public right of way approximately 330m south of the viewpoint

View south-east along footpath

Photograph of existing landscape from viewpoint (90 Degree)

Description of Effects

Construction Year

It is anticipated that receptors would have very limited views of the short term construction activities associated with the proposed GSP substation and single circuit CSE due to rising landform obscuring much of the views to the site from this location. Only taller equipment used may be visible above the landform and vegetation. The works would be temporary, short-term and reversible resulting in a **negligible** magnitude of change in the view.

Operation - Year 1

The proposed GSP substation and single circuit CSE would not be visible from this location. It is anticipated that there would be **no change** in the view.

Operation - Year 15

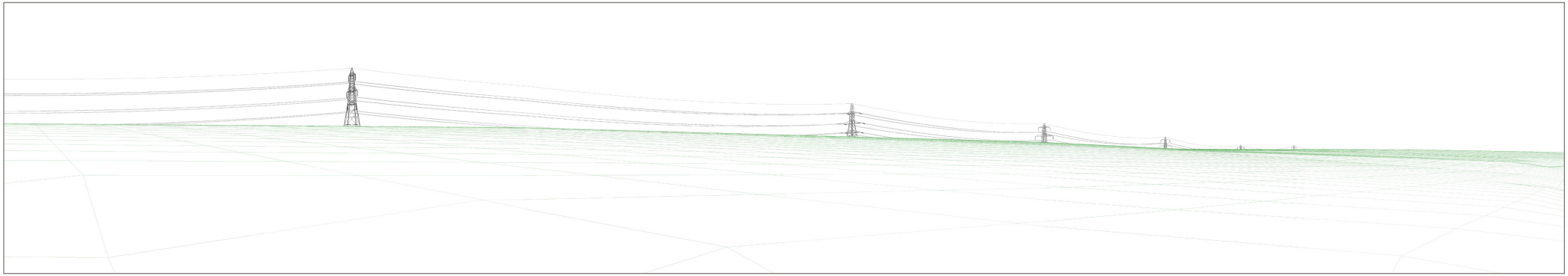
The proposed GSP substation and single circuit CSE would not be visible from this location. It is anticipated that there would be **no change** in the view.

Accompanying Works

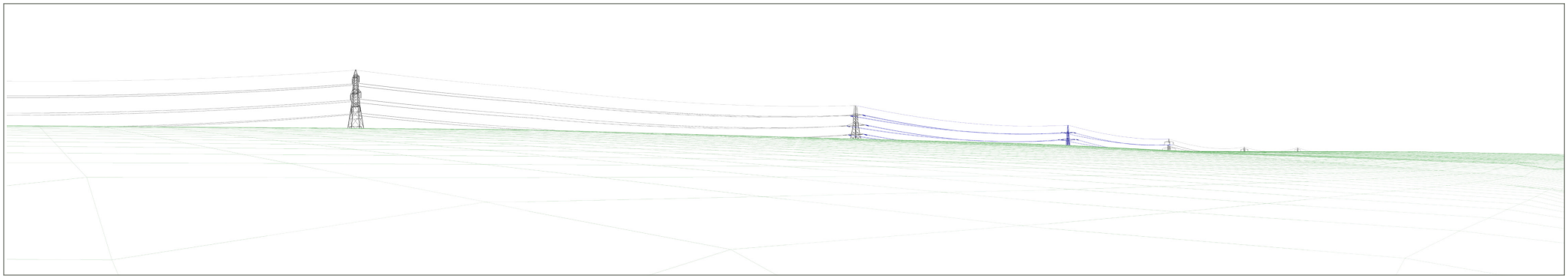
During construction, up to two temporary pylons would be required to divert the 400kV overhead line. These would be present for up to a year. Movement associated with construction activities and vehicles may be glimpsed briefly and intermittently whilst the existing pylon is replace with the diversion route, but mainly screened by vegetation. Reconductoring works may be perceptible but would be a very small element within the view. Construction works associated with the 132kV UGC or 132kV CSE platform pylon would not be visible from this viewpoint. Overall, construction activities associated with the accompanying works would be temporary, short-term and reversible resulting in a **small** magnitude of change in the view.

In operation, one pylon (4YL081), will be removed and replaced with a new pylon. From this viewpoint, the change would not be noticeable due to screening by vegetation. The new 132kV CSE platform pylon would not be visible from this viewpoint, screened by landform. The magnitude of change as a result of the accompanying works would be **negligible**. As the proposed GSP substation would not be visible in operation, there is no combined effect. The overall result would remain a **negligible** magnitude of visual change in operation in the long term.

Wireframe of the existing 400kV overhead line from the viewpoint (90 Degree)

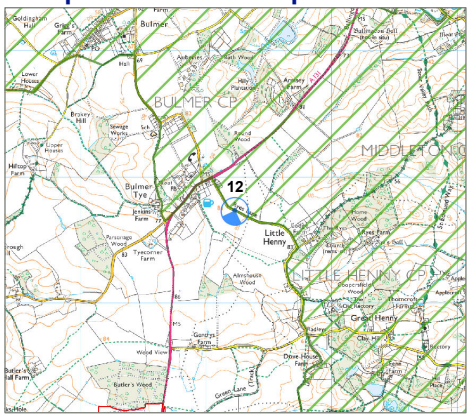


Wireframe of the proposed GSP substation (proposed elements shown in red) and accompanying works (proposed elements shown in blue) (90 Degree)

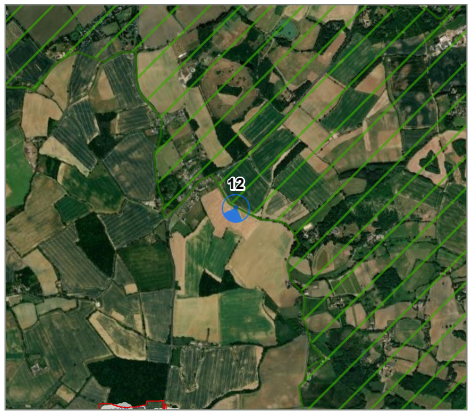


VIEWPOINT 12: VIEW FROM THE PAINTERS' TRAIL BETWEEN BULMER TYE AND LITTLE HENNY

Viewpoint Location Map



Aerial Photo



Reasons for Selection

- [x] Local Community
- [x] Road Network
- [ ] National Cycle Route
- [x] Local Cycle Route
- [ ] Public Right of Way
- [ ] Landscape Designation
- [ ] Heritage Asset
- [ ] Promoted Viewpoint
- [ ] Trig Point

Notes on Viewpoint Location

Grid Reference	585229 , 238734 (52.016108 , 0.697864)
Approx Elevation	86m AOD
General Direction of View	S
Approx. Distance to the Proposed GSP Substation	1640m
Time / Date	12.03 / 21st April 2021
Weather / Visibility	Clear / Good
Camera	Canon EOS 6D, Canon EF 50 mm f/1.8 fixed focal lens

This viewpoint is representative of views experienced by people living and moving between Bulmer Tye and Little Henny and people using The Painters' Trail cycle route. Residents and users of the cycle route are of a **high** susceptibility to the proposed GSP substation.

Description of Visual Baseline

The foreground of the view comprises a large scale, unenclosed, flat arable field. Occasional isolated field trees can be seen across the mid-ground of the view with a large block of woodland occupying the centre middle ground. Scattered dwellings and farm infrastructure can be seen to the mid to background of the view. The existing 400kV OHL is visible on the distant skyline for much of the view where it can be seen above the tree line. The existing 132kV OHL is visible on the left-hand side of the view. Whilst the colour tone of the vegetation would change in the summer months, and its screening effects increase, the components of the view would remain largely unchanged. Seasonal variation is therefore anticipated to be limited.

Value of View - **Medium**

Supplementary Context Photos

View north-west along Ryes Lane towards residential properties at Bulmer Tye.

View south-east towards Pittfield Green Cottages.

Photograph of existing landscape from viewpoint (90 Degree)

Description of Effects

Construction Year

It is anticipated that receptors would have no view of the short term construction activities associated with the proposed GSP substation single circuit CSE, with the exception of high level crane working, due to mature tree cover at Almshouse Wood and Butler's Wood fully obscuring the location. The works would be temporary, short-term and reversible resulting in a **negligible** magnitude of change in the view.

Operation - Year 1

The proposed GSP substation single circuit CSE would not be visible from this location. It is anticipated that there would be **no change** in the view.

Operation - Year 15

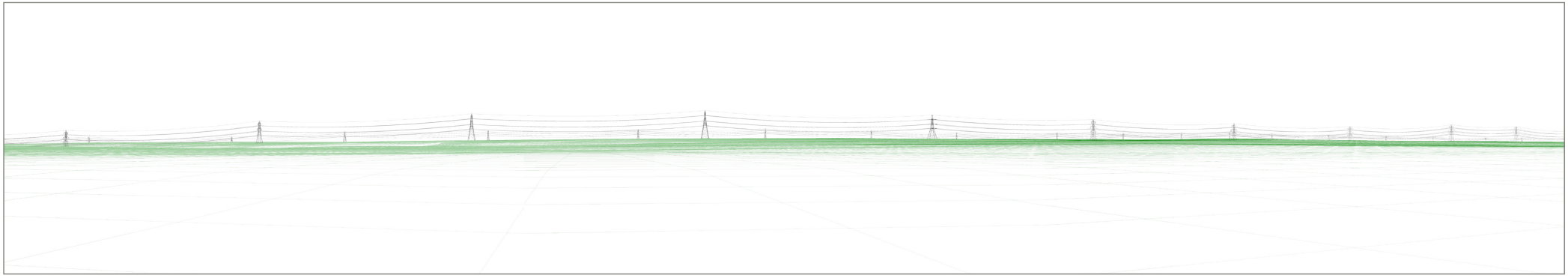
The proposed GSP substation single circuit CSE would not be visible from this location. It is anticipated that there would be **no change** in the view.

Accompanying Works

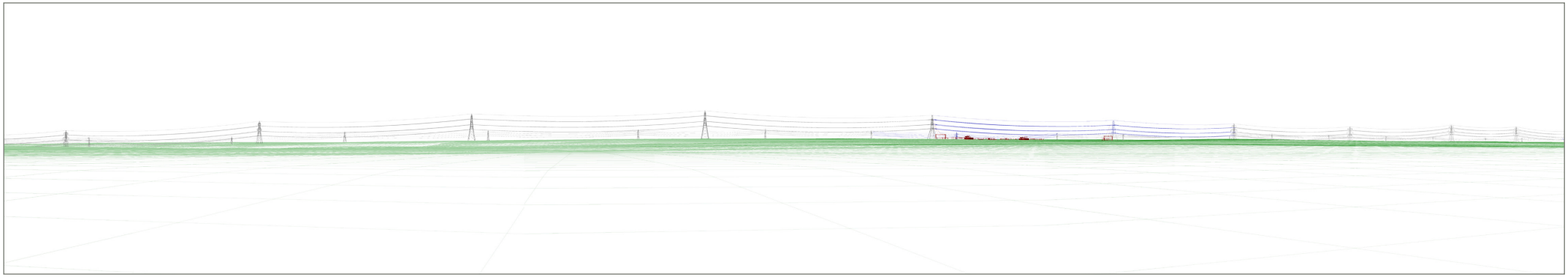
During construction, up to two temporary pylons would be required to divert the 400kV overhead line. These would be present for up to a year. Movement associated with construction activities and vehicles may be glimpsed briefly and intermittently whilst the existing pylon is replace with the diversion route, but mainly screened by vegetation. Reconductoring works may be perceptible but would be a very small element within the view. Construction works associated with the 132kV UGC or 132kV CSE platform pylon would not be visible from this viewpoint. Overall, construction activities associated with the accompanying works would be temporary, short-term and reversible resulting in a **small** magnitude of change in the view.

In operation, one pylon (4YL081), will be removed and replaced with a new pylon. From this viewpoint, the change would not be noticeable due to screening by vegetation. The new 132kV CSE platform pylon would not be visible from this viewpoint. The magnitude of change as a result of the accompanying works would be **negligible**. As the proposed GSP substation would not be visible in operation, there is no combined effect. The overall result would remain a **negligible** magnitude of visual change in operation in the long term.

Wireframe of the existing 400kV overhead line from the viewpoint (90 Degree)

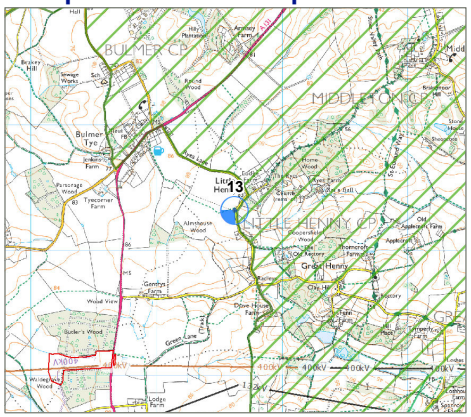


Wireframe of the proposed GSP substation (proposed elements shown in red) and accompanying works (proposed elements shown in blue) (90 Degree)



VIEWPOINT 13: VIEW FROM THE PAINTERS' TRAIL TO THE SOUTH OF LITTLE HENNY

Viewpoint Location Map



Aerial Photo

Reasons for Selection

- [x] Local Community
- [x] Road Network
- [ ] National Cycle Route
- [x] Local Cycle Route
- [x] Public Right of Way
- [ ] Landscape Designation
- [ ] Heritage Asset
- [ ] Promoted Viewpoint
- [ ] Trig Point

Notes on Viewpoint Location

Grid Reference	585623 , 238320 (52.012255 , 0.703375)
Approx Elevation	81m AOD
General Direction of View	SW
Approx. Distance to the Proposed GSP Substation	1480m
Time / Date	12.20 / 21st April 2021
Weather / Visibility	Clear / Good
Camera	Canon EOS 6D, Canon EF 50 mm f/1.8 fixed focal lens

This viewpoint is representative of views experienced by people living and moving around the more scattered community of Little Henny and people using The Painters' Trail cycle route and the public right of way network. Residents and users of the cycle route and PRoW are of a **high** susceptibility to the proposed GSP substation.

Description of Visual Baseline

The foreground of the view comprises a largely flat arable field bounded by an irrigation ditch and unnamed road on the left-hand side of the view. To the mid-ground there is a farmhouse dwellings and additional fields divided by hedgerows and trees. The existing 132kV OHL can be seen on the skyline along with a low voltage OHL mounted on wooden poles. There are small blocks of woodland in the centre and right-hand side of the view. The background of the view is largely formed by woodland with the existing 400kV OHL visible above it on the skyline. Whilst the colour tone of the vegetation would change in the summer months, and its screening effects increase, the components of the view would remain largely unchanged. Seasonal variation is therefore anticipated to be limited.

Value of View - **Medium**

Supplementary Context Photos

View south along road towards Pittfield Green Cottages.

View north-west towards residential properties at Bulmer Tye.

Photograph of existing landscape from viewpoint (90 Degree)

Description of Effects

Construction Year

It is anticipated that receptors may have glimpsed, long-ranging views of the short term construction activities associated with the proposed GSP substation, partially screened by intervening vegetation. Construction of the single circuit CSE would not be visible, screened by vegetation at Butler's Wood. The works would be temporary, short-term and reversible resulting in a **small** magnitude of change in the view.

Operation - Year 1

The proposed GSP substation would be visible as a very small part of the view, enclosed on either side by Butler's Wood and Waldegrave Wood and backclothed by vegetation. Some of the elements associated with the proposed GSP substation close to the A131 maybe visible, with views filtered by intervening vegetation. The single circuit CSE would be visible from this viewpoint, screened by Butler's Wood. It is anticipated that the magnitude of change in the view would be **small**.

Operation - Year 15

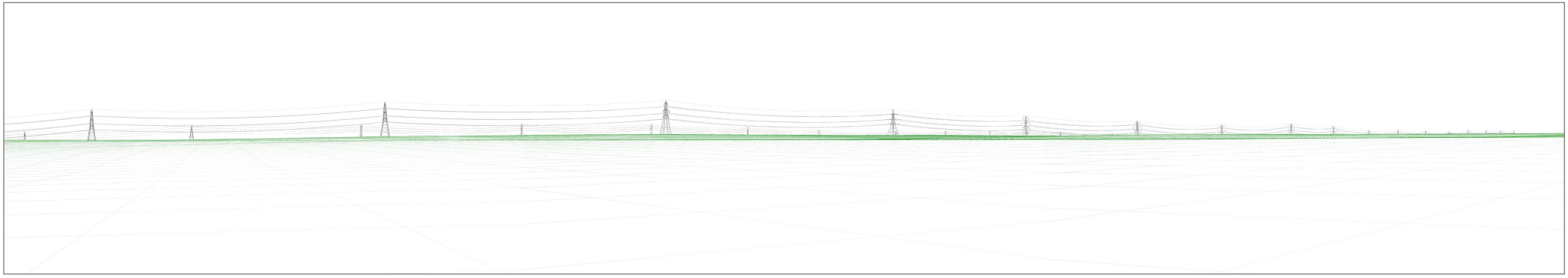
Once embedded mitigation measures begin to mature at year 15, it is anticipated that views of the proposed GSP substation would by screened, the taller elements being backclothed by vegetation. It is anticipated that the magnitude of change in the view would be **negligible**.

Accompanying Works

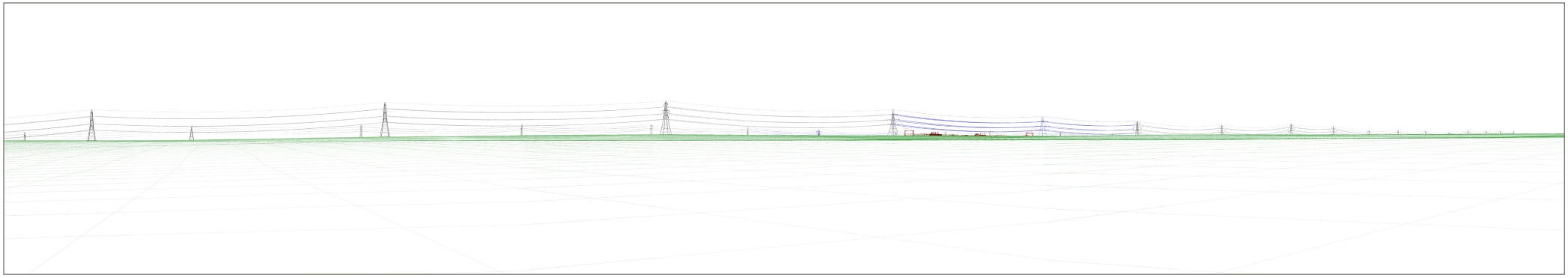
During construction, up to two temporary pylons would be required to divert the 400kV overhead line. These would be present for up to a year. The temporary pylons may be visible above vegetation, but within the extent of the existing overhead line. Reconductoring works may be perceptible but would be a very small element within the view. Construction works associated with the 132kV UGC or 132kV CSE platform pylon would not be visible from this viewpoint. Overall, construction activities associated with the accompanying works would be temporary, short-term and reversible resulting in a **negligible** magnitude of change in the view.

In operation, one pylon (4YL081), will be removed and replaced with a new pylon. From this viewpoint, the change would not be noticeable due to screening by vegetation. The new 132kV CSE platform pylon would not be visible from this viewpoint. The magnitude of change as a result of the accompanying works would be **negligible**. This combined with the negligible magnitude of change arising from the proposed GSP substation is anticipated to result in an overall **negligible** magnitude of visual change in operation in the long term.

Wireframe of the existing 400kV overhead line from the viewpoint (90 Degree)



Wireframe of the proposed GSP substation (proposed elements shown in red) and accompanying works (proposed elements shown in blue) (90 Degree)



Annex 3: Figures

Figure A2.1: LVA Study Area, Landscape Designations and Tree Cover

Figure A2.2: Landform and Drainage

Figure A2.3: Settlements, Infrastructure and Viewpoints

Figure A2.4: County Scale Landscape Character

Figure A2.5: Essex County and Braintree District Landscape Character

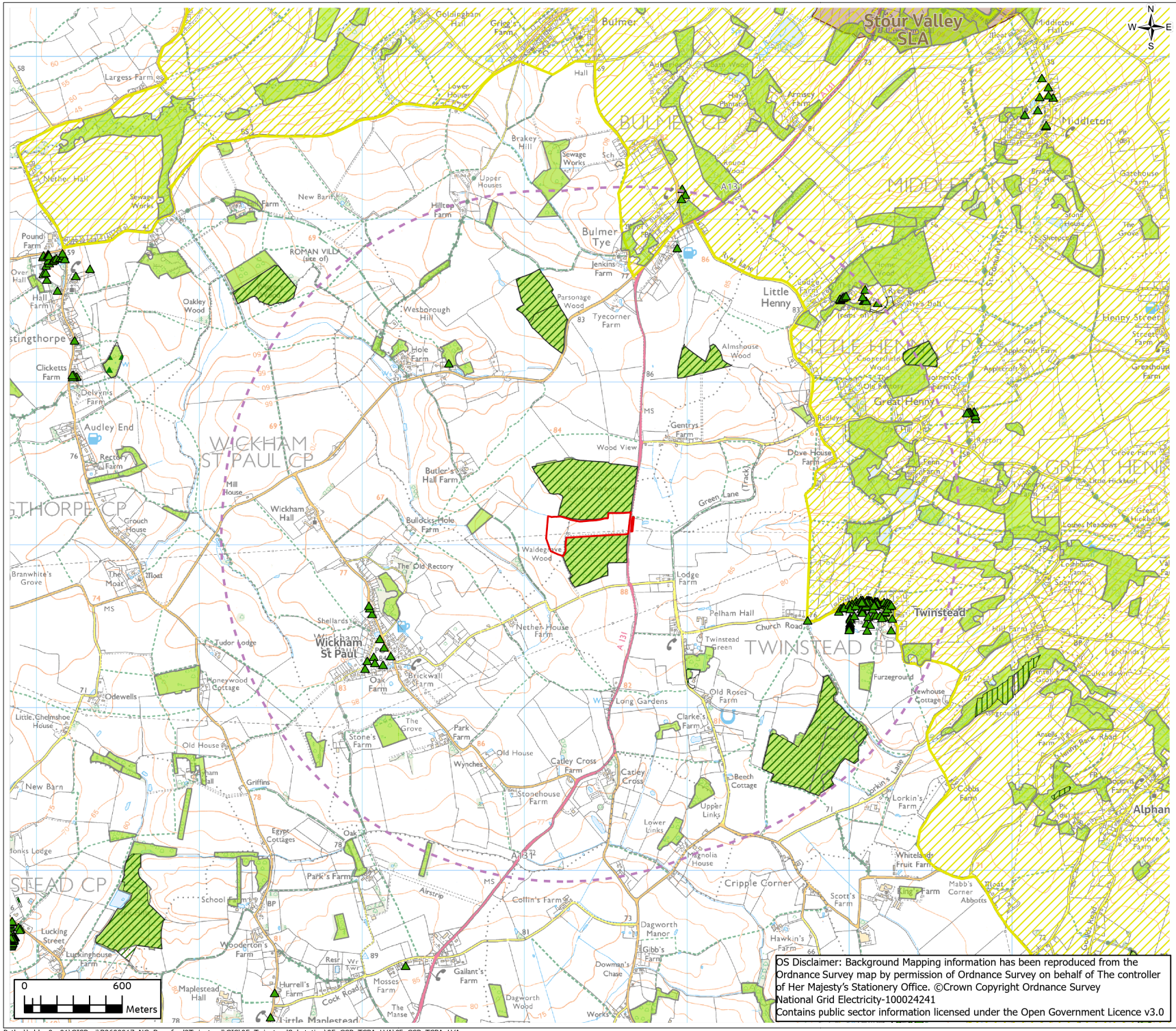
Figure A2.6: Local Landscape Character

Figure A2.7: Zone of Theoretical Visibility (ZTV)

Figure A2.8a: Viewpoint 07 Photomontage (Winter Year 1)

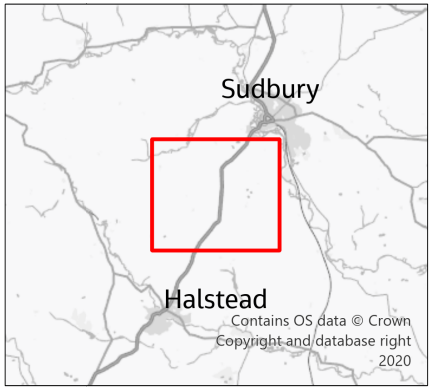
Figure A2.8b: Viewpoint 07 Photomontage (Summer Year 15)

FIGURE A2.1



Legend

- Site Boundary
- Study Area (2km)
- Stour Valley Project Area
- Special Landscape Areas (SLA)
- Tree Preservation Order Points
- Tree Preservation Order Polygons
- Potential Ancient Woodland (PoAW)
- Ancient Woodland
- National Foresty Inventory



Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	04/2022	Draft	PM	RG	RC	RuC

Jacobs

160 Dundee St, Edinburgh, EH11 1DQ, UK.
Tel: +44(0)131 659 1500
www.jacobs.com

Client: nationalgrid

Project: PROPOSED GSP SUBSTATION OFF THE A131

Drawing Title: LVA Study Area, Landscape Designations and Tree Cover

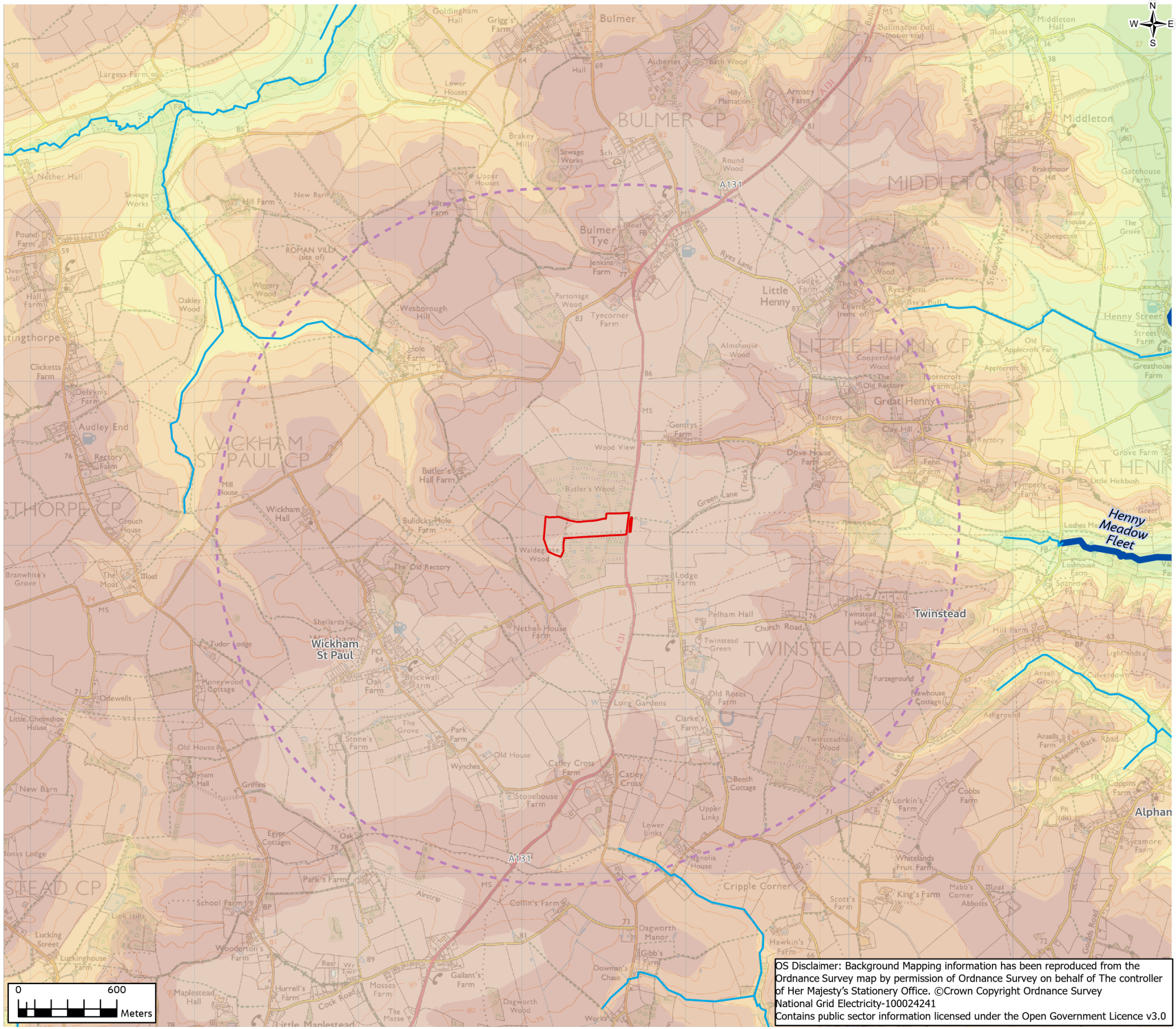
Page 1 of 1

Drawing Status: Draft

Scale @ A3	1:22,500	DO NOT SCALE
Jacobs No.	B2416601	
Client No.		
Drawing No.	05_GSP_TCPA_LVA	

Path: \\gblon0vs01\GISProj\B2600017_NG_Bramford2Twinstead\GIS\05_TwinsteadSubstation\05_GSP_TCPA_LVA\05_GSP_TCPA_LVA.aprx

FIGURE A2.2



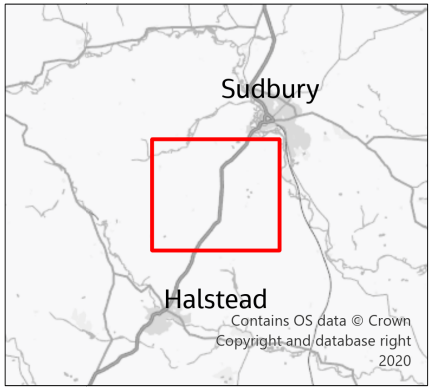
Legend

- Site Boundary
- Study Area (2km)
- Main Rivers
- Non-Main Rivers and Watercourses

Elevation (m)

Value

- 0 - 10
- 10 - 20
- 20 - 30
- 30 - 40
- 40 - 50
- 50 - 60
- 60 - 70
- 70 - 80
- 80 - 90
- 90 - 100
- 100 - 110
- 110 - 120
- 120 +



OS Disclaimer: Background Mapping information has been reproduced from the Ordnance Survey map by permission of Ordnance Survey on behalf of The controller of Her Majesty's Stationery Office. ©Crown Copyright Ordnance Survey
National Grid Electricity-100024241
Contains public sector information licensed under the Open Government Licence v3.0

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	04/2022	Draft	PM	RG	RC	RuC

Jacobs

160 Dundee St, Edinburgh, EH11 1DQ, UK.
Tel: +44(0)131 659 1500
www.jacobs.com

Client: nationalgrid

Project: PROPOSED GSP SUBSTATION OFF THE A131

Drawing Title: Landform and Watercourses

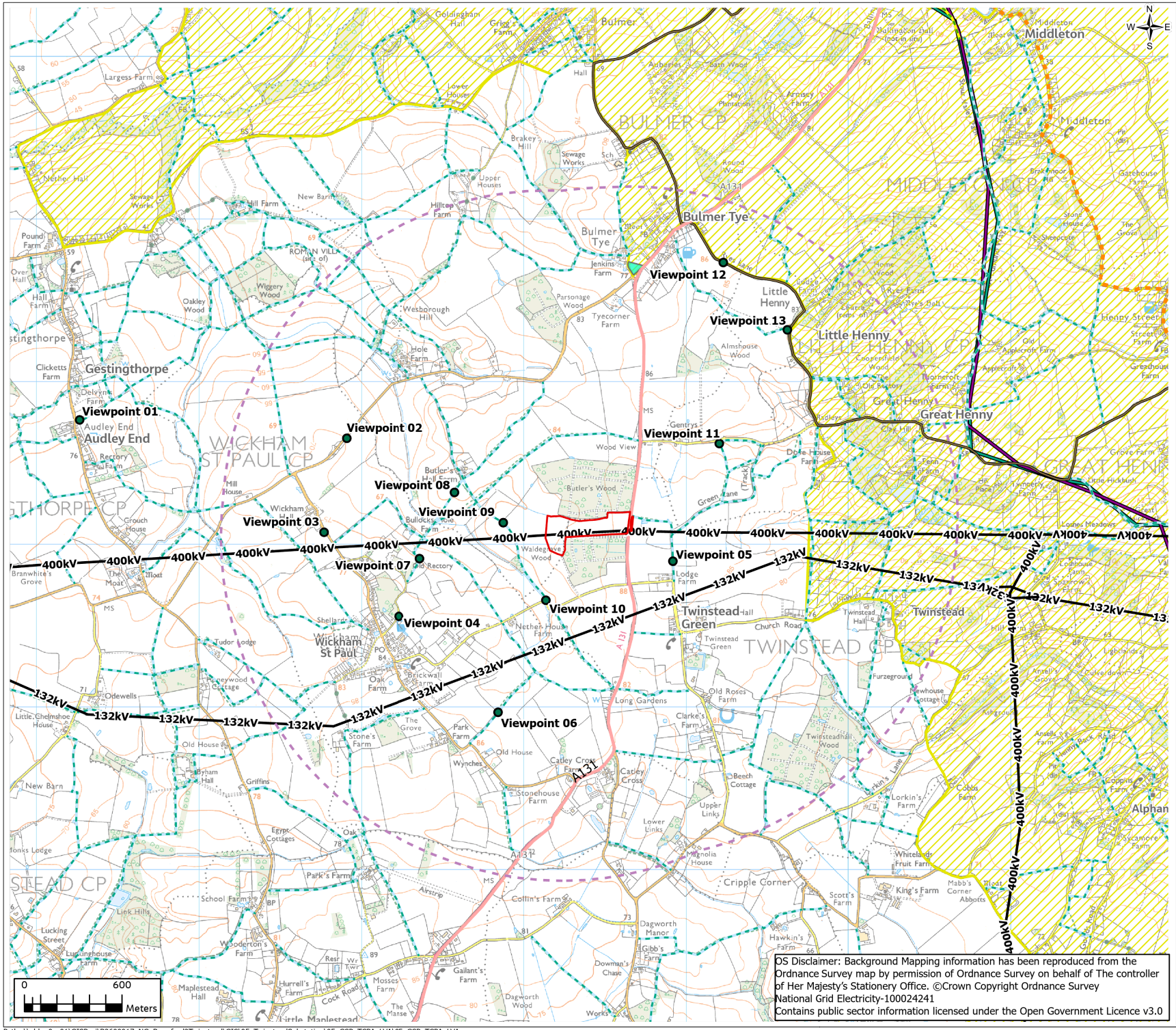
Page 1 of 1

Drawing Status: Draft

Scale @ A3	1:22,500	DO NOT SCALE
Jacobs No.	B2416601	
Client No.		
Drawing No.	05_GSP_TCPA_LVA	

Path: \\gblon0vs01\GISProj\B2600017_NG_Bramford2Twinstead\GIS\05_TwinsteadSubstation\05_GSP_TCPA_LVA\05_GSP_TCPA_LVA.aprx

FIGURE A2.3

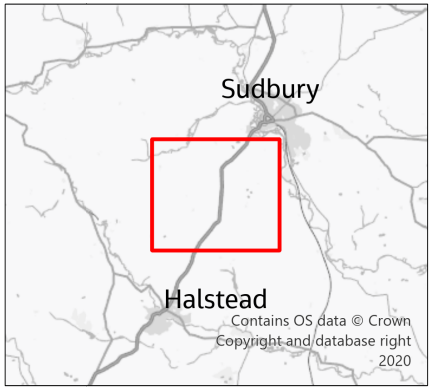


Legend

- Site Boundary
- Study Area (2km)
- Existing Overhead Line
- Railway Line
- Viewpoints (refer to Annnex 2)
- Stour Valley Project Area
- Countryside and Rights of Way Common Land
- Babergh and Mid Suffolk Open Space
- National Cycle Network
- Suffolk Public Rights of Way
- Essex Public Rights of Way

Long Distance Trails

- St Edmunds Way
- Stour Valley Path
- Painters' Trail



Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	04/2022	Draft	PM	RG	RC	RuC

Jacobs

160 Dundee St, Edinburgh, EH11 1DQ, UK.
Tel: +44(0)131 659 1500
www.jacobs.com

Client: nationalgrid

Project: PROPOSED GSP SUBSTATION OFF THE A131

Drawing Title: Settlements, Recreation, Infrastructure and Viewpoints

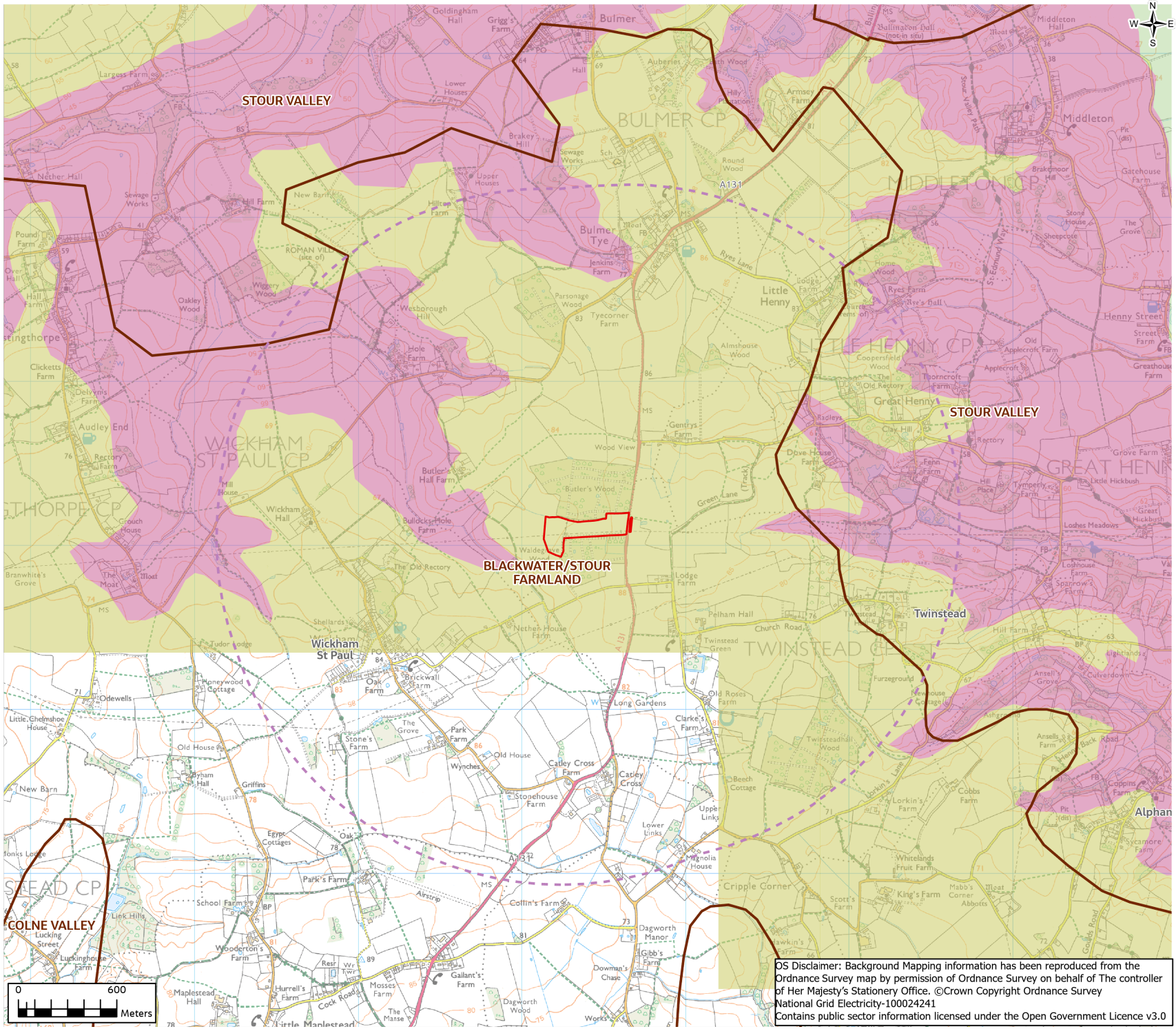
Page 1 of 1

Drawing Status: Draft

Scale @ A3	1:22,500	DO NOT SCALE
Jacobs No.	B2416601	
Client No.		
Drawing No.	05_GSP_TCPA_LVA	

Path: \\gblon0vs01\GISProj\B2600017_NG_Bramford2Twinstead\GIS\05_TwinsteadSubstation\05_GSP_TCPA_LVA\05_GSP_TCPA_LVA.aprx

FIGURE A2.4



Legend

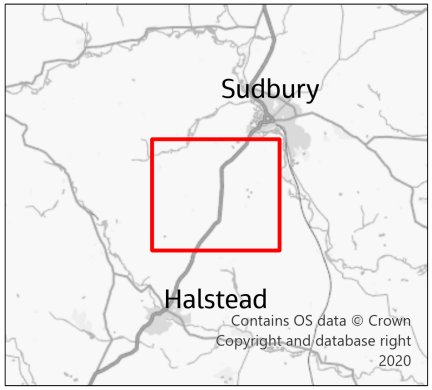
- Site Boundary
- Study Area (2km)

Essex Landscape Character Areas

- Essex Landscape Character Areas

Suffolk Landscape Character Types

- Ancient Rolling Farmlands
- Rolling Valley Farmlands
- Valley Meadowlands



Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	04/2022	Draft	PM	RG	RC	RuC

Jacobs

160 Dundee St, Edinburgh, EH11 1DQ, UK.
Tel: +44(0)131 659 1500
www.jacobs.com

Client: nationalgrid

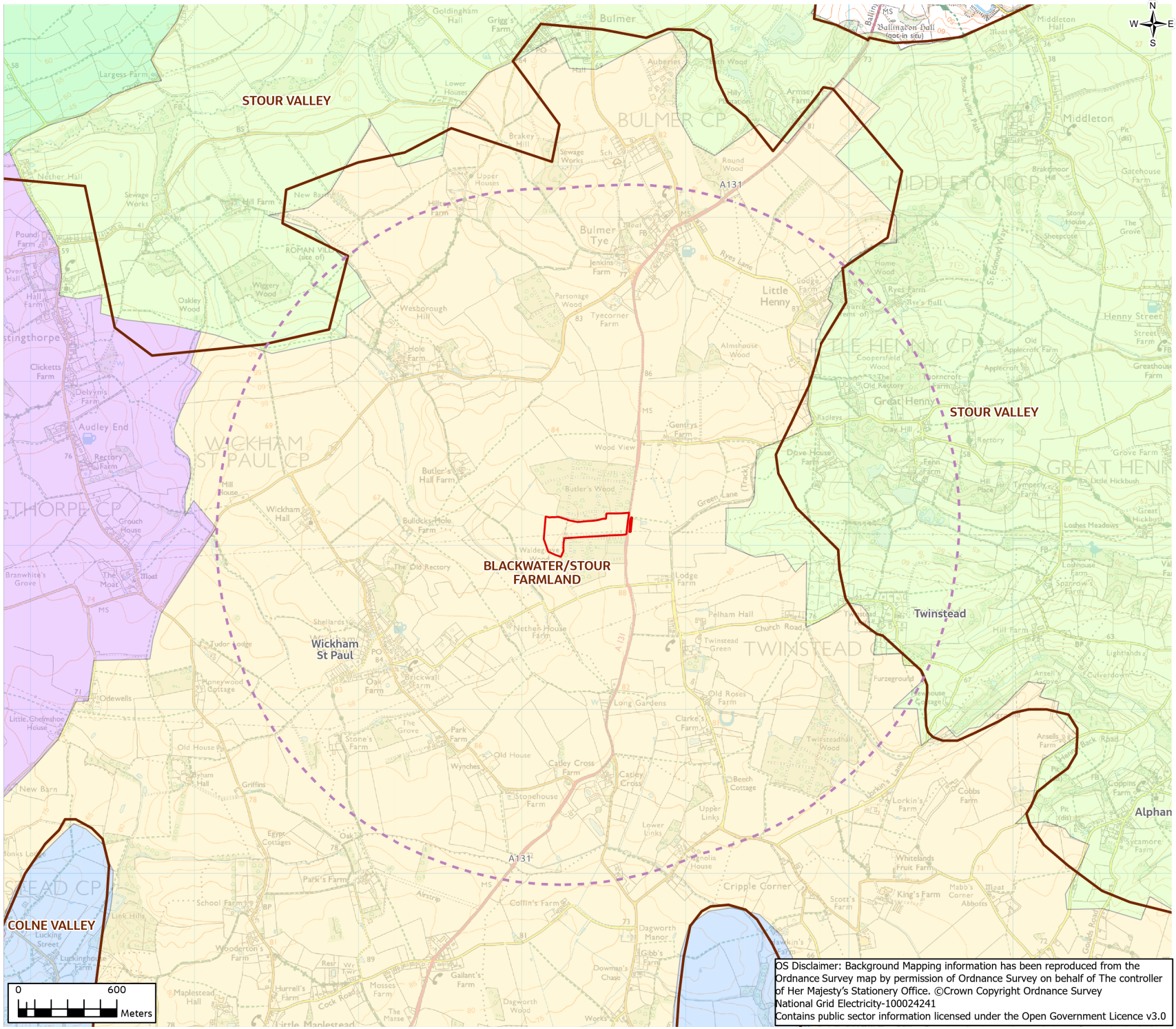
Project: PROPOSED GSP SUBSTATION OFF THE A131

Drawing Title: County Scale Landscape Character

Page 1 of 1

Drawing Status	Draft	
Scale @ A3	1:22,500	DO NOT SCALE
Jacobs No.	B2416601	
Client No.		
Drawing No.	05_GSP_TCPA_LVA	

Path: \\gblon0vs01\GISProj\B2600017_NG_Bramford2Twinstead\GIS\05_TwinsteadSubstation\05_GSP_TCPA_LVA\05_GSP_TCPA_LVA.aprx



OS Disclaimer: Background Mapping information has been reproduced from the Ordnance Survey map by permission of Ordnance Survey on behalf of The controller of Her Majesty's Stationery Office. ©Crown Copyright Ordnance Survey
National Grid Electricity-100024241
Contains public sector information licensed under the Open Government Licence v3.0

FIGURE A2.5

Legend

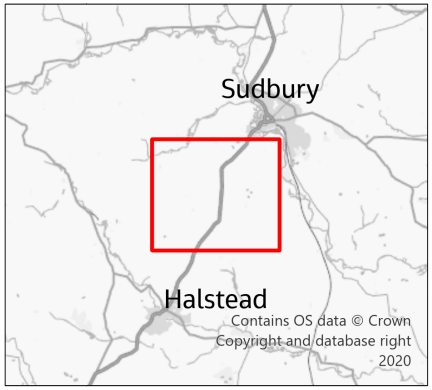
- Site Boundary
- Study Area (2km)

Essex Landscape Character Areas

- Essex Landscape Character Areas

Braintree DC Landscape Character Areas

- Belchamp Farmland Plateau
- Colne River Valley
- Stour River Valley
- Wickham Farmland Plateau
- Yeldham Farmland Plateau



Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	04/2022	Draft	PM	RG	RC	RuC

Jacobs
160 Dundee St, Edinburgh, EH11 1DQ, UK.
Tel: +44(0)131 659 1500
www.jacobs.com

Client: nationalgrid

Project: PROPOSED GSP SUBSTATION OFF THE A131

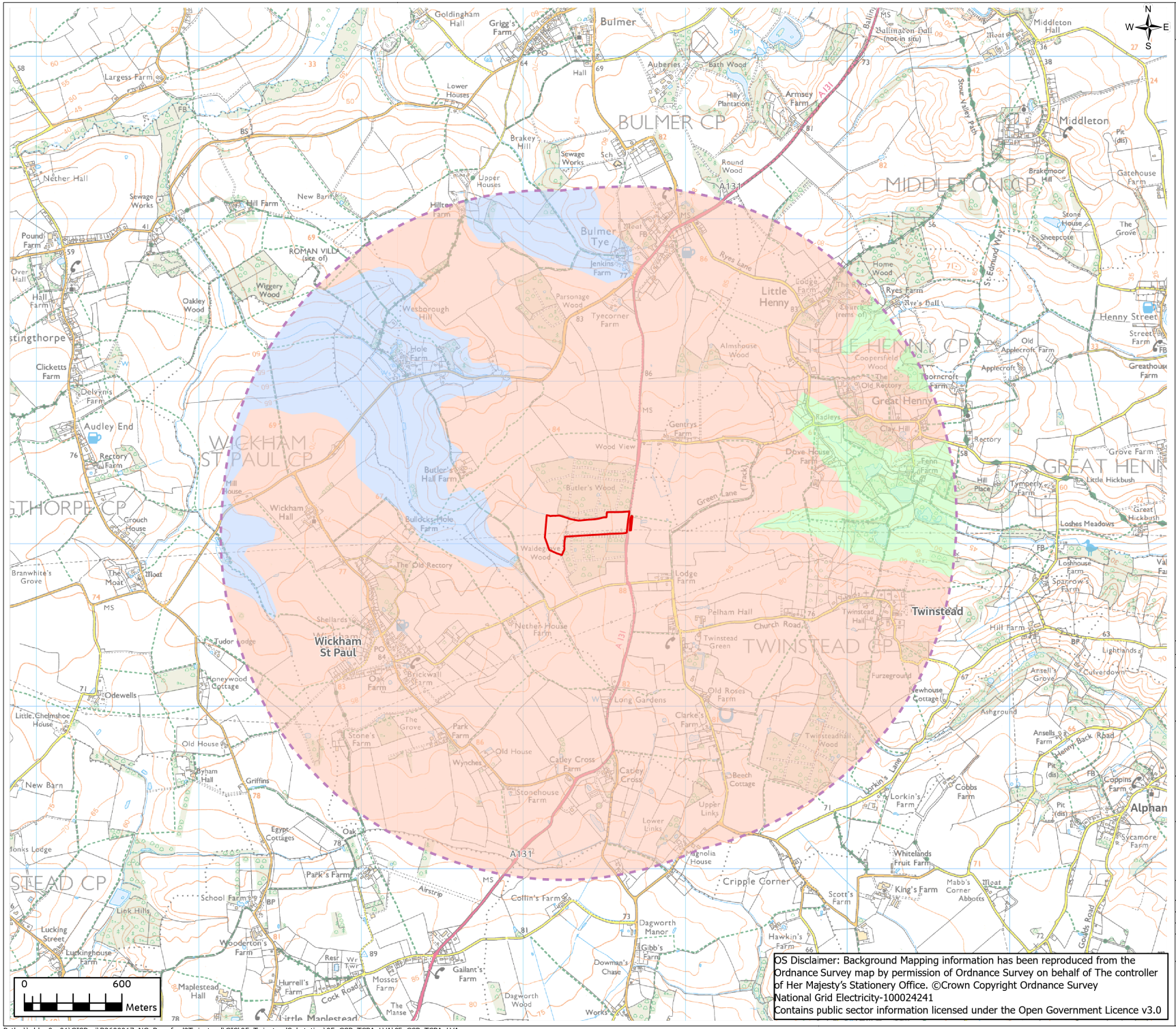
Drawing Title: Essex County and Braintree District Landscape Character

Page 1 of 1

Drawing Status	Draft	
Scale @ A3	1:22,500	DO NOT SCALE
Jacobs No.	B2416601	
Client No.		
Drawing No.	05_GSP_TCPA_LVA	

Path: \\gblon0vs01\GISProj\B2600017_NG_Bramford2Twinstead\GIS\05_TwinsteadSubstation\05_GSP_TCPA_LVA\05_GSP_TCPA_LVA.aprx

FIGURE A2.6

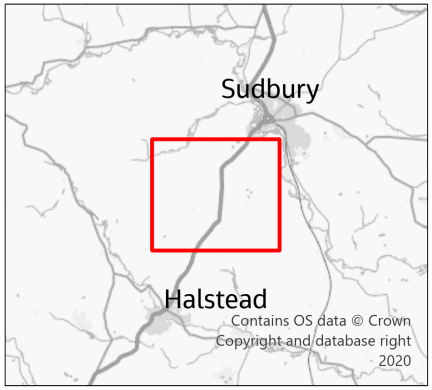


Legend

- Site Boundary
- Study Area (2km)

Local Landscape Character Areas (LLCAs)

- Belchamp Brook & Tributaries LLCA
- Stour Valley Rolling Farmlands LLCA
- Wickham Farmland Plateau LLCA



Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	04/2022	Draft	PM	RG	RC	RuC

Jacobs

160 Dundee St, Edinburgh, EH11 1DQ, UK.
Tel: +44(0)131 659 1500
www.jacobs.com

Client: nationalgrid

Project: PROPOSED GSP SUBSTATION OFF THE A131

Drawing Title: Local Landscape Character Areas

Page 1 of 1

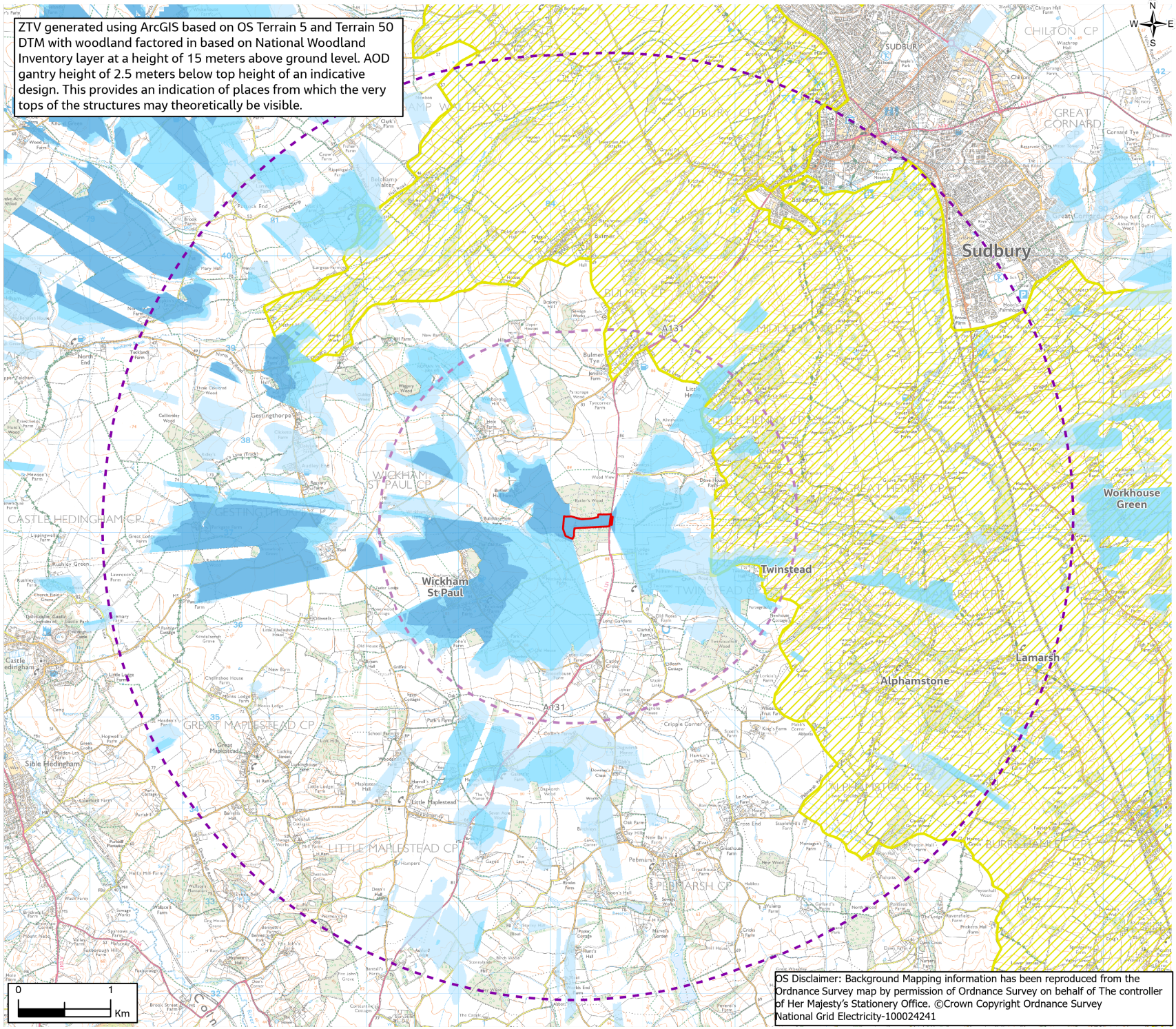
Drawing Status: Draft

Scale @ A3	1:22,500	DO NOT SCALE
Jacobs No.	B2416601	
Client No.		
Drawing No.	05_GSP_TCPA_LVA	

Path: \\gblon0vs01\GISProj\B2600017_NG_Bramford2Twinstead\GIS\05_TwinsteadSubstation\05_GSP_TCPA_LVA\05_GSP_TCPA_LVA.aprx

FIGURE A2.7

ZTV generated using ArcGIS based on OS Terrain 5 and Terrain 50 DTM with woodland factored in based on National Woodland Inventory layer at a height of 15 meters above ground level. AOD gantry height of 2.5 meters below top height of an indicative design. This provides an indication of places from which the very tops of the structures may theoretically be visible.



OS Disclaimer: Background Mapping information has been reproduced from the Ordnance Survey map by permission of Ordnance Survey on behalf of The controller of Her Majesty's Stationery Office. ©Crown Copyright Ordnance Survey National Grid Electricity-100024241

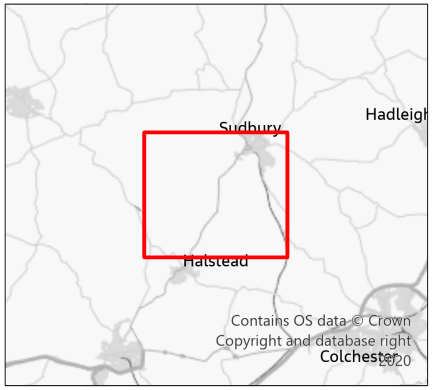
Legend

- Site Boundary
- Study Area (2km)
- Distance Marker (5km)

Viewshed Proposed GSP Substation

- View to the base of the proposed GSP Substation
- View to the mid height of the gantries in the proposed GSP Substation
- View of the top of the gantries in the proposed GSP Substation
- Stour Valley Project Area

Note: The indicative ZTV's illustrated on this figure are based on the proposed gantries associated with the proposed GSP substation. This is because the gantries are the tallest components. The locations and heights are based on plans and elevations provided by engineers.



Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	04/2022	Draft	PM	RG	RC	RuC

Jacobs
160 Dundee St, Edinburgh, EH11 1DQ, UK.
Tel: +44(0)131 659 1500
www.jacobs.com

Client: nationalgrid

Project: PROPOSED GSP SUBSTATION OFF THE A131

Drawing Title: Zone of Theoretical Visibility

Page 1 of 1

Drawing Status: Draft

Scale @ A3	1:40,000	DO NOT SCALE
Jacobs No.	B2416601	
Client No.		
Drawing No.	05_GSP_TCPA_LVA	

Path: \\gblon0vs01\GISProj\B2600017_NG_Bramford2Twinstead\GIS\05_TwinsteadSubstation\05_GSP_TCPA_LVA\05_GSP_TCPA_LVA.aprx

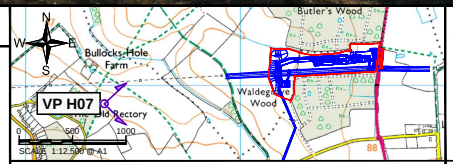
EXISTING - WINTER BASELINE

PHOTOMONTAGE - WINTER YEAR 1 OF OPERATION

VIEWPOINT 07: View from Rectory Lane on the edge of Wickham St Paul.

Visualisation type: Type 3 (in accordance with Landscape Institute Visual Representation of Development Proposals Technical Guidance Note 06/19)
Date and time of photograph: 17/03/22 at 15.31
Lighting conditions: Clear, sunny
OS grid reference: 583365.760, 236914.804
Viewpoint ground elevation: 73.567 m
Projection: Cylindrical
Sheet size: A1
Enlargement factor: 96% @ A1

Camera type: Canon EOS 5D MARK III
Camera lens size: 50 mm
Camera height above ground level: 1.6 m
Aperture: F/3.2
ISO: 100
Shutter speed: 1/2000
Horizontal field of view: 90°
Vertical field of view: 27°
Bearing to centre of panoramic: 90°
Distance to nearest project structure: 775 m



LOCATION PLAN

NOTES:
1) This photomontage is for illustrative purposes only.
2) Refer to Figure A2.3 for viewpoint location information.
3) If using this photomontage illustration to judge scale, view at A1 sheet size. The A1 sheet should be viewed centrally at a comfortable arm's length.
4) If using this photomontage illustration for landscape context, the figure may be viewed at A3 sheet size
5) If viewing these figures online, images will be low-resolution and therefore should only be used for information purposes.

Project	PROPOSED GSP SUBSTATION OFF THE A131
Drawing Title	LANDSCAPE AND VISUAL APPRAISAL - FIGURE A2.8a PHOTOMONTAGE VIEWPOINT 07 - WINTER YEAR 1
Jacobs No	B2416601
Client No	BT-NG-020627-560-0032
Drawing Number	B2416601_B2T_Photomontage_Viewpoint_07_A
Rev	0
Scale	As shown
	DO NOT SCALE
Designer	Jacobs
Client	nationalgrid

Rev.	Rev. date	Purpose of revision	Drawn	Checkd	Rev'd	Appr'd
0	04/2022	FINAL ISSUE	JP	RL	RL	RC

Drawing Status: FOR PLANNING

Cottons Centre, Cottons Lane, London, SE1 2QG, UK.
Tel: +44 (0)20 3980 2000
www.jacobs.com

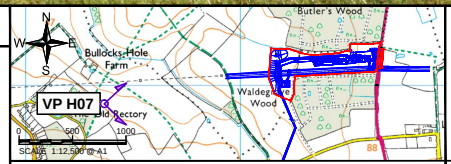
EXISTING - SUMMER BASELINE

PHOTOMONTAGE - SUMMER YEAR 15 OF OPERATION

VIEWPOINT 07: View from Rectory Lane on the edge of Wickham St Paul.

Visualisation type: Type 3 (in accordance with Landscape Institute Visual Representation of Development Proposals Technical Guidance Note 06/19)
Date and time of photograph: 28/07/21 at 13.26
Lighting conditions: Cloudy
OS grid reference: 583365.529, 236915.598
Viewpoint ground elevation: 73.424 m
Projection: Cylindrical
Sheet size: A1
Enlargement factor: 96% @ A1

Camera type: Canon EOS 5D MARK III
Camera lens size: 50 mm
Camera height above ground level: 1.6 m
Aperture: F/5.6
ISO: 200
Shutter speed: 1/1250
Horizontal field of view: 90°
Vertical field of view: 27°
Bearing to centre of panoramic: 90°
Distance to nearest project structure: 775 m



LOCATION PLAN

OS Disclaimer: Background Mapping information has been reproduced from the Ordnance Survey map by permission of Ordnance Survey on behalf of The controller of Her Majesty's Stationery Office. © Crown Copyright Ordnance Survey National Grid Electricity-100031673

NOTES:
1) This photomontage is for illustrative purposes only.
2) Refer to Figure A2.3 for viewpoint location information.
3) If using this photomontage illustration to judge scale, view at A1 sheet size. The A1 sheet should be viewed centrally at a comfortable arm's length.
4) If using this photomontage illustration for landscape context, the figure may be viewed at A3 sheet size
5) If viewing these figures online, images will be low-resolution and therefore should only be used for information purposes.

Project: PROPOSED GSP SUBSTATION OFF THE A131

Drawing Title: LANDSCAPE AND VISUAL APPRAISAL - FIGURE A2.8b PHOTOMONTAGE VIEWPOINT 07 - SUMMER YEAR 15

Rev.	Rev. date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	04/2022	FINAL ISSUE	JP	RL	RL	RC

Drawing Status: FOR PLANNING

Jacobs No: B2416601
Client No: BT-NG-020627-560-0032

Drawing Number: B2416601_B2T_Photomontage_Viewpoint_07_B
Rev: 0

Scale: As shown
DO NOT SCALE

Designer: Jacobs
Cottons Centre, Cottons Lane, London, SE1 2QG, UK.
Tel: +44 (0)20 3980 2000
www.jacobs.com

Client: nationalgrid

National Grid plc
National Grid House,
Warwick Technology Park,
Gallows Hill, Warwick.
CV34 6DA United Kingdom

Registered in England and Wales
No. 4031152
nationalgrid.com