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Bramford to Twinstead 400kV Overhead Line Project

Draft Substation Siting Study

Executive Summary

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1.0 DRAFT SUBSTATION SITING STUDY - EXECUTIVE SUMMARY

Introduction

- 1.1 East Anglia is an area where more power generation is planned. However, the National Grid high-voltage transmission network in the East Anglia region has reached the limit of its capacity and National Grid must reinforce its system to cater for this new generation. National Grid has concluded that constructing a new connection between Bramford and Twinstead would provide an efficient and economical solution to the need for additional system capacity.
- 1.2 A Route Corridor Study (RCS) has been undertaken by environmental consultants TEP, on behalf of National Grid, to identify potential route corridors between an existing substation at Bramford and a tee point on the existing overhead line system in the vicinity of Twinstead. The study identifies four potential corridors and is subject to public consultation.
- 1.3 Corridor 2 would involve removing an existing 132kV overhead line, operated by the Distribution Network Operator EDF, between Burstall and Twinstead and replacing it with a new 400kV overhead line. If the existing 132kV overhead line were to be removed, National Grid would be required to provide a 400/132kV substation, known as a Grid Supply Point (GSP), to enable EDF to maintain supplies to the local electricity distribution network.
- 1.4 Work to date between National Grid and EDF indicates that, in order to provide the necessary capacity and security of supply, the location of the new GSP has to be between Twinstead and Thaxted. Locations close to the existing 400kV and 132kV overhead lines are preferred in order to minimise connections between the lines and the new GSP.
- 1.5 The new 400/132kV GSP would require a footprint of approximately 140m x 150m.
- 1.6 TEP has undertaken an environmental and planning assessment of the feasibility of siting a new GSP between Twinstead and Thaxted. This document provides a summary of the draft report of this study. The draft report has been issued to assist consultees on the Route Corridor Study in understanding better the implications of the Corridor 2 option. Should Corridor 2 be selected, the report will be finalised and be subject to a separate consultation exercise.

2.0 STUDY AREA AND ENVIRONMENTAL CONSTRAINTS

- 2.1 Large transporter vehicles would be needed to bring in the transformers which are a fundamental element of the Grid Supply Point. In September 2009 National Grid commissioned an access study. The study indicated that the area to the west of the A1017 at Castle Hedingham could not be accessed without substantial highway works to allow the delivery of large equipment. The nature of the highway works needed would alter the character of the area. This refined the study area to the area between the A1017 and the A131 near Twinstead.
- 2.2 The study area falls within the administrative boundary of Braintree District Council and Essex County Council. The key environmental constraints identified within the study area that influence potential GSP sites include:

- Special Landscape Area designated in the Braintree District Local Plan;
- Historical sites including Scheduled Monuments and Listed Buildings and three Conservation Areas;
- Settlements including the village of Castle Hedingham and a number of hamlets;
- Areas of flood risk associated with the River Colne; and
- Woodlands.

2.3 Consideration was also given to the topography and landscape character of the area.

3.0 POTENTIAL SITES

3.1 The study identified three potential sites in the area between the A1017 at Castle Hedingham and the A131 near Twinstead. Following further investigation, a site at Rushley Green was rejected because access improvements would have required tree and vegetation loss in a Special Landscape Area and development could have had an impact on a scheduled monument. The remaining sites are listed below:

- **Site A:** At the intersection of the A1017 and the 400kV line north of Colne Valley Farm Park, Castle Hedingham;
- **Site B:** Delvyns Lane, north east of Castle Hedingham; and
- **Site C:** At the intersection of the A131 and the 400kV overhead line close to Butlers Wood, east of Wickham St Paul.

3.2 The sites are illustrated on Figure 1. The characteristics of each of these sites is summarised below.

Site A: North of Colne Valley Farm Park, Castle Hedingham

3.3 This is a vacant site adjacent to the A1017 on the fringes of urban development at Castle Hedingham and adjacent to the existing overhead line to the north of Colne Valley Farm Park.

3.4 The key characteristics and considerations for this site are:

- The River Colne runs to the north of the site, with an associated flood risk zone affecting part of the site;
- The site can be accessed directly from the A1017;
- The site is partly visible from the A1017;
- The site is adjacent to entrance to the tourist attraction at Colne Valley Farm Park;
- The closest residential properties to the site are the properties between Farm Park and Colne Valley Railway and also properties to the west beyond the A1017; and
- The site is within an area designated in the Braintree Local Plan as a Special Landscape Area.

Site B: Delvyns Lane

3.5 This site is adjacent to Ramacre Wood approximately 1.5km to the north east of Castle Hedingham. The site is a field currently used for pasture.

3.6 The key characteristics and considerations for this site are:

- Access to the site would be via the A131 and the B1058 as access from the A1017 is restricted due to negotiability issues in Caste Hedingham. This would require upgrading and improvements on the B1508 which could affect its character;
- Ramacre Wood and mature hedgerows would provide visual screening of the GSP;

- The closest residential property is approximately 300m to the north of the site. There is also a property to the south of the site beyond the B1508. Both properties are listed for their architectural interest; and
- The site is within an area designated in the Braintree Local Plan as a Special Landscape Area.

Site C: Butlers Wood and Waldegrave Wood

3.7 These areas of woodland lie approximately 1km north east of Wickham St Paul. The 400kV overhead line runs between the two woodlands but there is insufficient space for the GSP in between the woodlands immediately underneath the overhead line. Potential sites have been identified to the north and south of the overhead line in the area to the west of the woodlands and also to the north or south of the overhead line to the east of the woodland beyond the A131.

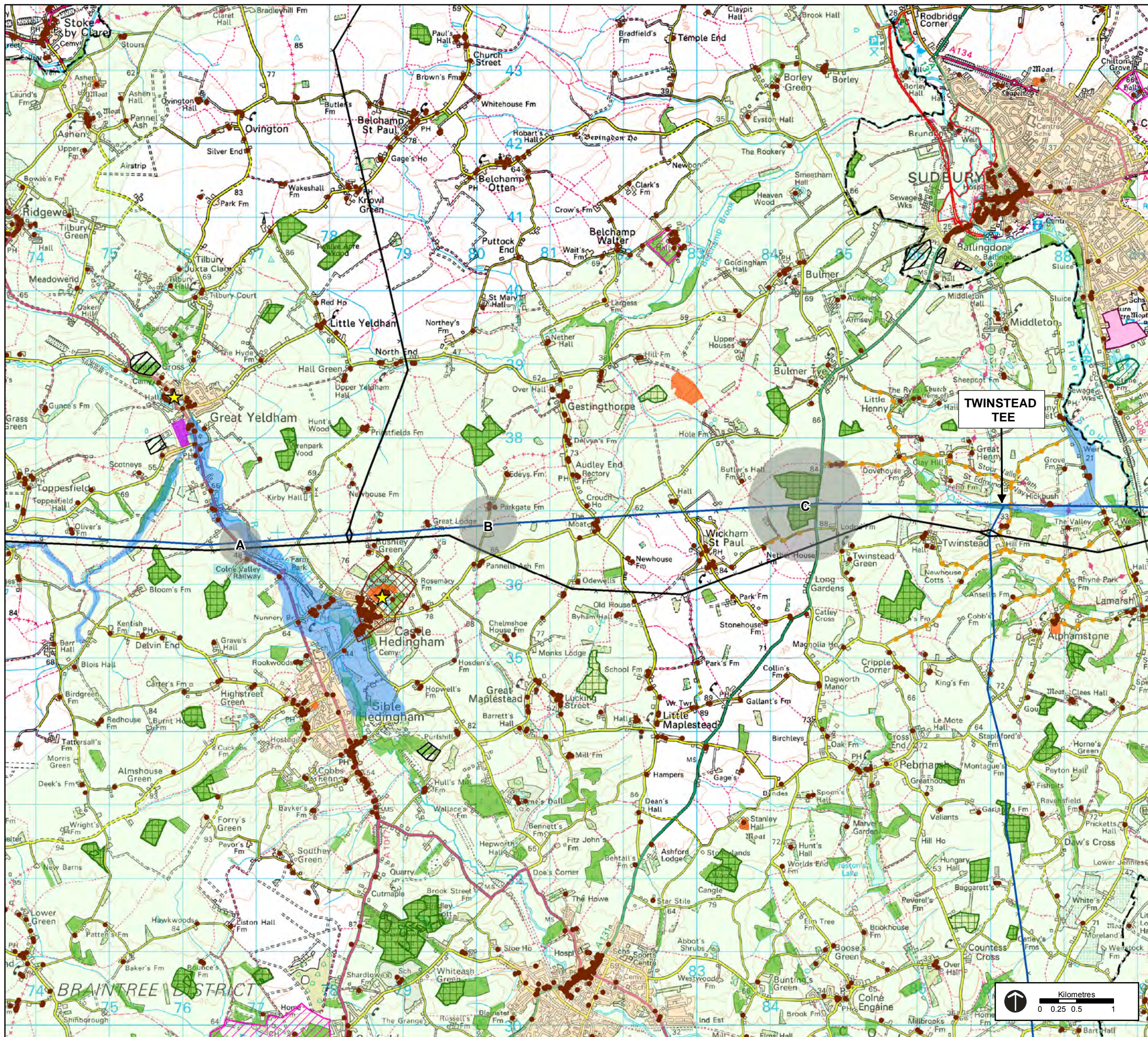
3.8 The key characteristics and considerations for this site are:

- Regardless of whether the GSP was located to the east or west of the woodland, the site would be directly accessible from the A131;
- The dense woodland at Butlers and Waldegrave Wood would offer visual screening, particularly for sites to the west of the woodland;
- The land to the west of the woodland is relatively enclosed by woodland and hedgerows;
- The area to the east of the woodland is more open;
- There are several residential properties in the area, however a site to the east of the woodland would be closer to properties than a site to the west;
- Developing to the north of the 400kV line is likely to result in the least impact on the closest residential properties; and
- The area is included within a Special Landscape Area designated in the Braintree Local Plan.

Conclusions

3.9 A new Grid Supply Point will only be required if Corridor 2 is selected as the preferred route corridor following public consultation. The results of the consultation exercise should be available in Spring 2010.

3.10 The siting study has identified three potential sites for a Grid Supply Point. If it is determined that Corridor 2 is the preferred corridor, then National Grid will seek further views from statutory consultees, local authorities and the public regarding the siting of the Grid Supply Point. It will consider at that stage all responses prior to developing a detailed design for the Grid Supply Point.



Key

- Administrative Boundary
- Indicative GSP Search Areas
 - A. Colne Valley Farm Park
 - B. Delvyn's Lane
 - C. Butler's Wood

Existing Infrastructure

- Existing 400kV Overhead Line
- Existing 132kV Overhead Line

Environmental Constraints

- Site of Special Scientific Interest
- Scheduled Monuments
- Registered Park and Garden
- Historic Building
- Conservation Areas
- Settlement
- Woodland
- Ancient Woodland
- Local Nature Reserve
- Historic Landfill Sites
- Housing Allocation
- Employment Allocation
- Special Landscape Area
- Protected Lane
- Flood Risk Zone (Indicative)
Extent only shown relevant to potential substation sites

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