

Grid Connection Corridor Options Report

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with energy.**



Report for

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1	Draft Grid Connection Corridor Report	04/09/2020
2.	Final Grid Corridor Report	11/09/2020



Executive summary

Purpose of this report

MVV Environment Ltd intend to submit a Development Consent Order application to the Secretary of State for the proposed Medworth Energy from Waste Combined Heat and Power Facility on the industrial estate, Algores Way, Wisbech Cambridgeshire. The project will include a grid connection to export electricity to the national grid.

This report has been produced to explain how the grid connection corridor has been selected. It explains the planning, environmental, technical and cost factors taken into account when selecting the grid connection corridor.

At the time of publication, the process of identifying a defined route for the grid connection within the selected corridor remains ongoing. This report will be updated to explain the outcome of the route optioneering process once this is complete.



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1. Introduction

1.1 Background to the project

- 1.1.1 Wood Plc has been commissioned by MVV Environment Ltd ('the Applicant') to provide planning and environmental consultancy support services for the Proposed Development. The Proposed Development is centred around the establishment of an Energy from Waste Combined Heat and Power Facility ('the EfW CHP Facility') located on the industrial estate, Algores Way, Wisbech Cambridgeshire (see **Figure 1.1**). The Proposed Development will recover useful energy in the form of electricity and steam from over half a million tonnes of non-recyclable (residual), non-hazardous Municipal and Commercial and Industrial waste each year to generate over 50 megawatts (MW) of electricity per year. The facility will also have the capability to export steam and electricity to users on the surrounding industrial estates.
- 1.1.2 The Proposed Development includes a Grid Connection to export the generated electricity to the national grid.
- 1.1.3 The Proposed Development is a Nationally Significant Infrastructure Project (NSIP) under Part 3 Section 14 of the Planning Act 2008¹ (hereafter referred to as the '2008 Act')¹ by virtue of the fact that the generating station is located in England and has a generating capacity of over 50MW(see section 15(2) of the 2008 Act. It, therefore, requires an application to be submitted to the Secretary of State for a Development Consent Order (DCO).

1.2 Purpose of the Report

- 1.2.1 This Grid Connection Corridor Options Report has been prepared to explain the process of appraising options for the Grid Connection and selecting the preferred Grid Connection Corridor.

1.3 Legislation

- 1.3.1 The Proposed Development requires an Environmental Statement (ES) which will report the outcomes of the Environmental Impact Assessment (EIA). The EIA will be carried out in accordance with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended)² ('the EIA Regulations').
- 1.3.2 The EIA Regulations mandate that the ES must include:
"a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment." (Regulation 14(2)(d)).

¹ SI c.29. Planning Act 2008

² SI 572. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.



1.3.3 The information presented in this report will inform the content of the ES.

1.4 Policy

National Policy Statements

1.4.1 As an NSIP, the primary policy basis for the Proposed Development are the relevant National Policy Statements (NPS). A summary of the relevant NPS's and their application to the grid connection corridor selection process is outlined below.

Overarching National Policy Statement for Energy (EN-1)³;

1.4.2 This document sets out national policy for energy infrastructure. It has effect, in combination with the relevant technology-specific NPS, on the decisions made by the Secretary of State on applications for energy developments.

1.4.3 NPS EN-1 recognises that whilst the applicant may not have any, or very limited choice in the physical appearance of some energy infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting relative to existing landscape character, landform and vegetation.

National Policy Statement for Renewable Energy (EN-3)⁴;

1.4.4 This policy document sits alongside NPS EN-1 and sets out the national policy for renewable energy infrastructure. The policy recognises that the success of an EfW plant is dependent on the ability to connect to the national grid. It states that a DCO application must include information on how a project will be connected to the grid, and what environmental issues are likely to arise from the connection.

National Policy Statement for Electricity Networks Infrastructure (EN-5)⁵

1.4.5 NPS EN-5 provides more advice on the approach to selecting, assessing and considering electricity networks infrastructure. Relevant to the current scope, it advises that infrastructure should be resilient to climate change, defined as:

- Flooding, particularly for substations that are vital for the electricity distribution and distribution network;
- The effects of wind and storms on overhead lines;
- Higher average temperatures, leading to increased distribution losses; and
- Earth movement or subsidence caused by flooding or drought (for underground cables).

1.4.6 NPS EN-5 sets out additional technology specific considerations on the following generic effects considered in NPS EN-1:

³ Department for Energy and Climate Change. Overarching National Policy Statement for Energy (EN-1) 2011

⁴ Department for Energy and Climate Change. National Policy Statement for Renewable Energy Infrastructure (EN-3) 2011

⁵ Department for Energy and Climate Change. National Policy Statement for Electricity Networks Infrastructure (EN-5) 2011



- Biodiversity and geological conservation;
- Landscape and visual;
- Noise and vibration and
- Electric and magnetic fields.

- 1.4.7 With regards to biodiversity, it states that particular consideration should be given to feeding and hunting grounds, migration corridors and breeding grounds. For landscape and visual matters, NPS EN-5 references the Holford Rules which form a key consideration in overhead line routing, as set out elsewhere in this report. Assessment guidance on the topics of noise and electric and magnetic fields focuses upon approaches to assessment and the possibilities of mitigation through the design and specification of the infrastructure itself.
- 1.4.8 Under the sub-heading Landscape and Visual, paragraph 2.8.2 sets out the Government's view that it does not believe that development of overhead lines is generally incompatible in principle with developers' statutory duty under section 9 of the Electricity Act to have regard to amenity and to mitigate impacts (see paragraph 2.2.6). Whilst recognising that above ground electricity lines can give rise to adverse landscape and visual impacts, the degree can be dependent upon their scale, siting, degree of screening and the nature of the landscape and local environment through which they are routed. In the opinion of Government, such impacts can in the most part be mitigated. Government does accept however that there are, on some occasions, locations that might be considered particularly sensitive to the potential adverse landscape and visual impacts, such that it may be necessary to consider if undergrounding is acceptable in planning terms in the specific local environment and context.
- 1.4.9 Paragraph 2.8.8 considers the subject of undergrounding and states that where there are serious concerns about potential adverse landscape and visual effects arising from a proposed overhead connection that these need to be balanced by the decision-maker against other relevant factors, including the need for the proposed infrastructure, the availability and cost of alternative sites and routes and methods of installation (such as undergrounding). Particular sensitivities to consider include the presence of residential areas, national parks or Areas of Outstanding Natural Beauty (AONB) and the potential environmental and archaeological effects arising from as well as the additional cost of undergrounding.
- 1.4.10 NPS EN-5 also refers to the potential effects of electromagnetic fields (EMFs). However, it notes that the Electricity Safety, Quality and Continuity Regulations 2002⁶ (ESQC 2002) set out the minimum height, position, insulation and protection specifications at which conductors can be strung between towers to ensure safe clearance of objects. The effect of these requirements should be that power lines at, or below 132kV will comply with the International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998⁷ basic restrictions, although the decision-maker should be satisfied that this is the case on the basis of the evidence

⁶ SI 2665. The Electricity Safety, Quality and Continuity Regulations 2002.

⁷ ICNIRP. ICNIRP Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic and Electromagnetic Fields (up to 300 GHz) 1998



produced as specified in the “Power Lines: Demonstrating compliance with EMFs public exposure guidelines – a voluntary Code of Practice” published in 2011 by Government and the electricity industry.

National Planning Policy Framework⁸

- 1.4.11 Whilst NPSs provide the main policy basis for decisions on NSIPs other policy may be considered both important and relevant. The main national planning policy is the Revised National Planning Policy Framework (NPPF). It sets out the Government’s planning policies for England.
- 1.4.12 The NPPF highlights that development should be designed to ensure that it will not be vulnerable to the impacts of climate change, should seek to reduce greenhouse gas emissions, and should not increase the risk of flooding.
- 1.4.13 The NPPF outlines factors of the natural and historic environment that should be protected from the impacts of new development.

Local Policy

- 1.4.14 The Main Development Site is located within Fenland District in the County of Cambridgeshire. The Grid Connection would extend from this area into the boundary of the Borough Council of King’s Lynn and West Norfolk and Norfolk County Council. Local development plans may be an important and relevant consideration for NSIPs, although like the NPPF, they are not the primary policy.
- 1.4.15 A summary of the policies relevant to the grid connection corridor selection process are set out in **Table 1.1** below.

Policy Document	Topic	Policy
Fenland Local Plan ⁹	Landscape and Visual	<p>Policy LP16: Proposals for all new development will only be permitted if it can be demonstrated that the proposal meets, amongst other criteria:</p> <ul style="list-style-type: none"> • makes a positive contribution to the local distinctiveness and character of the area, enhances its local setting, responds to and improves the character of the local built environment, provides resilience to climate change, reinforces local identity and or scale terms, on the street scene, settlement pattern or the landscape character of the surrounding area; and • provides well designed hard and soft landscaping incorporating sustainable drainage systems as appropriate.
	Biodiversity	<p>Policy LP16: Proposals for all new development, will only be permitted if it can be demonstrated that the proposal meets all of the following relevant criteria:</p> <ul style="list-style-type: none"> • protects and enhances biodiversity on and surrounding the proposal site, taking into account locally designated sites and the special protection given to internationally and nationally designated sites, in accordance with Policy LP19.

⁸ Ministry of Housing, Communities & Local Government Revised National Planning Policy Framework 2019

⁹ Fenland District Council. Fenland Local Plan 2014



Policy Document	Topic	Policy
		<ul style="list-style-type: none"> • retains and incorporates natural and historic features of the site such as trees, hedgerows, field patterns, drains and water bodies. • provides well designed hard and soft landscaping incorporating sustainable drainage systems as appropriate. • complements and enhances the quality of riverside settings, including ecological value and re-naturalisation where possible. • A Supplementary Planning Document (SPD) to be adopted in 2014 will be used to further assess planning applications in relation to the criteria in this policy.– The SPD was adopted subsequently on 24 July 2014 and provides additional guidance on matters of potential relevance to the Proposed Development including buildings of local importance, the protection of natural features, local distinctiveness and character. <p>Policy LP19: The Council, working in partnership with all relevant stakeholders, will conserve, enhance and promote the biodiversity interest of the natural environment throughout Fenland. The Council will:</p> <ul style="list-style-type: none"> • Protect and enhance sites which have been designated for their international, national or local importance to an extent that is commensurate with their status, in accordance with national policy in the National Planning Policy Framework. • Refuse permission for development that would cause demonstrable harm to a protected habitat or species, unless the need for and public benefits of the development clearly outweigh the harm and mitigation and/or compensation measures can be secured to offset the harm and achieve, where possible, a net gain for biodiversity. • Promote the preservation, restoration and re-creation of priority habitats, and the preservation and increase of priority species identified for Fenland in the Cambridgeshire and Peterborough Biodiversity Action Plans. • Ensure opportunities are taken to incorporate beneficial features for biodiversity in new developments, including, where possible, the creation of new habitats that will contribute to a viable ecological network extending beyond the District into the rest of Cambridgeshire and Peterborough, and other adjoining areas.
	Water Environment	<p>Policy LP14: Part (A) Resource Use, Renewable Energy and Allowable Solutions: The Policy recommends that all developments incorporate on site renewable and/or decentralised renewable or low carbon energy sources, water saving measures and measures to help the development withstand the longer-term impacts of climate change.</p> <p>Part (B) Flood Risk and Drainage: The Policy requires that:</p> <ul style="list-style-type: none"> • All development proposals should adopt a sequential approach to flood risk from all forms of flooding; • Sustainable Drainage Systems (SuDs) are used to ensure that runoff from the site (post development) is to greenfield runoff rates for all previously undeveloped sites and for developed sites (where feasible);



Policy Document	Topic	Policy
		<ul style="list-style-type: none"> • The discharge of surface water from developments should be designed to contribute to an improvement in water quality in the receiving water course or aquifer in accordance with the objectives of the Water Framework Directive; and • All proposals should have regard to the guidance and byelaws of the relevant Internal Drainage Board, including, where appropriate the Middle Level Strategic Study and should help achieve the flood management goals from the River Nene and Great Ouse Catchment Flood Management Plans. <p>Policy LP16: The Policy sets out the following requirements with respect to hydrology:</p> <ul style="list-style-type: none"> • Makes a positive contribution to the local distinctiveness and character of the area, enhances its local setting, responds to and improves the character of the local built environment, provides resilience to climate change, reinforces local identity and does not adversely impact, either in design or scale terms, on the street scene, settlement pattern or the landscape character of the surrounding area; • Provides well designed hard and soft landscaping incorporating sustainable drainage systems as appropriate; • Identifies, manages and mitigates against any existing or proposed risks from sources of noise, emissions, pollution, contamination, odour and dust, vibration, landfill gas and protects from water body deterioration; • The site is suitable for its proposed use with layout and drainage taking account of ground conditions, contamination and gas risks arising from previous uses and any proposals for land remediation, with no significant impacts on future users, groundwater or surface waters; and • Complements and enhances the quality of riverside settings, including ecological value, re-naturalisation where possible, and navigation.
	Socio-economics	<p>Policy LP2: Development proposals should contribute to the Council's goal of Fenland's residents achieving the highest attainable standard of health, irrespective of their race, religion, political belief, economic or social condition, sex or age. Development proposals should contribute to creating a healthy, safe and equitable living environment by: Creating an environment (built and social) in which communities can flourish (see all policies in this plan);</p> <ul style="list-style-type: none"> • Creating opportunities for employment in accessible locations; • Promoting and facilitating healthy lifestyles; and • Avoiding adverse impacts. <p>Policy LP8: Wisbech, alongside March, is the main focus for housing, employment and retail growth. All development should contribute to the promotion of Wisbech into a strong, safe and community focused market town, preserving and enhancing its unique character and making appropriate use of its heritage assets to benefit its regeneration, tourism potential and sense of place.</p> <p>Policy LP14: Renewable energy proposals will be supported and considered in the context of sustainable development and climate change. Proposals for renewable energy technology, associated</p>



Policy Document	Topic	Policy
		<p>infrastructure and integration of renewable technology on existing or proposed structures will be assessed both individually and cumulatively on their merits taking account of the following factors: Surrounding landscape, townscape and heritage assets;</p> <ul style="list-style-type: none"> • Residential and visual amenity; • Noise impact; • Specific highway safety; and • High quality agricultural land. <p>Policy LP16: The Local Plan seeks to deliver and protect high quality environments throughout the district. The Proposed Development should:</p> <ul style="list-style-type: none"> • Making a positive contribution to the local character and distinctiveness of the area; • Not adversely impact on the amenity of neighbouring users such as noise, light pollution, loss of privacy and loss of light; • Provide a safe environment and incorporates security measures to deter crime in accordance with Policy LP17; • Identify, manage and mitigate against any existing or proposed risks from sources of noise, emissions, pollution, contamination, odour and dust, vibration, landfill gas and protects from water body deterioration; and • Not result in any unreasonable constraint(s) or threaten the operation and viability of existing or nearby or adjoining businesses or employment sites.
King's Lynn and West Norfolk Local Development Framework – Core Strategy¹⁰	Landscape and Visual	<p>Policy CS08: Requires all new development in the borough to be of high-quality design. New development will be required to demonstrate its ability to (amongst other criteria) respond to the context and character of places in West Norfolk by ensuring that the scale, density, layout and access will enhance the quality of the environment.</p> <p>Policy CS12: This requires that proposals for development be informed by, and seek opportunities to reinforce the distinctive character areas and potential habitat creation areas identified in the King's Lynn and West Norfolk Landscape Character Assessment, the West Norfolk Econet Map and other character assessments. Development proposals should demonstrate that their location, scale, design and materials will protect, conserve and, where possible, enhance the special qualities and local distinctiveness of the area, gaps between settlements, landscape setting, distinctive settlement character, landscape features and ecological networks.</p>
	Historic Environment	<p>Policy CS08: states that new development will be required to demonstrate that it will protect and enhance the historic environment.</p> <p>Policy CS12: recognises the importance of the historic environment.</p>
	Biodiversity	<p>Policy CS12: states that the Council will protect designated sites and that development should seek to avoid, mitigate or compensate for any adverse impacts.</p>

¹⁰ King's Lynn and West Norfolk Borough Council. Local Development Framework – Core Strategy 2011.



Policy Document	Topic	Policy
King's Lynn and West Norfolk Site Allocations and Development Management Policies Plan ¹¹	Landscape and Visual	Policy DM15: Proposals will be assessed against a number of factors including (amongst other criteria) visual impact. The scale, height, massing, materials and layout of a development should respond sensitively and sympathetically to the local setting.
	Water Environment	Policy DM 20: Renewable Energy which includes for its associated infrastructure states that applications will be assessed to determine whether the benefits are outweighed by the impacts with reference to watercourse, in terms of pollution. Policy DM 21 states that applications for development in zones 2 and 3 will need to be accompanied by a flood risk assessment which includes for climate change allowance.
	Socio-economics	Policy DM 20: Renewable Energy which includes for its associated infrastructure states that applications will be assessed to determine whether the benefits are outweighed by the impacts with reference to tourism and other economic activity.

1.5 Guidance

The Holford Rules

1.5.1 The Holford Rules¹² comprises a set of guidelines for overhead line routeing. The Rules were prepared in 1959 by Lord Holford, the key principles of which focus on the achievement of good visual integration and protection of areas of high amenity value.

1.5.2 The original Rules and notes of clarification subsequently added by National Grid are as follows.

- **Rule 1:** Avoid altogether, if possible, the major areas of highest amenity value, by so planning the general route of the first line in the first place, even if the total mileage is somewhat increased in consequence.

Note: Investigate the possibility of alternative routes, avoiding if possible the areas of the highest amenity value. The consideration of alternative routes must be an integral feature of environmental statements. Areas of highest amenity value are: AONB; National Parks; Heritage Coasts; and World Heritage Sites.

- **Rule 2:** Avoid smaller areas of high amenity value, or scientific interests by deviation; provided that this can be done without using too many angle towers i.e. the more massive structures which are used when lines change direction;

Note: Some areas (e.g. Site of Special Scientific Interest (SSSI)) may require special consideration for potential effects on ecology (e.g. to their flora and fauna). Where possible choose routes which minimise the effects on the setting

¹¹ King's Lynn and West Norfolk Borough Council. King's Lynn and West Norfolk Local Plan – Site Allocations & Development Management Policies 2016

¹² National Grid. The Holford Rules.



of areas of architectural, historic and archaeological interest including Conservation Areas, Listed Buildings, Listed Parks and Gardens and Ancient Monuments.

- **Rule 3:** Other things being equal, choose the most direct line, with no sharp changes of direction and thus with fewer angle towers;

Note: Where possible choose inconspicuous locations for angle towers terminal towers and sealing end compounds.

- **Rule 4:** Choose tree and hill backgrounds in preference to sky backgrounds wherever possible; and when the line has to cross a ridge, secure this opaque background as long as possible and cross obliquely when a dip in the ridge provides an opportunity. Where it does not, cross directly, preferably between belts of trees;

- **Rule 5:** Prefer moderately open valleys with woods where the apparent height of towers will be reduced, and views of the line will be broken by trees;

Note: Utilise background and foreground features to reduce the apparent height and domination of towers from pan viewpoints. Minimise the exposure of numbers of towers on prominent ridges and skylines. Where possible avoiding cutting extensive swathes through woodland blocks and consider opportunities for skirting edges of copses and woods. Protecting existing vegetation, including woodland and hedgerows, and safeguard visual and ecological links with the surrounding landscape.

- **Rule 6:** In country which is flat and sparsely planted, keep the high voltage lines as far as possible independent of smaller lines, converging routes, distribution poles and other masts, wires and cables, so as to avoid a concentration or 'wirescape';

Note: In all locations minimise confusing appearance. Arrange wherever practicable that parallel or closely related routes are planned with tower types, spans and conductors forming a coherent appearance; where routes need to diverge, allow where practicable sufficient separation to limit the effects on properties and features between the lines.

- **Rule 7:** Approach urban area through industrial zones, where they exist; and when pleasant residential and recreational land intervenes between the approach line and the substation, go carefully into the comparative costs of the undergrounding, for lines other than those of the highest voltage;

Note: When a line needs to pass through a development area, route it so as to minimise as far as possible the effect on development. Alignments should be chosen after consideration of effects on the amenity of existing development and on proposals for new development. When siting substations take account of the effects of the terminal towers and line connections that will need to be made and take advantage of screening features such as ground form and vegetation.

- **Supplementary Notes:**



Residential Areas: Avoid routing close to residential areas as far as possible on grounds of general amenity.

Designations of County, District and Local Value: Where possible choose routes which minimise the effect on Special Landscape Areas, areas of Great Landscape Value and other similar designations of County, District or Local value.

Alternative Tower Designs: In addition to adopting appropriate routing, evaluate where appropriate the use of alternative tower designs now available where these would be advantageous visually, and where the extra cost can be justified.

1.5.3 As outlined in **Section 1.4** above, the core principles of the Holford Rules have been integrated into NPS EN-5.

National Grid Guidance

1.5.4 National Grid, the organisation responsible for the development and maintenance of the strategic high-voltage transmission network and other energy connections, has published the following guidance on their approach and principles concerning installation of new overhead and underground transmission lines:

- Our approach to the design and routing of new electricity transmission lines (2012)¹³; and
- Our approach to options appraisal (2012)¹⁴.

1.5.5 Both documents outline how National Grid identify the most appropriate location and technology for any new electricity connections, setting out how data is collected, analysed and consulted upon in order to develop and appraise alternatives to determine the most appropriate solutions. Whilst National Grid would not be responsible for designing a proposed 400kV connection from the EfW CHP Facility the guidance and advice contained within these documents could be relevant should this voltage of connection be selected by the applicant.

¹³ National Grid. Our approach to the design and routing of new electricity transmission lines. 2012.

¹⁴ National Grid. Our approach to Options Appraisal. 2012.



2. Methodology

2.1 Study Area

- 2.1.1 The EfW CHP Facility would be located on the industrial estate, Algores Way in Wisbech, Cambridgeshire (see **Figure 1.1**).
- 2.1.2 Following the identification of potential connection points and the most direct routes to these from the EfW CHP Facility (see methodology in **Section 2.2** below), a minimum study area of 5km extending either side of these most direct routes was adopted to identify the key constraints that could influence the creation and selection of a Grid Connection Corridor. The study area was extended where impact pathways to those receptors with the highest amenity value had the potential to extend beyond 5km, for example international sites designated for flora and fauna. The study area is illustrated on **Figure 2.1**.

2.2 Methodology

- 2.2.1 The approach to identifying the Grid Connection Corridor followed the steps set out below. It assumes that the connection would be overhead unless the presence of any potentially sensitive receptors were to suggest that consideration should be given to undergrounding as mitigation in line with the policy guidance contained within NPS EN-5.

Identification of potential connection points

- 2.2.2 A review of the electricity network in the area surrounding the EfW CHP Facility was undertaken to identify the closest connection points. This review was conducted in engagement with UK Power Networks, the distribution provider for the area and National Grid.

Identification of potential grid connection corridors

- 2.2.3 Once the potential connection points were established, the most direct routes to these connection points were established as a starting point for defining the potential corridors, subject to avoiding the key settlement of Wisbech. This principle was in accordance with the Holford Rule 3 which suggests with other things being equal, choose the most direct line.

Review of environment and planning constraints

- 2.2.4 A 5km study area either side was applied to each of the direct routes identified above. These routes were reviewed against environmental constraints, comprising of physical constraints and receptors with the greatest amenity value (Holford Rules 1 and 2). This review determined if there were any receptors likely to be significantly affected by a corridor routed in the areas defined in Step 2.



2.2.5 The review of environmental constraints considered the following receptor groups, focusing on those receptors with the highest amenity value.

- Landscape (AONBs, National Parks);
- Historic Environment (World Heritage Sites, Conservation Areas, Listed Buildings, Listed Parks and Gardens, Ancient Monuments);
- Biodiversity (Special Protection Areas (SPA), Special Areas of Conservation (SAC), Ramsars, SSSIs, National Nature Reserves (NNRs), Ancient Woodland);
- Water Environment (Watercourses, Flood Risk zones); and
- Socio-economic (recreational routes, transportation networks, major settlements).

2.2.6 In addition, the review considered whether any of the potential corridor options would prevent the ability to deliver land use allocations defined in the relevant local authority Local Plans, or any additional pertinent policy aspirations.

2.2.7 As outlined in **Section 2.1** above, the receptors of the highest amenity value were identified to a minimum 5km radius, but this was extended where impact pathways to those receptors with the highest amenity value had the potential to extend beyond 5km.

2.2.8 The receptors were identified using the following desk top information sources:

- MAGIC Map¹⁵ (Natural England);
- Flood Map for Planning¹⁶ (Environment Agency);
- Rights of Way Maps¹⁷ (Cambridgeshire County Council and Norfolk County Council; and
- Local Plan allocations.

2.2.9 A constraints plan was produced to illustrate the location of receptors in the study area (see **Figure 2.2**).

Review of technical and cost constraints

2.2.10 The Grid Connection Corridor options were reviewed to determine their technical feasibility. Consideration was given to the available capacity of the connection points, the ease of stepping up electricity to the desired outputs, the scale of the supporting infrastructure or upgrades required to facilitate the connections, and the timescales in which the connection providers would be able to facilitate the connections.

2.2.11 Cost considerations taken into account included the length of the connection and the infrastructure required to facilitate the potential connections.

¹⁵ <https://magic.defra.gov.uk/MagicMap.aspx>

¹⁶ <https://flood-map-for-planning.service.gov.uk/>

¹⁷ <https://www.cambridgeshire.gov.uk/residents/libraries-leisure-culture/arts-green-spaces-activities/rights-of-way> and <http://maps.norfolk.gov.uk/highways/>



2.2.12

Engagement with UKPN and National Grid was undertaken to determine the available capacity of the electricity network in the area surrounding the EfW CHP Facility. Both network operators confirmed the level of availability and identified connection points, and the technical feasibility and cost of constructing a connection to those points.



3. Grid connection corridor options identification and assessment

3.1 Identification of potential connection points

- 3.1.1 A review of potential connection options within proximity of the Grid Connection Corridor was undertaken. The initial aim was to identify connection points within closest proximity to the EfW CHP Facility to minimise the land-take and the potential environmental impacts of a Grid Connection.
- 3.1.2 UK Power Networks (UKPN) own and maintain the electricity network in the East of England, including Wisbech and the surrounding area. A review of the UKPN's distribution network indicated that the closest substation connection points to the EfW CHP Facility were:
- 132kV substation at Walsoken (approximately 4km to the northeast); and
 - 400kV/132kV substation at Walpole (approximately 10km to the north).
- 3.1.3 In addition to the UKPN operated substations, a National Grid 400kV overhead line approximately 6km to the east of the EfW CHP Facility was identified as a potential connection point.
- 3.1.4 An initial meeting was held with UKPN in August 2019 to discuss the available capacity of their network and the potential for a new connection. UKPN confirmed that there was insufficient capacity to facilitate a connection at Walsoken substation, but there would be potential to connect to Walpole subject to the technical requirements of the Facility (see **section 3.4**) below.
- 3.1.5 The potential connection points are illustrated on **Figure 2.1**.

3.2 Corridor Options Identification

- 3.2.1 The EfW CHP Facility is located on the southern outskirts of Wisbech on the edge of the industrial estate, Algores Way. The land to the south and immediate east of the EfW CHP Facility is currently undeveloped and therefore the grid connection was assumed to travel in either of these directions to avoid the built-up area of Wisbech to the north.
- 3.2.2 To access the 400/132kV connection at Walpole Substation, which connects to the National Grid Transmission Network at this location, two potential corridors were identified (see **Figure 2.1**):
- 132kV East; and
 - 132kV West.
- 3.2.3 To access the 400kV connection directly into the 400kV line to the east of Wisbech, a potential corridor option running directly east from the main site was identified (400kV East) (see **Figure 2.1**).



3.2.4 All three potential corridors assume the Grid Connection will approach the EfW CHP Facility along the outskirts of the industrial estate according with the principle of Holford Rule 7.

3.2.5 A description of the three potential connection corridors is provided below.

132kV East

3.2.6 The 132kV East corridor leaves the main site to the east, running along New Bridge Lane on the southern edge of the industrial estate. The corridor turns north at the A47, broadly following the route of the A47 along the eastern edge of Wisbech town. This corridor continues north, crossing agricultural land and minor roads before reaching Walpole Substation. The corridor is located close to Walton Highway, and it includes within it a number of isolated dwellings as well as a solar farm. The corridor generally follows an existing 132kV overhead line. The corridor is approximately 11km in length from the EfW CHP Facility in Wisbech to Walpole.

132kV West

3.2.7 The 132kV West corridor leaves the EfW CHP Facility to the west, running along New Bridge Lane before crossing Cromwell Road and the River Nene. The corridor skirts the western edge of Wisbech before heading in a northeast direction towards Walpole Substation. The corridor would cross over the A1101 and a number of minor roads. The villages of Leverington and Ingleborough are located within and adjacent to this corridor. This corridor option would be approximately 12km in length.

400kV East

3.2.8 The 400kV East corridor shares a common corridor with Corridor 1 (132kV East) until it reaches the A47. At this point, the 400kV East continues east beyond the A47 across agricultural land until it reaches the existing 400kV overhead line. The villages of Emneth Gautree and Emneth Hungate are located to the south of the corridor, and Marshland St James further to the east. This corridor option measures approximately 6km in length with a width increasing towards the existing 400kV Overhead Line (OHL). This is because National Grid did not suggest a single defined end point for a connection.

3.2.9 A 400kV corridor option running to the west and north of Wisbech was identified, however it was not considered appropriate to take this option forwards for further environment, technical and cost reasons because it was would significantly longer in distance to the 400kV East option (10km compared to 6km). As this corridor would wrap around three sides of Wisbech, it was clear that the impacts on the environment, including the local population, would be potentially greater than the most direct route to the east. This decision followed the principle of Holford Rule 3 to take the most direct line.



3.3 Initial review of environmental and planning constraints

3.3.1 An initial review of the planning and environmental constraints for the three corridor options is set out in the **Table 3.1** below. The information in this Table is supported by the Constraints Plan provided in **Figure 2.2a and 2.2b**.

3.3.2 The appraisal of environmental and planning constraints took account of the following design assumptions defined in the EIA Scoping Report:

- 132kV OHL would be installed on wooden poles with a maximum height of 20m; and
- 400kV OHL would be installed on steel pylons with a maximum height of 49m.

Table 3.1 Environmental and Planning Appraisal

Topic	132kV (East)	132kV (West)	400kV (East)
Landscape and Visual	No National Parks or AONBs are located within the study area. The corridor includes a Sustrans cycle route.	No National Parks or AONBs are located within the study area. The study area includes two sections of the Nene Way Long Distance Path and the Sustrans cycle route.	No National Parks or AONBs are located within the study area. The study area includes a Sustrans cycle route.
Historic Environment	No World Heritage Sites or Listed Parks and Gardens are located in the study area. Peckover House Registered Park and Garden is located in the study area, 2km to the north of the most direct line. Wisbech Conservation Area is located approximately 1.3km to the north of the most direct line and Elm Conservation Area 0.7km to the south. One Scheduled Monument would be located within the study area, the Cross in All Saints churchyard at Walsoken, approximately 2km to the west of the most direct line.	No World Heritage Sites or Listed Parks and Gardens are located in the study area. Peckover House Registered Park and Garden is located 2km to the north of the most direct line. Wisbech Conservation Area is located approximately 700m to the north of the most direct line and Elm Conservation Area 0.7km to the south. Three Scheduled Monuments would be located approximately 0.7km to the east of the most direct line in Leverington: Roman Bank ancient sea defence, Cherry Tree Hill Round Barrow and	No World Heritage Sites or Listed Parks and Gardens are located in the study area. Peckover House Registered Park and Garden is located 2km to the north of the most direct line. Wisbech Conservation Area is located approximately 1.3km to the north of the most direct line and Elm Conservation Area 0.7km to the south. One Scheduled Monument would be located in within the study area, the Cross in All Saints churchyard at Walsoken, approximately 2.5km to the north of most direct line.



	<p>One Grade I and one Grade II* listed building are located in this study area in Elm, approximately 0.9km and 0.7km respectively to the south of the most direct line. Additional Grade I and II* buildings are located in the centre of Wisbech, 1.3km to the north.</p> <p>The majority of the Grade II listed buildings located within the study area are located within Wisbech approximately 1.3km to the north of the most direct line. Additional Grade II listed buildings are scattered in the study area.</p>	<p>Rabbit Hill Round Barrow.</p> <p>Two Grade I listed buildings are located in Leverington, approximately 0.7km to the east of the most direct line. Two Grade II* listed buildings are located in Wisbech St Mary, approximately 1km to the south of the most direct line, and one close to Leverington, immediately adjacent to the most direct line. Additional Grade I and II* buildings are located in the centre of Wisbech, 1.3km to the north.</p> <p>The majority of the Grade II listed buildings located within the study area are located within Wisbech approximately 1.3km to the north of the most direct line. Additional Grade II listed buildings are scattered in the study area, including within Leverington.</p>	<p>One Grade I and one Grade II* listed building are located in this study area in Elm, approximately 0.9km and 0.7km respectively to the south of the most direct line. Additional Grade I and II* buildings are located in the centre of Wisbech, 1.3km to the north.</p> <p>The majority of the Grade II listed buildings located within the study area are located within Wisbech approximately 1.3km to the north of most direct line. Additional Grade II listed buildings are scattered in the study area including within Emneth, within 0.5km of the most direct line.</p>
Biodiversity	<p>The nearest European Sites are located approximately 7.5km to the south of the most direct line (Nene Washes SAC, SPA and Ramsar) and approximately 10km to the north of Walpole substation (the Wash Ramsar, The Wash SPA and The Wash & North Norfolk Coast SAC).</p> <p>No SSSI's, NNRs or areas of Ancient Woodland are located in the study area.</p>	<p>The nearest European Sites are located approximately 7.5km to the south of the most direct line (Nene Washes SAC, SPA and Ramsar) and approximately 10km to the north of Walpole substation (the Wash Ramsar, The Wash SPA and The Wash & North Norfolk Coast SAC).</p> <p>No SSSI's, NNRs or areas of Ancient Woodland are located in the study area.</p>	<p>The nearest European Sites are located approximately 7.5km to the south of the most direct line (Nene Washes SAC, SPA and Ramsar) and approximately 17km to the north (the Wash Ramsar, The Wash SPA and The Wash & North Norfolk Coast SAC).</p> <p>No SSSI's, NNRs or areas of Ancient Woodland are located in the study area.</p>
Water environment	<p>The study area is located in flood zones 1,</p>	<p>The study area is located in flood zones 1,</p>	<p>The study area is located in flood zones 1,</p>



	<p>2 and 3¹⁸. The most direct line would be partially located in an area benefitting from flood defences.</p> <p>This corridor would not cross the River Nene.</p>	<p>2 and 3¹⁹. All floodplain is undefended</p> <p>The most direct line would cross the Nene River in two locations, one immediately to the west of Wisbech beyond Cromwell Road, and the second to the north of Wisbech as the corridor heads northeast towards Walpole.</p>	<p>2 and 3²⁰. The most direct line would be partially located in an area benefitting from flood defences.</p> <p>This corridor would not cross the River Nene.</p>
Socio-economic	<p>The most direct line would run along the southern outskirts of Wisbech, and route along the eastern edge of Wisbech towards Walpole. Elm is located approximately 0.2km to the south of the most direct line, West Walton 0.5km to the west and Walton Highway is located approximately 0.5km to the east of the most direct line.</p> <p>The A47 is located immediately to the east of the most direct line at the closest point.</p> <p>Sustrans cycle route 63 which crosses the A47 at Elm roundabout, and Sustrans cycle route 1 to the west of Walton Highway.</p>	<p>The most direct line would run along the southern outskirts of Wisbech, and route along the western edge of Wisbech towards Walpole. The corridor would cross through the outskirts of Leverington.</p> <p>This most direct line would cross the B198/Cromwell Road, and the A1101.</p> <p>The Nene Way Long Distance Trail passes through the study area on two occasions, one immediately to the west of Wisbech beyond Cromwell Road, and the second to the north of Wisbech as the corridor heads northeast towards Walpole. A further cycle corridor, although not part of the National Cycle Network would cross the most direct line to the north of Leverington</p>	<p>The most direct line would run along the southern outskirts of Wisbech. The villages of Elm and Emneth would be located approximately 0.5km to the south of the most direct line.</p> <p>The study area includes the A47 to the south of Wisbech.</p> <p>Sustrans cycle route 63 which crosses the A47 at Elm roundabout,</p>
Planning	<p>The study area includes Strategic Allocations in the Fenland Local Plan (2014) immediately to the south of the main</p>	<p>The study area includes Strategic Allocations in the Fenland Local Plan (2014) immediately to the south of the main</p>	<p>The study area would pass through Strategic Allocations in the Fenland Local Plan (2014) immediately to</p>

¹⁸ Flood Map for Planning (2020). Available online at: <https://flood-map-for-planning.service.gov.uk/> [Accessed August 2020].

¹⁹ Flood Map for Planning (2020). Available online at: <https://flood-map-for-planning.service.gov.uk/> [Accessed August 2020].

²⁰ Flood Map for Planning (2020). Available online at: <https://flood-map-for-planning.service.gov.uk/> [Accessed August 2020].



<p>site, and to the east of Wisbech. Land allocated in the King's Lynn & West Norfolk Local Plan (2016) is also located on the eastern outskirts of Wisbech.</p> <p>Land identified for the potential Wisbech Garden Town is partially located in the study area, beyond the location of the Fenland and King's Lynn & West Norfolk strategic allocations.</p>	<p>site, and to the west of Wisbech.</p> <p>Land identified for the potential Wisbech Garden Town is located in the study area, beyond the location of the Fenland strategic allocations.</p>	<p>the south of the main site, and to the east of Wisbech. Land allocated in the King's Lynn & West Norfolk Local Plan (2016) is also located on the eastern outskirts of Wisbech.</p> <p>Land identified for the potential Wisbech Garden Town would be located adjacent to this corridor near the A47/Elm Roundabout.</p>
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Note: All measurements have been provided from the centre of each potential corridor which would be the most direct route. Ultimately the chosen alignment could be closer or further away depending upon its location within the corridor.

- 3.3.3 The initial review of the environmental and planning constraints sought to identify a preference between the two 132kV options to take forward to the EIA Scoping stage alongside the 400kV option. At this point, technical and cost constraints had not been considered.
- 3.3.4 The initial assessment of planning and environmental constraints identified a preference for the 132kV East corridor. The reasons for selecting the 132kV East corridor in preference to the 132kV West corridor are set out below:
- i. The 132kV East corridor is shorter and more direct than the 132kV West corridor, which follows the Holford Rule 3 principle which favours the most direct route when all things are equal.
 - ii. Whilst both corridors were crossed by Sustrans cycle route, the 132kV West corridor has potentially greater impacts on users of the Nene Way Long Distance Trail which crosses the corridor at two locations.
 - iii. The 132kV East corridor has fewer historic environmental receptors in comparison to the 132kV West corridor which would pass close to Grade I, II* and II listed buildings near Leverington and Gorefield.
 - iv. The 132kV West corridor would require two crossings of the River Nene which has a greater potential for effects on the water environment than the east option.
 - v. Both corridor options fall within land currently identified for the potential Wisbech Garden Town however the 132kV East corridor would provide the ability to identify a route on the eastern side of the A47 to avoid an overlap with the potential Garden Town. The 132kV East corridor would be required to lengthen substantially to route around the potential Garden Town, which would potentially increase the extent of environmental impacts caused by implementing a longer route.



- vi. Both corridor options cross areas of Flood Zones 2 and 3. However, all floodplain within the 132kV West corridor is undefended whilst the majority of floodplain within the 132kV East benefits from flood defences.

3.3.5 No discernible biodiversity impacts were noted when comparing the two corridor options.

3.3.6 On the basis of the reasons outlined above the 132kV West Corridor was not taken any further in the appraisal process. The 132kV East Corridor was taken forwards for further appraisal, together with the 400kV East Corridor.

EIA Scoping

3.3.7 In December 2019 the Applicant submitted a request to the Secretary of State for an EIA Scoping Opinion to determine the scope of the EIA and the content of the Environmental Statement which would be submitted with the DCO Application. At this time, two corridor options (132kV East and 400kV East) remained under consideration. These two options were included within the red line boundary for the project and factored into the scope of the EIA for consideration by the Secretary of State²¹. The Secretary of State published their EIA Scoping Opinion for the project in January 2020. This took account of the two options for the proposed grid connection.

Phase 1 Non-Statutory Consultation

3.3.8 A copy of the Applicant's Scoping Report and the Secretary of State's Scoping Opinion was published as part of the Phase 1 Non-Statutory Consultation. This consultation ran between 16 March 2020 and 4 May 2020 and sought comments on the proposals, including both grid connection corridor options. One comment was received during this consultation that raised concerns regarding the visual impact of a grid connection and the impact of electromagnetic fields. No comments were received that suggested a preference for one grid connection corridor over another.

3.4 Technical and cost feasibility

3.4.1 The Applicant engaged with UKPN and National Grid, who are responsible for the 132kV and 400kV connection options respectively.

132kV Connection (UKPN)

3.4.2 Following the initial meeting with UKPN in August 2019 in which it was agreed that there could be a potential connection point at Walpole, the Applicant submitted an application for connection of generation to UKPN's Major Connections Team in October 2019. This application enabled UKPN to undertake an initial assessment of the Applicant's proposal in order to advise on the proposed approach to a connection point at Walpole Substation.

²¹ MWV Environment Ltd. Medworth Energy from Waste Combined Heat and Power Facility – EIA Scoping Report. 2019



- 3.4.3 Between October 2019 and December 2019, the Applicant provided further information to UKPN to support the development of a connection offer. In mid-December 2019, UKPN confirmed a point of connection at Walpole substation and provided the initial technical requirements and costs for both contestable and non-contestable works.
- 3.4.4 Further discussions were held between the Applicant and UKPN between December 2019 to January 2020 to determine the precise location of the connection point at Walpole substation and to ensure that the technical requirements of the initial offer suited the needs of the project. In late January 2020, UKPN issued a Connections Estimate offer to the Applicant which specified the following:
- Maximum export capacity of 62MW;
 - Point of Connection located on the southern boundary of Walpole substation.
 - New extra high voltage plant and switch gear; and
 - 132kV cable duct from the EfW CHP Facility to Walpole substation
- 3.4.5 UKPN estimated the cost for the works at £16.1m.

National Grid (400kV)

- 3.4.6 In addition to the potential connection to the Walpole Substation the Applicant also considered an alternative connection directly to the 400kV line to the east of the EfW CHP Facility.
- 3.4.7 An initial meeting was held with National Grid in October 2019 to introduce the project and discuss potential connection options. National Grid confirmed that the Applicant had two options; to pursue a feasibility study to determine the suitability of connection (with no connection guaranteed) or proceed directly to a connection application. A connection application was subsequently submitted to National Grid in December 2019, followed by further information at the request of National Grid in January 2020.
- 3.4.8 National Grid responded to the connection application in February 2020 and advised that it would be technically feasible to connect to the 400kV overhead line via a double 400kV circuit, but this would require extensive transmission reinforcement works and enabling works including:
- Construction of a new 4 bay double busbar AIS substation;
 - Modification to an existing and provision of an additional overhead line tension tower;
 - 400kV cable duct to the EfW CHP Facility; and
 - Associated protection and control works at Walpole and Burwell Main substations.
- 3.4.9 National Grid provided an indicative cost for these works of between £23m - £27m.



3.4.10 On the basis of the extensive reinforcement works required to transfer approximately 60MW to the 400kV overhead line, National Grid advised that this option would not be economical to construct.

3.5 Selection of the preferred grid connection corridor

3.5.1 The 132kV (East) and 400kV (East) corridor options have been reviewed from an environmental, technical and cost perspective and subject to extensive engagement with UKPN and National Grid to determine the most appropriate grid connection corridor. Taking account of these factors, the **132kV (East) corridor** has been selected as the preferred option for the following reasons:

- i. Steel pylons with a maximum height of 49m for the 400kV connection would be more visually intrusive than the 132kV wooden pole option with a maximum height of 20m. Whilst the 132kV OHL would be longer in length than the 400kV OHL, the zone of theoretical visibility is substantially reduced meaning that fewer receptors would have the connection infrastructure.
- ii. The presence of and distance to historic assets is similar for both corridor options, however the increased height of the steel pylons for the 400kV connection has the potential to impact upon the setting of heritage assets to a greater extent than the shorter wood poles used for the 132kV connection.
- iii. Whilst neither corridor is located in an area designated for biodiversity reasons, there are SPA's and Ramsar's located within a 20km radius of both grid connections. The greater height of the 49m OHL for the 400kV connection may have the potential to result in an increased collision risk to certain bird species.
- iv. Both corridors are located in Flood Zone's 1, 2 and 3. Whilst the 132kV corridor is greater in length than the 400kV corridor (10km compared to 6km) and thus covers a wider area of flood plain, both corridors benefit from flood defences and are not dissimilar in terms of flood risk.
- v. The foundations for wooden poles associated with the 132kV corridor are expected to be shallower and less intrusive than those required to construct the taller steel pylons associated with the 400kV corridor. Therefore, reduce the potential risks to groundwater and surface water receptors during construction phase.
- vi. Extensive transmission reinforcement works would be required for the 400kV connection, including works at two offsite locations; Walpole substation and Burwell Main substation, compared to the 132kV connection which would limit works to Walpole substation.
- vii. The cost of the works required to facilitate a 400kV connection is significantly more than the 132kV option and National Grid consider that it would not be economical to pursue this option.

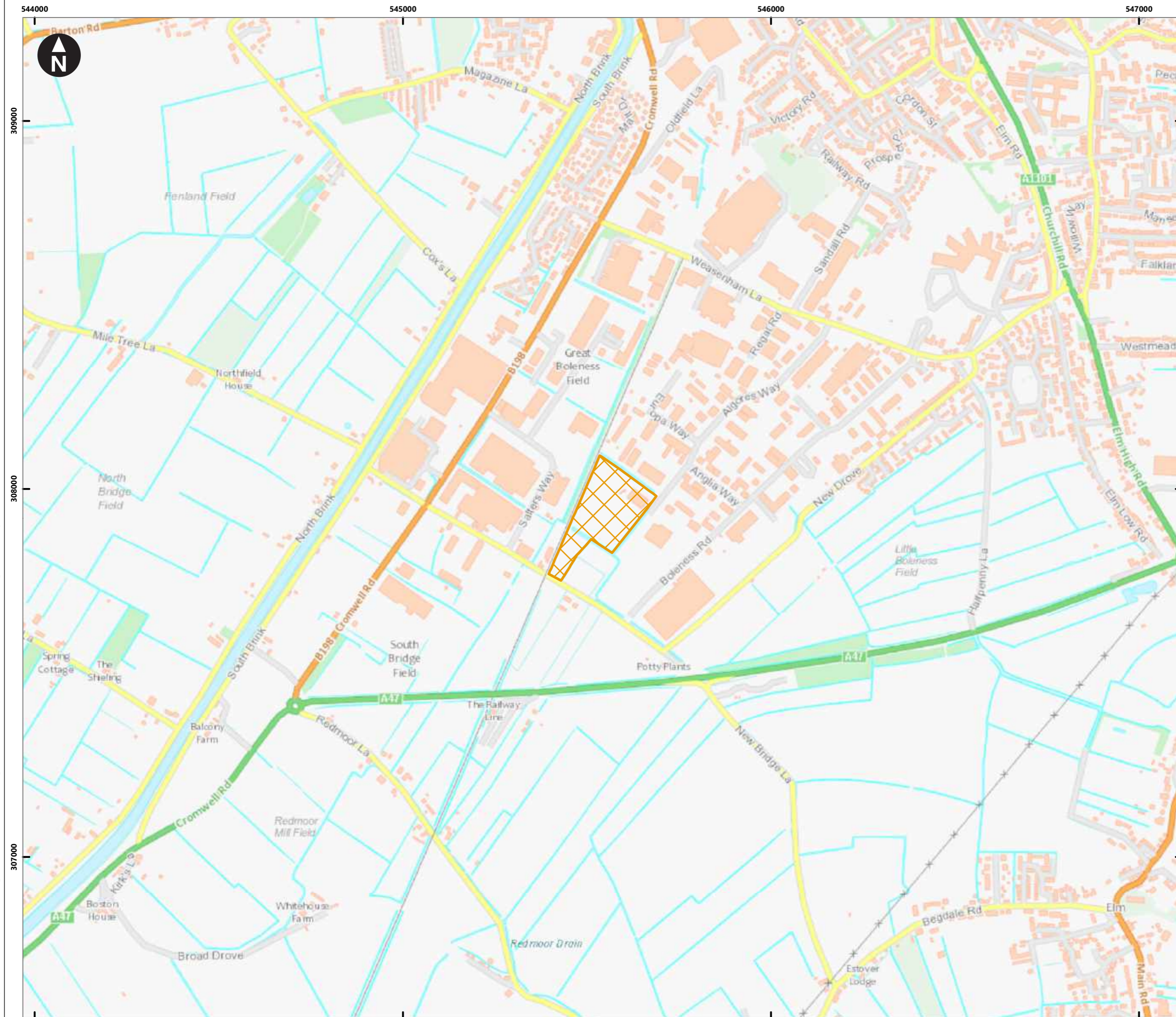


4. Next Steps

- 4.1.1 Following the selection of the 132kV (East) corridor, work is continuing with UKPN and an Independent Connection Provider to identify a proposed route alignment within the selected Grid Connection Corridor and define the works required at Walpole substation. This process will be informed by the results of environmental surveys that are in the process of being carried out to inform the EIA. The views of key stakeholders, including statutory consultees and members of the public will be taken into account in this process.
- 4.1.2 The route selection will also be informed by discussions with the landowners who may be affected by the proposed route alignment in the 132kV East corridor. The process of engaging with landowners commenced in August 2020.
- 4.1.3 This report will be updated in advance of the DCO submission to outline the route appraisal process and provide a justification for the chosen grid connection route.



Figures



Key

Boundary

 Energy from Waste CHP Facility

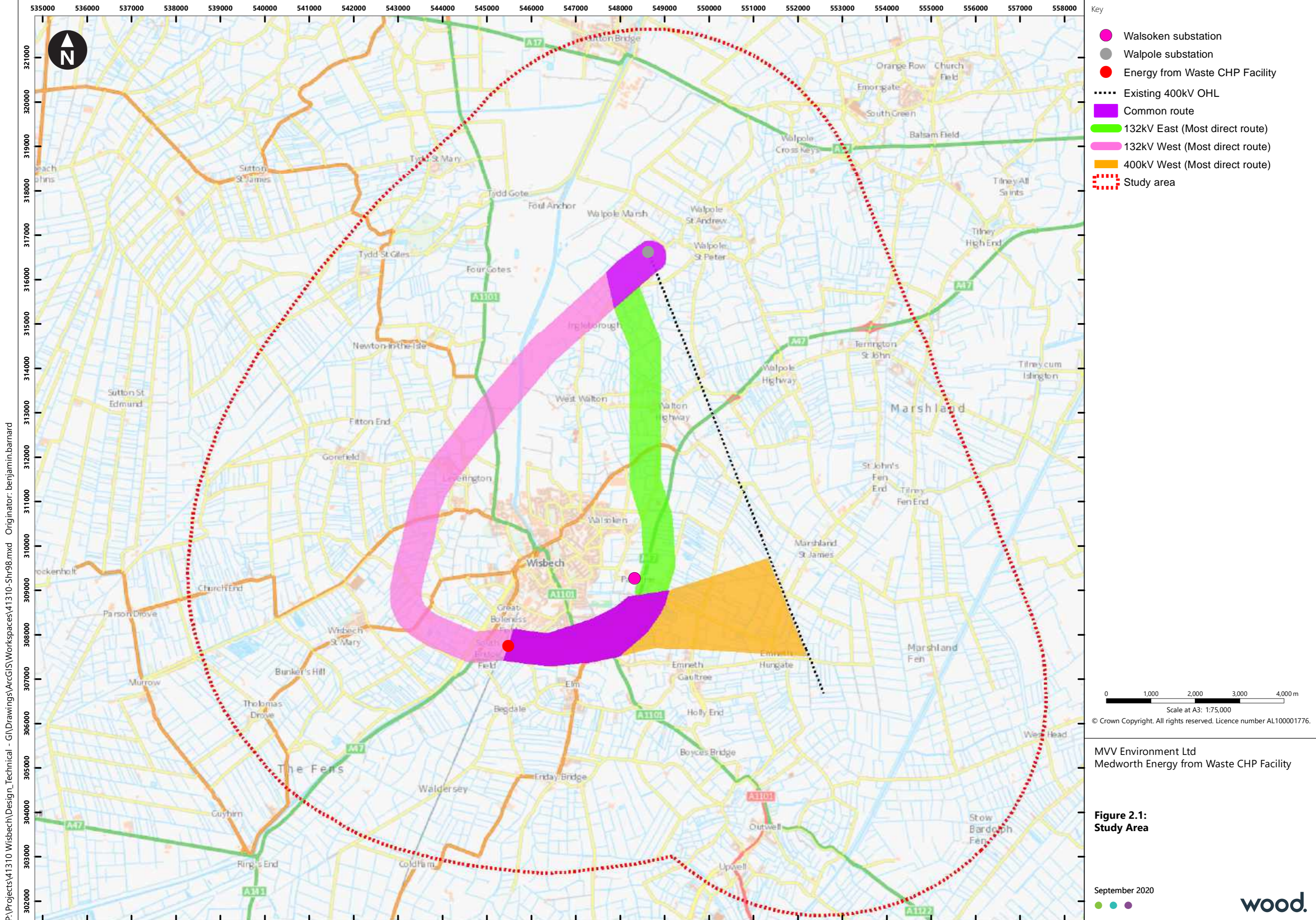
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MVV Environment Ltd
Medworth Energy from Waste CHP Facility

Figure 1.1:
Location Plan

September 2020





- Key
- Walsoken substation
 - Walpole substation
 - Energy from Waste CHP Facility
 - Existing 400kV OHL
 - Common route
 - 132kV East (Most direct route)
 - 132kV West (Most direct route)
 - 400kV West (Most direct route)
 - Study area

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 Medworth Energy from Waste CHP Facility

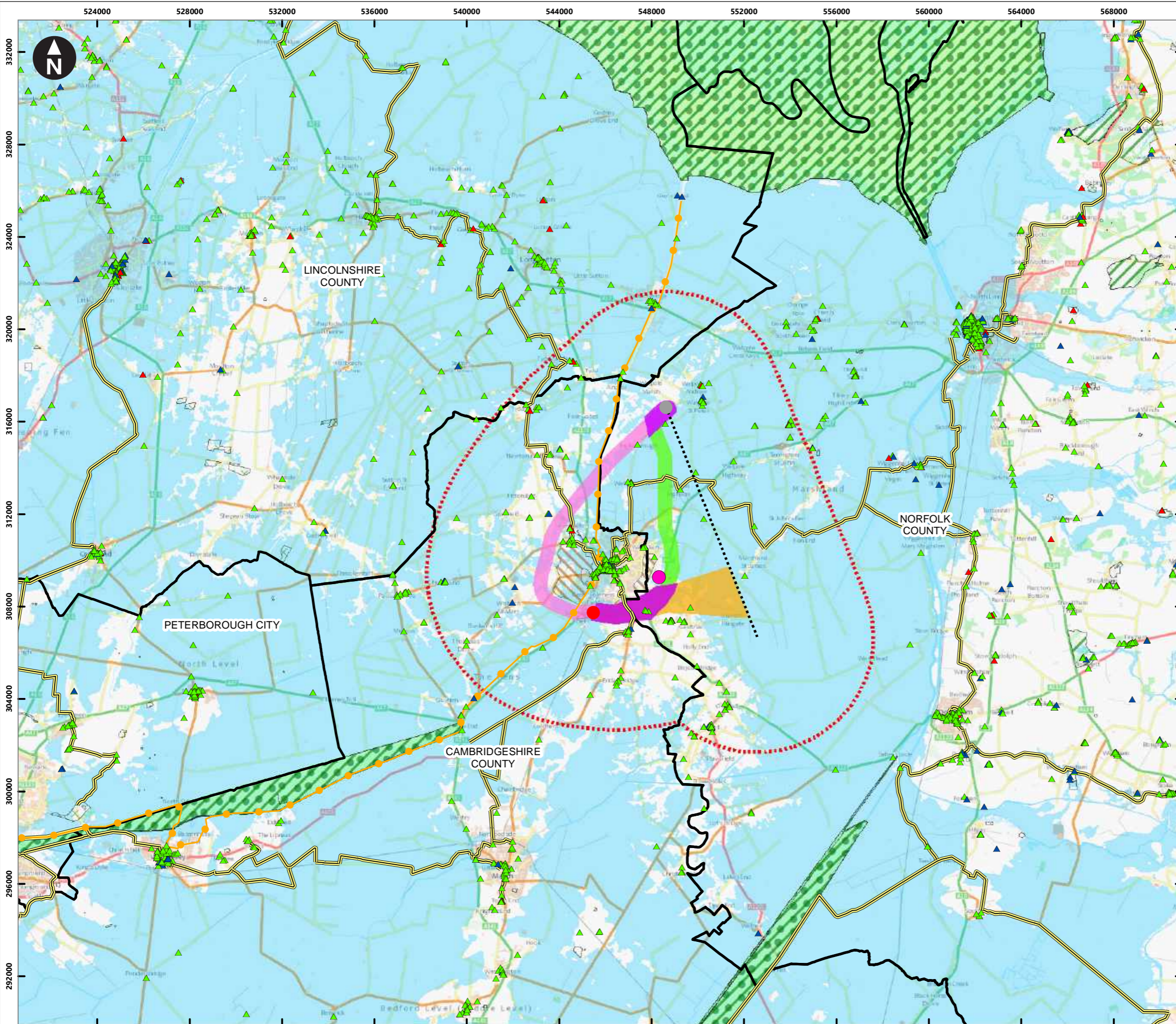
Figure 2.1:
Study Area

September 2020



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Key

Listed building

Grade

- ▲ I
- ▲ II*
- ▲ II
- Walsoken substation
- Walpole substation
- Energy from Waste CHP Facility
- Nene Way Long Distance Trail
- National Cycle Network
- Existing 400kV OHL
- Administrative boundaries
- Common route
- 132kV East (Most direct route)
- 132kV West (Most direct route)
- 400kV West (Most direct route)
- ▨ Ramsar
- ▨ Special areas of conservation
- ▨ Special protection areas
- ▨ Special areas of conservation
- ▨ Parks and gardens
- ▨ Scheduled monuments
- ▨ Strategic allocations
- ▨ Study area
- ▨ Flood zones

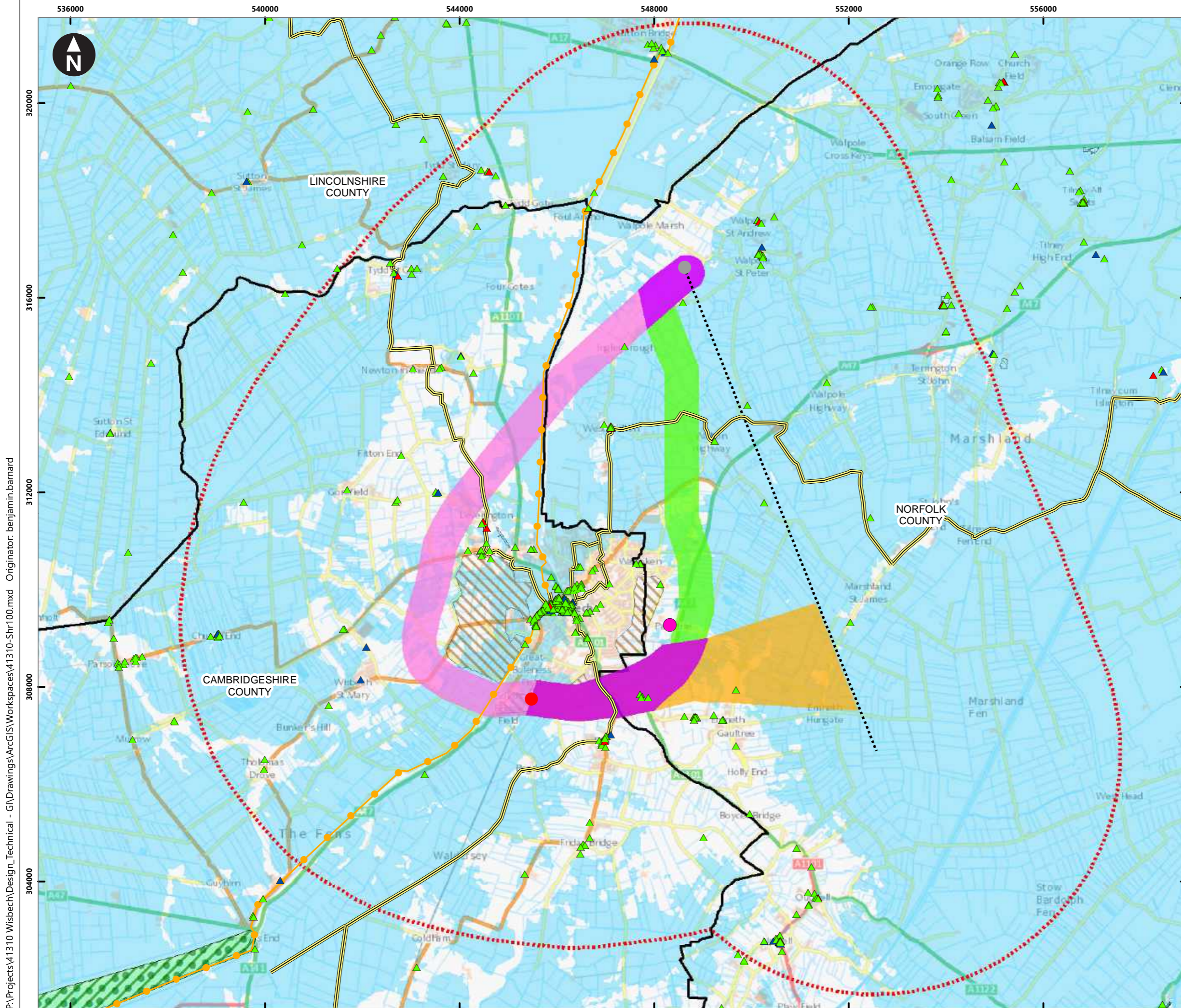
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Medworth Energy from Waste CHP Facility

Figure 2.2a:
Environmental Constraints Plan



Key

Listed building

Grade

- ▲ I
- ▲ II*
- ▲ II
- Walsoken substation
- Walpole substation
- Energy from Waste CHP Facility
- Nene Way Long Distance Trail
- National Cycle Network
- Existing 400kV OHL
- ▭ Administrative boundaries
- ▭ Common route
- ▭ 132kV East (Most direct route)
- ▭ 132kV West (Most direct route)
- ▭ 400kV West (Most direct route)
- ▨ Ramsar
- ▨ Special areas of conservation
- ▨ Special protection areas
- ▨ Special areas of conservation
- ▨ Parks and gardens
- ▨ Scheduled monuments
- ▨ Strategic allocations
- ▨ Study area
- ▨ Flood zones

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MVV Environment Ltd
 Medworth Energy from Waste CHP Facility

Figure 2.2a:
Environmental Constraints Plan

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Appendix A

Glossary

Acronym/term	Full term/definition
Access Improvements	To improve access from Cromwell Road along New Bridge Lane to the EfW CHP Facility
Alternatives	Different design, layout and technological possibilities considered
[the] Applicant	MVV Environment Ltd, the company applying for a Development Consent Order also referred to as the Developer
AONB	Areas of Outstanding Natural Beauty
Assessment	A process by which information about effects of a proposed plan, programme or project are evaluated.
CCC	Cambridgeshire County Council
CHP	Combined Heat and Power
[the] Combined Heat and Power Connection Corridor	Potential combined heat and power connection corridor identified along a disused railway line and into the surrounding industrial estate
[the] Developer	MVV Environment Ltd, the company applying for a Development Consent Order also referred to as the Applicant
DCO	Development Consent Order. The form of development consent granted by the Secretary of State for a Nationally Significant Infrastructure Project.
DNO	District Network Operator. A company licensed to distribute electricity in the UK.
EMFs	Electromagnetic Fields
EfW	Energy from Waste
[the] EfW CHP Facility	The Energy from Waste Combined Heat and Power Facility. The facility where residual waste is delivered to be treated by means of controlled incineration to produce energy.
EIA Regulations	The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
ESQC 2002	ICNIRP guidelines for the Electricity Safety, Quality and Continuity Regulations 2002
Environmental Assessment	A method and a process by which information about environmental effects is collected, assessed and used to inform decision-making



Acronym/term	Full term/definition
EIA	Environmental Impact Assessment. A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. Involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Regulations, including the publication of an Environmental Statement.
ES	Environmental Statement. A document produced in accordance the EIA Regulations.
European Site	Sites which make up the European ecological network (also known as Natura 2000 sites). These include: Sites of Community Importance (SCIs); Special Protection Areas (SPAs) and potential SPAs (pSPAs); Special Areas of Conservation (SACs) and candidate or possible SACs (cSACs or pSACs); and Ramsar sites.
FDC	Fenland District Council
[the] Grid Connection	The route of an electrical connection to the National Electricity Transmission Network from the Energy from Waste CHP Facility
[the] Grid Connection Corridor	Areas of search to connect the Energy from Waste CHP Facility to the National Electricity Transmission Network
[the] Grid Route Temporary Construction Compound(s)	Compounds that are required temporarily along the Grid Connection route to facilitate the laying and erection of poles and cables and other associated works
[the] Holford Rules	Guidelines for the routing of new high voltage overhead transmission lines
Independent Connection Provider	An accredited company that carries out works on behalf of clients on the electricity network
ICNIRP	International Commission on Non-Ionizing Radiation Protection
KLWN	Borough Council of King's Lynn and West Norfolk
km	Kilometre
kV	Kilovolt
LETVEM	Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic and Electromagnetic Fields (up to 300 GHz) 1998
m	Metre
MW	Megawatt
[the] Main Development Site	The area incorporating the Energy from Waste CHP Facility, Combined Heat and Power Connection Corridor and Access Improvements, to distinguish this from the Grid Connection Corridor.
National Grid	Company which owns the National Electricity Transmission Network



Acronym/term	Full term/definition
National Electricity Transmission Network	The high voltage electricity transmission network for England, Scotland and Wales
NNRs	National Nature Reserves
Norfolk County Council	NCC
NPPF	National Planning Policy Framework
NPS	National Policy Statements. Documents which set out the primary policy considerations for Nationally Significant Infrastructure Projects
NSIP	Nationally Significant Infrastructure Project. Large projects that support the economy and vital public services, including railways, large wind farms, power stations, reservoirs, harbours, airports and sewage treatment works, as defined in the Planning Act 2008
NPS EN-1	National Policy Statement - Overarching NPS for Energy
NPS EN-3	National Policy Statement - Renewable Energy Infrastructure
NPS EN-5	National Policy Statement - Electricity Networks Infrastructure
OHL	Overhead Line
2008 Act	Planning Act 2008 (as amended)
Preferred Option	The chosen design option that most successfully achieves the project objectives and becomes subject to further design and assessment.
Private Wire Connections	A cable that transmits electricity generated by the Energy from Waste CHP Facility to customers
Potential Construction Compound	An area of land identified in the EIA Scoping Report for a potential construction compound for the Main Development Site
Potential Construction Compound and Potential Substation Location	An area of land identified in the EIA Scoping Report for a potential construction compound and substation for the Main Development Site
[the] Proposed Development	The Whole of the development comprising Medworth EfW CHP Facility, Combined Heat and Power Connections, Grid Connection, Access Improvements, Substations, Temporary Construction Compounds and Grid Connection Temporary Construction Compounds
Ramsar	Areas designated by the UK Government under the International Ramsar Convention (the Convention on Wetlands of International Importance).
Receptor	A defined environmental feature usually associated with population, fauna and flora with the potential to be affected by a project.
Scoping	The process of identifying the issues to be addressed by the environmental impact assessment process. It is a method of ensuring that an assessment focuses on the important issues



Acronym/term	Full term/definition
	and avoids those that are considered to be not significant.
Scoping Opinion	The opinion received from the Secretary of State on the information contained with the Scoping Report. Dated December 2019
[the] Scoping Report	The Applicant's EIA Scoping Report for the Proposed Development dated December 2019
SoS	Secretary of State for Business, Energy and Industrial Strategy
SAC	Special Area of Conservation. International designation implemented for the protection of habitats and (non bird) species and protected in England by the Conservation of Habitats and Species Regulations 2017.
SPA	Special Protection Area. International designation implemented for the conservation of wild birds and protected in England by the Conservation of Habitats and Species Regulations 2017.
SSSI	Site of Special Scientific Interest
Stakeholder	An organisation or individual with a particular interest in the project.
Statutory Consultee	Organisations that the competent authority is required to consult by virtue of the EIA Regulations and the Infrastructure Planning (APEP) Regulations 2009.
Steam Pipeline	A pipeline that transports steam generated by the EfW CHP Facility to customer
Study Area	The spatial area within which environmental effects are assessed (i.e. extending a distance from the project footprint in which significant environmental effects are anticipated to occur). This may vary between the topic areas.
[the] Temporary Construction Compounds	Land identified by the Potential Construction Compound and Potential Construction Compound and Potential Substation Location
UKPN	UK Power Networks. A District Network Operator responsible for the regional electrical transmission network

