Medworth Energy from Waste
Combined Heat and Power Facility

PINS ref. EN010110
Document Reference: Vol 6.2
Revision 1.0
June 2022

Environmental Statement
Chapter 11: Biodiversity

Regulation reference: The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 Regulation 5(2)(a)

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Contents

11. Biodiversity

11.1 Introduction

11.1.1 This chapter presents the environmental assessment of the likely significant effects of the Proposed Development with respect to biodiversity.

11.1.2 The chapter should be read in conjunction with the description of the development provided in **Chapter 3 Description of the Proposed Development (Volume 6.2**) and relevant parts of the following chapters, where common Receptors have been considered and where there is an overlap or relationship between the assessment of effects:

- **Chapter 6 Traffic and Transport (Volume 6.2)** (due to the potential for disturbance associated with the Proposed Development to negatively affect habitats, flora and fauna);
- **Chapter 7 Noise and Vibration (Volume 6.2)** (due to the potential for fauna to be disturbed or displaced by noise and vibration associated with the Proposed Development);
- **Chapter 8 Air Quality (Volume 6.2)** (due to the potential for emissions and dust associated with the Proposed Development to negatively affect habitats, flora and fauna);
- **Chapter 12 Hydrology (Volume 6.2)** (due to the close association between some habitats, flora and fauna, and local hydrology);
- **Chapter 14 Climate (Volume 6.2)** (due to the potential for climate change to negatively affect habitats, flora and fauna within the baseline for the Proposed Development); and
- **Chapter 15 Socio-economics, Tourism, Recreation and Land Use (Volume 6.2)** (due to the potential for fauna to be disturbed or displaced due to changes in land use).

11.1.3 The potential for cumulative effects as a result of inter-project impacts is addressed within **Chapter 18 Cumulative Effects Assessment (Volume 6.2)**.

11.1.4 The scientific names for species referred to within this chapter are presented in **Appendix 11C (Volume 6.4)**.

11.1.5 A list of terms and abbreviations can be found in **Chapter 1 Introduction, Appendix 1F (Volume 6.4)**.

Limitations of the ES

11.1.6 Land access issues encountered during baseline surveys are outlined in the baseline reports (see **Appendices 11D to 11L (Volume 6.4)**). These were primarily:

- Areas of impenetrably dense scrub vegetation, namely central sections of the CHP Connection Corridor, and isolated stands at the EfW CHP Facility Site and

within the wider survey area adjacent to the Grid Connection. In these instances, surveys focussed on adjoining areas of similar habitat where no evidence was found to suggest the presence of any additional ecological features within the inaccessible land. Further to this, inaccessible areas were viewed from adjacent land using binoculars, and assessed using up-to-date satellite imagery[1], which is considered sufficiently robust to have identified broad habitat types present, and to confirm their consistency with adjacent accessible habitats;

- An updated desk study was undertaken following confirmation of the Proposed Development design along the Grid Connection (due to a change from an underground cable and 132kV overhead line through predominantly agricultural land, to a lower impact design using an underground cable located predominantly within the verge immediately adjoining the A47 road). This desk study identified an additional 33 ditches within the 100m ditch area of search for water vole and great crested newt. It was not possible to survey the additional ditches for these features due to a combination of the ditches being identified after the respective survey periods had ended, and due to Health and Safety risks associated with surveying ditches within 10m of the A47 due to heavy traffic flows, and land access restrictions. Ditches in close proximity to roads such as the A47 are likely to be less suitable for ecological features due to a combination of disturbance from heavy traffic and decreased water quality due to run-off and litter. Given that the construction footprint in these areas would be restricted to the immediate roadside verge along the Grid Connection there would not be any substantive direct impacts to ditch habitat, and, furthermore, the verge is predominantly unsuitable terrestrial habitat for the sensitive ecological features identified within this chapter. It is also the case that there is an extensive adjoining and well-connected network of ditch habitat throughout the Study Area that is of equal or greater quality, where surveys of water vole, great crested newt and other features were undertaken. In these instances, the ditches surveyed were assessed as being suboptimal for these species. The collective results of the baseline surveys are therefore considered sufficiently robust to inform the assessment of the likely effects of the Proposed Development for the Grid Connection; and
- There were small, localised areas with land access restrictions during baseline surveys; however, the vast majority of land within the footprint of the Proposed Development and adjoining critical Survey Areas was accessible for surveys. Therefore, the inaccessible areas were considered to be insignificant and unlikely to affect the outcome of baseline surveys, and thus access was not pursued through Section 53 Rights of entry.

11.1.7 As a further precaution, embedded environmental measures (see **Section 11.7**) including **14 – Pre-construction update surveys**, **4 – Sensitive vegetation removal** and other species-specific measures would detect any additional sensitive ecological features in areas that were inaccessible during the baseline surveys that could be affected by the Proposed Development, and these would be mitigated accordingly prior to construction.

[1] Google Earth Pro, recent imagery dated June 2021.

11.2 Consultation and stakeholder engagement

11.2.1 The assessment has been informed by consultation responses and ongoing stakeholder engagement. An overview of the approach to consultation is provided in **Chapter 4 Approach to the EIA (Volume 6.2).**

11.2.2 A summary of the relevant responses received in the EIA Scoping Opinion in relation to biodiversity and confirmation of how these have been considered within the assessment to date is presented in **Table 11A.1** in **Appendix 11A (Volume 6.4)**.

11.2.3 An overview of the key Stakeholders consulted following scoping and a summary of the issues discussed in relation to biodiversity is presented in **Table 11A.2** in **Appendix 11A (Volume 6.4)**.

11.2.4 A summary of the relevant responses received to the Preliminary Environmental Information Report (PEIR), together with any subsequent discussions held in relation to biodiversity and confirmation of how these have been considered within the assessment to date is presented in **Table 11A.3** in **Appendix 11A (Volume 6.4)**.

11.3 Relevant legislation, planning policy, technical guidance

Legislative context

11.3.1 Legislation relevant to the assessment of the effects on ecological features[1] is provided in **Table 11.1 Legislative context for biodiversity.**

Table 11.1 Legislative context for biodiversity

Legislation	Implications
The Environment Act 2021[2]	The Environment Act (passed in November 2021) translates aspects of the Government publication "A Green Future: Our 25 Year Plan to Improve the Environment" into legislation. The Environment Act, once the relevant provisions are commenced (which has not yet occurred at the time of writing) makes it mandatory for the vast majority of development projects to deliver a 10% Biodiversity Net Gain (BNG) as a condition to gaining consent. This requirement to deliver BNG also extends to Nationally Significant Infrastructure Projects (NSIPs) consented under the Planning Act 2008 (as amended), although the required percentage increase (and the mechanisms and processes for achieving it) will be controlled by the Secretary of State (SoS) either through individual National Policy Statements or separately published statements. The approach to delivering BNG for the Proposed Development is outlined in **Appendix 11M Biodiversity Net Gain Assessment (Volume 6.4)**.
Conservation of Habitats and Species	These regulations transposed Council Directive 92/43/EEC on the conservation of natural habitats and wild flora and fauna ('the Habitats Directive') into national law. They also transpose elements of Council Directive 2009/147/EC on the conservation

[1] Ecological feature is the term used in this chapter to describe terrestrial ecology and nature conservation receptors. This is to maintain consistency of terms between this assessment and the EcIA guidance provided by CIEEM (CIEEM, 2018, updated 2019).
[2] Environment Act 2021, c. 30.

Legislation	Implications
Regulations 2017 ("the Habitats Regulations")[3] as amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019	of wild birds ('the Birds Directive'). The Habitats Regulations provide the framework for the protection of Natura 2000 sites (now referred to as the national site network following the amendments that came into force on 31 December 2020), and for certain flora and fauna (known as European Protected Species (EPS)). The regulations set out the process with regard to the assessment of development. The Proposed Development may result in effects on constituents of the national site network and EPS which require assessment in line with the Habitats Regulations. Within this chapter, the likely significant effects on these sites and EPS are assessed in **Section 11.6** with embedded environmental measures detailed in **Section 11.7**.
Natural Environment and Rural Communities Act 2006 ('the NERC Act')[4]	The NERC Act (amongst other matters) places a duty to conserve biodiversity on public authorities in England, while the prospective Environment Act 2021 amendments to this will require public authorities to conserve and enhance biodiversity. This requires local authorities and government departments to have regard to the purposes of conserving biodiversity in a manner that is consistent with the exercise of their normal functions. The NERC Act also places a duty on the SoS to maintain lists of species and habitats which are regarded as being of principal importance for the conservation of biodiversity in England. These Habitats of Principal Importance (HPI) and Species of Principal Importance (SPI) are used to guide decision makers in implementing their duties to have regard to the conservation of biodiversity in England when carrying out their normal functions. The Proposed Development may result in effects on HPI and SPI in England. This chapter provides information about, and assessment of HPI and SPI. Likely significant effects on HPI and SPI are assessed in **Section 11.6**. Embedded environmental measures are detailed in **Section 11.7**.
Countryside and Rights of Way Act 2000 ('the CRoW Act')[5]	The CroW Act, amongst other elements, details further measures for the management and protection of Sites of Special Scientific Interest (SSSI) and strengthens wildlife enforcement legislation. The Proposed Development may result in effects on SSSIs and protected flora and fauna. The protection conferred to these ecological features through legislation is accounted for within the scope of the assessment and the likely significant effects in **Section 11.6** and the embedded environmental measures are detailed in **Section 11.7**.
The Hedgerows Regulations 1997 ('the Hedgerow Regulations')[6]	The Hedgerows Regulations facilitate the protection of hedgerows growing in or adjacent to common land, protected land or land used for agriculture, forestry or the breeding and keeping of horses, ponies, or donkeys. The Proposed Development may result in effects on hedgerows deemed important by the Hedgerows Regulations. The likely significant effects on hedgerows are considered in **Section 11.6** and embedded environmental measures detailed in **Section 11.7**.
Protection of Badgers Act 1992 ("the Protection of Badgers Act")[7]	The Protection of Badgers Act consolidated and improved protection for badgers. It specifically makes it an offence to kill, injure or take a badger, or damage or interfere with a sett unless a licence has been obtained from a statutory authority.

[3] The Conservation of Habitats and Species Regulations 2017 (No. 1012).
[4] Natural Environment and Rural Communities Act 2006, c.16.
[5] Countryside and Rights of Way Act 2000, c.37.
[6] The Hedgerows Regulations 1997 (No.1160).
[7] Badger Act 1992, c.51.

Legislation	Implications
	The Proposed Development may result in effects on badgers and their setts. The protection conferred to badgers through legislation is accounted for within the scope of the assessment and the likely significant effects in **Section 11.6** and embedded environmental measures detailed in **Section 11.7**.
Wildlife and Countryside Act 1981 (as amended) (WCA)[8]	The WCA consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats ('the Bern Convention') and Council Directive 79/409/EEC on the conservation of wild birds (Birds Directive). Amongst other matters it provides protection for wild birds, certain flora and fauna and sets the framework for the protection and management of SSSIs. The Proposed Development may result in effects on SSSIs and protected flora and fauna. The protection conferred to these ecological features through legislation is accounted for within the scope of the assessment and the likely significant effects in **Section 11.6** and embedded environmental measures detailed in **Section 11.7**.
The European Union (EU) Water Framework Directive (2000/60/EC) (WFD) as enacted into domestic law by the Water Environment (Water Framework Directive (England and Wales) Regulations 2017 (as amended)	A fundamental requirement of the WFD is to attain 'Good Ecological Status', or 'Good Ecological Potential' within each defined water body by December 2027 at the latest and to ensure that any deterioration in status is prevented.

Planning policy context

11.3.2 There are a number of policies at the national and local level that are relevant to the Proposed Development. The overarching National Policy Statements (NPS), which provide the primary policy basis for the consideration of Nationally Significant Infrastructure Projects, are provided in **Table 11.2 Planning policy context for biodiversity: Adopted National Policy Statements**. This section should be read in conjunction with **Chapter 5 Legislation and Policy (Volume 6.2)**.

[8] Wildlife and Countryside Act 1981.

Table 11.2 Planning policy context for biodiversity: Adopted National Policy Statements

Policy reference	Implications	Section addressed
Overarching National Policy Statement for Energy (EN-1)[9]	Paragraph 5.3.3 of EN-1 states: "*Where the development is subject to EIA the applicant should ensure that the ES clearly sets out any effects on internationally, nationally and locally designated sites of ecological or geological conservation importance, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity. The applicant should provide environmental information proportionate to the infrastructure where EIA is not required to help the* IPC [Infrastructure Planning Commission] *consider thoroughly the potential effects of a proposed project.*"	Statutorily and non-statutorily designated sites, habitats and species of principal importance, legally protected species and other habitats and species of note are considered in **Section 11.6**. For those ecological features where the potential for likely significant effects exist, further assessment is provided in **Section 11.9**, alongside consideration of the embedded environmental measures, detailed in **Section 11.7**. The adherence to CIEEM guidance (2018, updated 2019) on Ecological Impact Assessment (EcIA) provides the necessary structure to ensure a proportionate assessment is provided, as detailed in **Section 11.8**.
	Paragraph 5.3.4 of EN-1 states: "*The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests.*"	Embedded environmental measures are detailed in **Section 11.7**. Biodiversity enhancements are outlined in **Section 11.10**.
	Paragraph 5.3.7 of EN-1 states: "*development should aim to avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives*" and that "*where significant harm cannot be avoided, then appropriate compensation measures should be sought.*"	Embedded environmental measures are detailed in **Section 11.7**, including measure **2 – Minimise land take and micro-site** which aims to minimise the land take for works and locate (and micro-site) those works away from the more important ecological features. Consideration of additional mitigation and compensation is outlined in **Section 11.10**.
	Paragraph 5.3.8 of EN-1 states: "*In taking decisions, the IPC should ensure that appropriate weight is attached to designated sites of international, national and local importance; protected species; habitats and other species of*	Sites of international, national and local importance, protected species, and HPI and SPI and other ecological features have been considered where they are they are either legally protected or

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

Policy reference	Implications	Section addressed
	principal importance for the conservation of biodiversity; and to biodiversity and geological interests within the wider environment."	of sufficient biodiversity importance that an effect on them could be significant, and which could be affected by the Proposed Development, as outlined in **Section 11.6**.
	Paragraph 5.3.11 of EN-1 states: "*Where a Proposed Development on land within or outside an SSSI is likely to have an adverse effect on an SSSI (either individually or in combination with other developments), development consent should not normally be granted. Where an adverse effect, after mitigation, on the site's notified special interest features is likely, an exception should only be made where the benefits (including need) of the development at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of SSSIs. The IPC should use requirements and/or planning obligations to mitigate the harmful aspects of the development and, where possible, to ensure the conservation and enhancement of the site's biodiversity or geological interest.*"	The design of the Proposed Development outlined in **Chapter 3 Description of the Proposed Development (Volume 6.2)** has avoided land take within any SSSIs. Potential likely significant effects on SSSIs close to the Proposed Development are considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7**.
	Paragraph 5.3.13 of EN-1 states: *"Sites of regional and local biodiversity and geological interest, which include Regionally Important Geological Sites, Local Nature Reserves and Local Sites, have a fundamental role to play in meeting overall national biodiversity targets; contributing to the quality of life and the well-being of the community; and in supporting research and education. The IPC should give due consideration to such regional or local designations. However, given the need for new infrastructure, these designations should not be used in themselves to refuse development consent."*	'Local Sites' in Cambridgeshire and Norfolk are known as County Wildlife Sites (CWS). The design of the Proposed Development outlined in **Chapter 3 Description of the Proposed Development (Volume 6.2)** has avoided land take within any CWSs. There are no other sites of regional and local biodiversity or geological interest within 2km of the Proposed Development. Potential likely significant effects on CWSs close to the Proposed Development are considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7**.

Policy reference	Implications	Section addressed
	Paragraph 5.3.14 of EN-1 states: *"Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. The IPC should not grant development consent for any development that would result in its loss or deterioration unless the benefits (including need) of the development, in that location outweigh the loss of the woodland habitat. Aged or 'veteran' trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by development proposals the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons why."*	No areas of ancient woodland or veteran trees have been identified within the Study Area during the desk study or field surveys (see **Section 11.5**), therefore these features are not taken forward for further assessment.
	Paragraph 5.3.15 of EN-1 states: "*Development proposals provide many opportunities for building-in beneficial biodiversity or geological features as part of good design. When considering proposals, the IPC should maximise such opportunities in and around developments, using requirements or planning obligations where appropriate.*"	Biodiversity enhancements are outlined in **Section 11.10**.
	Paragraph 5.3.17 of EN-1 states: "*Other species and habitats have been identified as being of principal importance for the conservation of biodiversity in England and Wales and thereby requiring conservation action. The IPC should ensure that these species and habitats are protected from the adverse effects of development by using requirements or planning obligations. The IPC should refuse consent where harm to the habitats or species and their habitats would result, unless the benefits (including need) of the development outweigh that harm. In this context the IPC should give substantial weight to any such harm to the detriment of biodiversity features of national or regional importance which it considers may result from a proposed development.*"	Potential likely significant effects on species and habitats of principal importance (SPI and HPI) are considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7**.

Policy reference	Implications	Section addressed
	Paragraph 5.3.18 of EN-1 states: *"The applicant should include appropriate mitigation measures as an integral part of the Proposed Development. In particular, the applicant should demonstrate that:* • *During construction, they will seek to ensure that activities will be confined to the minimum areas required for the works;* • *During construction and operation best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised, including as a consequence of transport access arrangements;* • *Habitats will, where practicable, be restored after construction works have finished; and* • *Opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site landscaping proposals."*	Embedded environmental measures are detailed in **Section 11.7**. Additional mitigation and biodiversity enhancements are outlined in **Section 11.10**.
National Policy Statement for Renewable Energy Infrastructure (EN-3)[10]	In the section on biomass/waste combustion and in the context of national designations paragraph 2.5.33 of EN-3 states that: *"consent for renewable energy projects should only be granted where it can be demonstrated that the objectives of designation of the area will not be compromised by the development, and any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by the environmental, social and economic benefits".*	The design of the Proposed Development outlined in **Chapter 3 Description of the Proposed Development (Volume 6.2)** has avoided land take within any national designated sites. Potential likely significant effects on national designated sites close to the Proposed Development are considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7**.
National Policy Statement for Electricity Networks Infrastructure (EN-5)[11]	Section of 2.7 of EN-5 is relevant to biodiversity: Consideration needs to be made of the potential for large birds to collide with the wires, causing injury/death. If there is a risk of this	Potential likely significant effects on birds are considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7**.

[10] Development for Energy and Climate Change National Policy Statement for Renewable Energy Infrastructure (EN-3).
[11] National Policy Statement for Electricity Networks Infrastructure (EN-5). This NPS, together with EN-1, is the primary decision-making guidance document when considering development consent applications for NSIPs for electricity networks infrastructure in England and Wales. The Proposed Development includes for an electrical connection.

Policy reference	Implications	Section addressed
	occurring, measures should be implemented to avoid or minimise this.	

11.3.3 In September 2021, The Department of Business, Energy and Industrial Strategy (BEIS) consulted upon a review of energy NPS with consultation closing on 29 November 2021. The energy NPS were reviewed to reflect the policies and broader strategic approach set out in the white paper and ensure a planning framework was in place to support the infrastructure requirement for the transition to net zero.

11.3.4 **Table 11.3 Planning policy context for biodiversity: Draft National Policy Statements** summarises those Draft energy NPS which are considered to be relevant to the Proposed Development.

Table 11.3 Planning policy context for biodiversity: Draft National Policy Statements

Policy reference	Implications	Section addressed
Draft Overarching National Policy Statement for Energy (EN-1)[12]	Paragraph 4.5.2 of Draft EN-1 states: "*Although achieving biodiversity net gain is not an obligation for projects under the Planning Act 2008, energy NSIP proposals should seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity where possible. Applicants are encouraged to use the most current version of the Defra biodiversity metric to calculate their biodiversity baseline and inform their biodiversity net gain outcomes and to present this data as part of their application. Biodiversity net gain should be applied in conjunction with the mitigation hierarchy and does not change or replace existing environmental obligations*".	The approach to delivering BNG is outlined in **Section 11.10**.
	Paragraph 5.4.3 of Draft EN-1 states: "*Where the development is subject to EIA the applicant should ensure that the ES clearly sets out any effects on internationally, nationally, and locally designated sites of ecological or geological conservation importance, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity. The*	Statutorily and non-statutorily designated sites, habitats and species of principal importance, legally protected species and other habitats and species of note are scoped in or out of the assessment in **Section 11.6**. For those ecological features where the potential for likely significant effects exist, further assessment is provided in **Section 11.9**,

[12] Draft Overarching National Policy Statement for Energy (EN-1) (2021).

Policy reference	Implications	Section addressed
	applicant should provide environmental information proportionate to the infrastructure where EIA is not required to help the Secretary of State consider thoroughly the potential effects of a proposed project."	alongside consideration of the embedded environmental measures, detailed in **Section 11.7**. The adherence to CIEEM guidance (2018, updated 2019) on Ecological Impact Assessment (EcIA) provides the necessary structure to ensure a proportionate assessment is provided, as detailed in **Section 11.8**.
	Paragraph 5.4.4 of Draft EN-1 states: "*The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests*" and "*The applicant is encouraged to consider how their proposal can contribute towards Biodiversity Net Gain in line with the ambition set out in the 25 Year Environment Plan*".	Embedded environmental measures are detailed in **Section 11.7** and additional mitigation in **Section 11.10**. The approach to delivering BNG is outlined in **Section 11.10**.
	Paragraph 5.4.8 of Draft EN-1 states: "*The Habitats Regulations set out sites for which an HRA will assess the implications of a plan or project, including Special Areas of Conservation and Special Protection Areas. As a matter of policy, the following should be given the same protection as sites covered by the Habitat's Regulations: (a) potential Special Protection Areas and possible Special Areas of Conservation; (b) listed or proposed Ramsar sites; and (c) sites identified, or required, as compensatory measures for adverse effects on other HRA sites*".	Baseline data gathering included the full range of existing and potential statutory biodiversity sites is outlined in **Section 11.4.** Potential likely significant effects on statutory biodiversity sites are considered in **Section 11.6** and assessed in **Section 11.9**. The approach to Habitat Regulations Assessment (HRA) is outlined in **Section 11.8**, and an HRA NSER has been prepared for the Proposed Development (See **Volume 5.3 Habitat Regulations Assessment NSER**).
	Paragraph 5.4.10 of Draft EN1 states: "*Development on land within or outside a SSSI, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits (including need) of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network*	The design of the Proposed Development outlined in **Chapter 3 Description of the Proposed Development (Volume 6.2)** has avoided land take within any SSSIs. Potential likely significant effects on SSSIs close to the Proposed Development are considered in **Section 11.6** and assessed in **Section 11.9**. Embedded

Policy reference	Implications	Section addressed
	of SSSIs. The Secretary of State should use requirements and/or planning obligations to mitigate the harmful aspects of the development and, where possible, to ensure the conservation and enhancement of the site's biodiversity or geological interest."	environmental measures are detailed in **Section 11.7**.
	Paragraph 5.4.12 of Draft EN-1 states: "*Sites of regional and local biodiversity and geological interest, which include Regionally Important Geological Sites, Local Nature Reserves and Local Wildlife Sites, are areas of substantive nature conservation value and make an important contribution to ecological networks and nature's recovery. They can also provide wider benefits including public access (where agreed), climate mitigation and helping to tackle air pollution. National planning policy expects plans to identify and map Local Wildlife sites, and to include policies that not only secure their protection from harm or loss but also help to enhance them and their connection to wider ecological networks. The Secretary of State should give due consideration to such regional or local designations. However, given the need for new nationally significant infrastructure, these designations should not be used in themselves to refuse development consent. Development will still be expected to comply with the biodiversity and geological conservation requirements set out in this NPS.*"	'Local Sites' in Cambridgeshire and Norfolk are known as County Wildlife Sites (CWS). The design of the Proposed Development outlined in **Chapter 3 Description of the Proposed Development (Volume 6.2)** has avoided land take within any CWSs. There are no other sites of regional and local biodiversity or geological interest within the zone of influence of the Proposed Development. Potential likely significant effects on CWSs close to the Proposed Development are considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7**.
	Paragraph 5.4.13 of Draft EN-1 states: "*Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. The Secretary of State should not grant development consent for any development that would result in its loss or deterioration unless the benefits (including need) of the development, in that location clearly outweigh the loss of the woodland habitat. Aged or 'veteran' trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by*	The project design of the Proposed Development outlined **Chapter 3 Description of the Proposed Development (Volume 6.2)** has avoided land take within any ancient woodland. No areas of ancient woodland or veteran trees have been identified within the Study Area during the desk study or field surveys (see **Section 11.5**), therefore these features are not taken forward for further assessment.

Policy reference	Implications	Section addressed
	development proposals the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons why. Applicants should provide a suitable compensation strategy in instances where proposals would result in the loss or deterioration of ancient woodland and ancient or veteran trees."	
	Paragraph 5.4.16 of Draft EN-1 states: "*Other species and habitats have been identified as being of principal importance for the conservation of biodiversity in England and Wales and thereby requiring conservation action.89 The Secretary of State should ensure that these species and habitats are protected from the adverse effects of development by using requirements, planning obligations, or licence conditions. The Secretary of State should refuse consent where harm to the habitats or species and their habitats would result, unless the benefits (including need) of the development outweigh that harm. In this context the Secretary of State should give substantial weight to any such harm to the detriment of biodiversity features of national or regional importance which it considers may result from a proposed development*" and that "*Proposals should also consider any opportunities to maximise the restoration, creation, and enhancement of wider biodiversity. Consideration should be given to improvements to, and impacts on, habitats and species in, around and beyond developments, for wider ecosystem services and natural capital benefits, beyond those under protection and identified as being of principal importance. This may include considerations and opportunities identified through Local Nature Recovery Strategies, and national goals and targets set through the government's strategy for nature for example.*"	Potential likely significant effects on species and habitats of principal importance (SPI and HPI) are considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7**.
	Paragraph 5.4.18 of Draft EN-1 states: "The applicant should include appropriate mitigation measures as an	Embedded environmental measures are detailed in **Section**

Policy reference	Implications	Section addressed
	integral part of the proposed development. In particular, the applicant should demonstrate that: • During construction, they will seek to ensure that activities will be confined to the minimum areas required for the works; • The timing of construction has been planned to avoid or limit disturbance to birds during the breeding season; • During construction and operation best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised, including as a consequence of transport access arrangements; • Habitats will, where practicable, be restored after construction works have finished; and • Mitigation measures should take into account existing habitats and should generally seek opportunities to enhance them, rather than replace them. Where practicable, mitigation measures should seek to create new habitats of value within the site landscaping proposals."	**11.7** and additional mitigation in **Section 11.10**.
	Paragraph 5.4.19 of Draft EN-1 states "*Applicants should consider producing and implementing a Biodiversity Management Strategy as part of their development proposals. This could include provision for biodiversity awareness training to employees and contractors so as to avoid unnecessary adverse impacts on biodiversity during the construction and operation stage.*"	Embedded environmental measures are detailed in **Section 11.7**. Mechanisms for the implementation of environmental measures are outlined in **Section 11.11** and are included within **Chapter 19 Schedule of Mitigation and Monitoring (Volume 6.2)**.
	Paragraph 5.4.22 of Draft EN-1 states: "*Any habitat creation or enhancement delivered for biodiversity net gain should generally be maintained for a minimum period of 30 years.*"	The approach to delivering BNG is outlined in **Section 11.10**.
Draft National Policy Statement for Renewable	In the section on biomass/waste combustion and in the context of national designations paragraph 2.12.3 of Draft EN-3 states that: *"consent for*	The design of the Proposed Development outlined in **Chapter 3 Description of the Proposed Development (Volume 6.2)** has

Policy reference	Implications	Section addressed
Energy Infrastructure (EN-3)[13]	*renewable energy projects should only be granted where the relevant tests in Sections 5.4* [Biodiversity and Geological Conservation] *… of EN-1 are met, and any adverse effects on the qualities for which the area has been designated are clearly outweighed by the environmental, social and economic benefits."*	avoided land take within any national designated sites. Potential likely significant effects on national designated sites close to the Proposed Development are considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7**.
Draft National Policy Statement for Electricity Networks Infrastructure (EN-5)[14]	Section 2.8 of Draft EN-5 is relevant to Biodiversity Net Gain and states: "*When planning and evaluating the proposed development's contribution to environmental and biodiversity net gain, it will be important – for both the Applicant and the Secretary of State – to supplement the generic guidance set out in EN-1 (Section 4.5)* [Environmental and Biodiversity Net Gain] *with recognition that the linear nature of electricity networks infrastructure allows excellent opportunities to: i) reconnect important habitats via green corridors, biodiversity stepping zones, and reestablishment of appropriate hedgerows; and/or ii) connect people to the environment, for instance via footpaths and cycleways constructed in tandem with biodiversity enhancements.*"	The approach to delivering BNG is outlined in **Section 11.10**.
	Section of 2.10 of Draft EN-5 is relevant to biodiversity: Consideration needs to be made of the potential for large birds to collide with the wires, causing injury/death. If there is a risk of this occurring, measures should be implemented to avoid or minimise this.	Potential likely significant effects on birds are considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7**.

11.3.5 Other national and local policies that may provide additional guidance, which can be considered material to the consideration of a NSIP, are detailed in **Table 11.4 Planning policy context for biodiversity: National and local planning policies**.

[13] Draft National Policy Statement for Renewable Energy Infrastructure (EN-3) (2021).
[14] National Policy Statement for Electricity Networks Infrastructure (EN-5) (2021.

Table 11.4 Planning policy context for biodiversity: National and local planning policies

Policy reference	Implications	Section addressed
National Planning Policy Framework (NPPF)[15]	Paragraph 174 of the NPPF requires planning policies and decisions to contribute to and enhance the natural and local environment by: protecting and enhancing sites of biodiversity value in a manner commensurate with their statutory status or identified quality in the development plan; recognising the wider benefits from natural capital and ecosystem services; and minimising impacts on, and providing net gains for, biodiversity.	The design of the Proposed Development outlined in **Chapter 3 Description of the Proposed Development (Volume 6.2)** has avoided land take within any designated biodiversity sites. Potential likely significant effects on designated biodiversity sites close to the Proposed Development are considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7** and additional mitigation and the approach to delivering BNG is outlined in **Section 11.10**.
	Paragraph 180 of NPPF outlines that development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. If significant harm to biodiversity will result from a development that cannot be avoided, mitigated, or compensated for, permission will be refused unless the benefits of development outweigh impacts, or exceptional reasons and compensation apply, and opportunities to improve biodiversity should be in their design, especially where this can secure measurable net gains or enhance public access.	The design of the Proposed Development outlined in **Chapter 3 Description of the Proposed Development (Volume 6.2)** has avoided land take within any SSSI or ancient woodland. The baseline environment is described in **Section 11.5**, with potential likely significant effects on ecological features considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7**.
	Paragraph 181 of NPPF outlines that potential, possible, listed or proposed sites, and those that are an identified compensatory measure, are to be protected as the equivalent designation.	The design of the Proposed Development outlined in **Chapter 3 Description of the Proposed Development (Volume 6.2)** has avoided land take within any designated biodiversity

[15] National Planning Policy Framework (2021).

Policy reference	Implications	Section addressed
		sites, which in accordance with paragraph 181 of NPPF, includes potential SPAs (pSPA), possible SACs (pSAC) and Ramsar Sites and proposed Ramsar Sites which have been treated the same as designated biodiversity sites within this chapter.
	Paragraph 182 of NPPF outlines those potential impacts on sites requiring appropriate assessment will be considered ahead of the presumption for sustainable development.	The approach to HRA is outlined in **Section 11.8**.
Local Policy		
Cambridgeshire County Council and Peterborough City Council Minerals and Waste Local Plan 2036 (2021)[16]	As described in **Chapter 5 Legislation and Policy**, Cambridgeshire County Council and Peterborough City Council's Minerals and Waste Local Plan was adopted on 28 July 2021. Policy 20 Biodiversity and Geodiversity sets out the policy response to conserving and enhancing species and habitats, and international, national and locally designated sites. It provides criteria against which applications will be considered for their potential effects upon biodiversity which include the avoidance of negative impacts and the delivery of net gain appropriate to the scale of development.	The design of the Proposed Development outlined in **Chapter 3 Description of the Proposed Development (Volume 6.2)** has avoided land take within any designated biodiversity sites. Potential likely significant effects on designated biodiversity sites close to the Proposed Development are considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7** and additional mitigation and the approach to delivering BNG and other biodiversity enhancements is outlined in **Section 11.10,** which includes contributing to the objectives of the Local Nature Partnership vision to 'double land for nature'.
Fenland Local Plan (Adopted) (2014)[17]	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: • Protects and enhances biodiversity on and surrounding the proposal site, taking into account locally designated	The design of the Proposed Development outlined in **Chapter 3 Description of the Proposed Development (Volume 6.2)** has avoided land take within

[16] Cambridgeshire County Council and Peterborough City Council Minerals and Waste Local Plan 2036 (2021).
[17] Fenland Local Plan (Adopted) (2014).

Policy reference	Implications	Section addressed
	sites and the special protection given to internationally and nationally designated sites, in accordance with Policy LP19; • 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; and • Complements and enhances the quality of riverside settings, including ecological value and renaturalisation where possible. A Supplementary Planning Document to be adopted in 2014 will be used to further assess planning applications in relation to the criteria in this policy. Please note that this Supplementary Planning Document was adopted in July 2014 and is reported on below. 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: • 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; and • Ensure opportunities are taken to incorporate beneficial features for biodiversity in new developments, including, where possible, the creation	any designated biodiversity sites. Potential likely significant effects on designated biodiversity sites close to the Proposed Development are considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7** which include measures to protect habitats and species, and additional mitigation and the approach to delivering BNG and other enhancements is outlined in **Section 11.10**. The **Outline Landscape and Ecology Strategy** (see **Figure 3.14 Volume 6.3**) has been designed to retain existing habitat within the EfW CHP Facility Site where possible, and includes biodiversity enhancements which reflect the local context, incorporates sustainable drainage systems, and have been designed to include the provision of HPIs, Cambridgeshire and Peterborough Local Priority Habitat, and contribute to local ecological networks and other local strategic conservation objectives.

Policy reference	Implications	Section addressed
	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.	
Fenland District Council Delivering and Protecting High Quality Environments in Fenland Supplementary Planning Document (2014)[18]	Biodiversity (to supplement Local Plan Policy LP16 part (b): Biodiversity) – Detailed policy on Biodiversity issues are covered in the NPPF (paragraphs 109 to 125) and in Policy LP19 of the Fenland Local Plan. As such, there is no additional supplementary policy required in this SPD to support Local Plan Policy LP16 part (b).	See Fenland Local Plan (Adopted) (2014) Policy LP19 above.
Norfolk Core Strategy and Minerals and Waste Development Management Policies DPD (2011)[19]	Policy CS14 Environmental Protection requires that developments must ensure that there are no unacceptable adverse impacts on, and ideally improvements to, biodiversity, including nationally and internationally designated sites and species, habitats and sites identified in Biodiversity Action Plans. Where any development proposals would potentially have adverse impacts on any of these assets, the adequacy of any proposed mitigation measures will be assessed on a case-by-case basis. Policy DM1 Nature Conservation states that development that would harm locally designated nature conservation sites and/or habitats, species of features identified in the UK and Norfolk biodiversity action plans will only be permitted if it can be demonstrated that sufficient measures to mitigate harm to the site, habitat(s) and/or species can be put in place, preferably in advance of development. If appropriate mitigation measures cannot practicable be implemented, compensatory habitats of at leas an equivalent standard at a suitable location should be provided.	The design of the Proposed Development outlined in **Chapter 3 Description of the Proposed Development (Volume 6.2)** has avoided land take within any designated biodiversity sites. Potential likely significant effects on designated biodiversity sites close to the Proposed Development are considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7** and additional mitigation and the approach to delivering BNG is outlined in **Section 11.10**.
King's Lynn and West Norfolk Local Development Framework Core Strategy (2011)[20]	Policy CS12 Environmental Assets states that the Council will protect designated sites and that development should seek to avoid, mitigate or compensate for any adverse impacts.	The project design of the Proposed Development outlined **Chapter 3 Description of the Proposed Development (Volume 6.2)** has avoided land take within any designated biodiversity sites.

[18] Fenland District Council Delivering and Protecting High Quality Environments in Fenland Supplementary Planning Document (2014).
[19] Norfolk Core Strategy and Minerals and Waste Development Management Policies DPD (2011).
[20] King's Lynn and West Norfolk Local Development Framework Core Strategy (2011).

Policy reference	Implications	Section addressed
		The baseline environment is described in **Section 11.5**, with potential likely significant effects on ecological features considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7** and additional mitigation and the approach to delivering BNG is outlined in **Section 11.10**.
King's Lynn and West Norfolk Local Development Framework Site Allocations and Development Management Policies (2016)[21]	The plan considers biodiversity in the context of green infrastructure and open space. Policy DM 19 Green Infrastructure/Habitats Monitoring and Mitigation includes that all new development must ensure there is no adverse effect on a European Protected Sites through the provision of appropriate measures. Policy DM 20 Renewable Energy, which includes for renewable energy developments and associated infrastructure, states that applications will be assessed to determine whether the benefits are outweighed by the impacts with reference to sites of international, national or local nature conservation value.	The design of the Proposed Development outlined in **Chapter 3 Description of the Proposed Development (Volume 6.2)** has avoided land take within any designated biodiversity sites. Potential likely significant effects on designated biodiversity sites close to the Proposed Development are considered in **Section 11.6** and assessed in **Section 11.9**. Embedded environmental measures are detailed in **Section 11.7**. Consideration as to whether the potential effects upon designated sites are outweighed by the benefits associated with the Proposed Development is provided within the Planning Statement **(Volume 7.1).**

Technical guidance

11.3.6 Technical guidance used to inform the assessment is listed in **Table 11.5 Technical guidance for biodiversity assessment.**

[21] King's Lynn and West Norfolk Local Development Framework Site Allocations and Development Management Policies (2016).

Table 11.5 Technical guidance for biodiversity assessment

Technical guidance	Implications
Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal. Version 1.1 (2018, updated in 2019)[22].	Provides recognised best practice technical guidance by the Chartered Institute of Ecology and Environmental Management (CIEEM) on ecological impact assessment for Proposed Developments in terrestrial, freshwater, marine and coastal environments.
Guidelines for Baseline Ecological Assessment (1995)[23]	Provides recognised best practice technical guidance, on the type and level of detail required for describing and evaluating the ecological baseline of an environmental assessment and determining if there are issues of ecological importance for a site or Proposed Development.
Guidelines for Preliminary Ecological Appraisal, Second Edition (2017)[24]	Provides recognised best practice technical guidance by CIEEM on undertaking Preliminary Ecological Appraisals of sites and Proposed Developments, to enable the early identification of potential biodiversity constraints; inform additional surveys or potential mitigation requirements; and help establish the ecological baseline.
BS 42020:2013. Biodiversity: Code of practice for planning and development (2013)[25]	British Standard 42020 *"gives recommendations and guidance for those in the planning and development and land use sectors whose work might affect or have implications for the conservation or enhancement of biodiversity. As such it is applicable to professionals working in the fields of ecology, land use planning, land management, architecture, civil engineering, landscape architecture, forestry, arboriculture, surveying, building and construction."* It provides guidance on how to produce ecological information to accompany planning applications. It recommends that ecological impacts should be assessed and recommendations for mitigation, compensation and enhancement should be made in accordance with the CIEEM Guidelines for Ecological Impact Assessment and provides guidance on the mitigation hierarchy.

11.4 Data gathering methodology

11.4.1 Baseline data collection has been undertaken following the methodology outlined within this section, to obtain information over the Study Area below. The baseline conditions are presented in **Section 11.5**.

[22] Chartered Institute of Ecology and Environmental Management (CIEEM) (2018, updated 2019). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. CIEEM, Winchester.
[23] Institute of Environmental Assessment (1995). Guidelines for Baseline Ecological Assessment. Institute of Environmental Assessment. E & FN Spon, London.
[24] CIEEM (2017). Guidelines for Preliminary Ecological Appraisal, 2nd edition. CIEEM, Winchester.
[25] British Standards Institute (2013). BS 42020:2013. Biodiversity: Code of practice for planning and development.

Study area

11.4.2 The Study Area encompasses the area over which all desk-based and field data was gathered to inform the terrestrial ecology and nature conservation assessment presented in this chapter. The Study Area, component search areas and field survey definitions described below are used throughout this chapter. Due to the presence of multiple ecological features and various potential effects, the level and type of data collection varies across the Study Area. The Study Area comprises:

- Land within the Order limits (as shown on **Figure 11.1 The Proposed Development components and waterbody areas of search (Volume 6.3)**);
- The areas where desk study information was gathered (known as 'areas of search') for sites designated for their nature conservation interest at the international, European[26], national and local levels;
- The areas of search for legally protected and notable ecological features;
- The areas of search for any legally controlled species; and
- The Survey Area for field surveys.

11.4.3 The extent of the specific areas of search (see **Table 11.6 Desktop data for biodiversity assessment**) and Survey Areas (see **Table 11.7 Surveys for biodiversity assessment**) were determined based on best practice guidance and a high-level overview of the types of ecological features present, and the potential effects that could occur. The Study Area was defined on a precautionary basis to ensure that the Zone of Influence (ZoI) relevant to all ecological features was covered during baseline data collection activities. ZoIs are the areas within which a potentially significant effect associated with the Proposed Development may be identified for a particular ecological feature.

11.4.4 The Study Area was reviewed and amended in response to such matters as refinement of design layout of the Proposed Development, the identification of additional impact pathways and, where appropriate, in response to feedback from consultation.

Area of search for ponds and ditches

11.4.5 An area of search for ponds and ditches was defined to enable targeted assessment of potentially suitable aquatic habitat for great crested newt and water vole. The area of search for ponds and ditches was defined around the boundaries of the EfW CHP Facility Site, Access Improvements, CHP Connection, Temporary Construction Compound (TCC), Water Connections and Grid Connection, and included a surrounding buffer of 500m from these areas for ponds with respect to great crested newt, and 100m from these areas for ditches with respect to great crested newt and water vole, as shown on **Figure 11.1: Parts of the Proposed Development, and Waterbody Areas of Search (Volume 6.3)** and as justified below.

[26] The term European sites refers to sites designated under the Habitats Regulations.

- 500m pond buffer: This reflects the potential for great crested newt to utilise terrestrial habitat up to approximately 500m from their breeding ponds, based on guidelines from Natural England (formerly English Nature, 2001)[27]; and
- 100m ditch buffer: There is an extensive network of ditches throughout the Proposed Development, particularly along the Grid Connection (mainly drains along agricultural field boundaries). Due to the aquatic habitat requirements of great crested newt, medium-sized ponds are typically used for breeding[27], and although ditches may be used, they are typically unsuitable due to a lack of water/variable water level/flowing water, an absence of vegetation for egg-laying, or poor water quality. Therefore, as a large number of (predominantly agricultural) ditches are present, and in view of the low impact nature of the Proposed Development along the Grid Connection, a buffer of 100m for ditches has been used to inform this assessment[28].

11.4.6 Following the desk study, the field surveys for great crested newt focussed on the suitable ponds with sufficient habitat connectivity identified within the 500m area of search, and suitable ditches within the 100m area of search.

11.4.7 The field surveys for water vole focussed on suitable ditches identified within the 100m ditch buffer area of search, where proposed construction and access activities are expected to occur within 10m of a suitable ditch[28] (reflecting a precautionary buffer distance for avoiding disturbance to water vole burrows)[29]. The 100m area of search was intended to capture ditches which could potentially be affected by the proposed works. Additionally, the Survey Area was extended upstream and downstream of potential working areas in accordance with best practice survey guidance (see **Table 11.7 Surveys for biodiversity assessment**).

Desk study

11.4.8 A data-gathering exercise was undertaken to obtain existing information relating to relevant statutory and non-statutory biodiversity sites, habitats and species of principal importance[30], legally protected and controlled species and other conservation notable species[31] that have been recorded over the previous ten years (2011 to 2021).

11.4.9 A summary of the desktop data used to inform the assessment is provided in **Table 11.6 Desktop data for biodiversity assessment**.

[27] English Nature (2001). Great Crested Newt Mitigation Guidelines. English Nature (now Natural England), Peterborough.
[28] This approach was agreed with the Local Planning Authority Ecologists during a meeting on 25th March 2021 (see **Appendix 11A Consultation and Stakeholder Engagement**) **(Volume 6.4)**.
[29] The Water Vole Mitigation Handbook (Dean et al, 2016) identifies mitigation options to avoid impacts on water voles, including providing a buffer around a watercourse to ensure that burrows are not affected, likely to be in the region of 3-5m from the toe of a watercourse bank.
[30] Habitats of Principal Importance and Species of Principal Importance (listed pursuant to the requirements of Section 41 of the Natural Environment and Rural Communities Act 2006) are referred to in this chapter as HPI and SPI respectively.
[31] A conservation notable species is one that has some form of conservation designation (for example it is present on a red list) but has no specific legal protection.

Table 11.6 Desktop data for biodiversity assessment

Desktop data	Source of desktop data	Details of the information
Statutory biodiversity sites designated under international conventions or the Habitats Regulations[32]	Magic.gov.uk	Special Areas of Conservation (SAC), candidate SAC (cSAC), Special Protection Areas (SPA), Sites of Community Importance (SCI) and (in accordance with UK Government policy[33]) potential SPAs (pSPA), possible SACs (pSAC) and Ramsar Sites and proposed Ramsar Sites: **inside and within an area of search of 15km of the Order limits**[34]**, extended to 20km for sites of ornithological interest**[35].
Statutory biodiversity sites designated under national legislation	Magic.gov.uk	SSSIs, National Nature Reserves (NNRs) and Local Nature Reserves (LNRs): **inside and within an area of search of 5km of the Order limits** following precedent for other large infrastructure projects[36].
Non-statutory locally designated sites	Local Biodiversity Records Centres (Norfolk Biodiversity Information Service (NBIS) and the Cambridgeshire & Peterborough Environmental Records Centre (CPERC)	Local non-statutory designated biodiversity sites in Cambridgeshire and Norfolk, known as CWS: **inside and within an area of search of 2km of the Order limits**[37].
Legally protected species, SPI, other conservation-notable species, and other conservation-notable species	Species records: Local Biodiversity Records Centres (NBIS and CPERC)	SPIs, species recorded on The IUCN Red List of Threatened Species and/or local Red Lists for the UK or relevant sub-units (e.g., regions or counties), other conservation-notable species[38], and legally protected species include those listed on Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended), those included on Schedules 2 and 5 of the Habitats Regulations, and badger which is provided protection under the Protection of Badgers Act 1992: **inside and within an area of search of 2km of the Order limits**[37].

[32] Sites (e.g., SPAs and SACs) that were formerly part of the Natura 2000 network and now form constituents of the national site network although they are still termed European sites within this chapter reflecting the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
[33] Paragraph 181 of the National Planning Policy Framework, MHCLG, 2021.
[34] The area of search reflects the potential for effects associated with changes to air quality in line with Environment Agency guidance (see **Chapter 8 Air Quality (Volume 6.2)**).
[35] The area of search reflects the potential for bird species which are qualifying features of a designated site to depend functionally linked land located a distance beyond the designated site boundary.
[36] The area of search reflects the potential for effects on mobile species which a site is designated for, for example reflecting the Core Sustenance Zones of bat species in line with guidance from the Bat Conservation Trust (Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidance (3rd edn)).
[37] A 2km area of search is in line with guidance from the Institute of Environmental Assessment (1995): Guidelines for Baseline Ecological Assessment.
[38] Such as Cambridge and Peterborough BAP and Norfolk BAP Priority Species; Cambridgeshire and Peterborough Additional Species of Interest; Kings Lynn Internal Drainage Board BAP species.

Desktop data	Source of desktop data	Details of the information
	Data on European Protected Species Licences (EPSL): Magic.gov.uk	Existing granted EPSL applications (excluding roosting bats – see below): **inside and within an area of search of 2km of the Order limits**[37].
	Data on great crested newt eDNA survey outcomes: Magic.gov.uk	Great crested newt eDNA survey outcomes from 2017-2019 effort by Natural England for district licensing purposes (including information on suitability of waterbodies and presence/likely absence results): **inside and within an area of search of 500m of the Order limits**[39].
	Great crested newt class licence returns: Magic.gov.uk	Great crested newt class licence returns (locations of great crested newt presence recorded during surveys by Natural England class licence holders): **inside and within an area of search of 500m of the Order limits**[39].
Bat rooting locations	Bat roost records: Local Biodiversity Records Centres (NBIS and CPERC)	Bat roost locations are considered separately from other species records in accordance with guidance, reflecting the distances that these mobile species can occur from their roost locations: **inside and within an area of search of 5km of the Order limits**[40].
	Data on EPSLs: Magic.gov.uk	Existing granted EPSL applications (for bat roosts): **inside and within an area of search of 5km of the Order limits**[40].
HPI, other conservation-notable habitats	Data from the Ancient Woodland and Priority Habitat Inventories: Magic.gov.uk	HPIs, ancient woodland, veteran trees, and hedgerows which are provided protection under the Hedgerows Regulations 1997: **inside and within an area of search of 1km of the Order limits**[41].
Legally controlled species	Local Biodiversity Records Centres (NBIS and CPERC)	Legally controlled species include those listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended): **inside and within an area of search of 2km of the Order limits**[37].
Water body locations	Aerial imagery and Ordnance Survey mapping: Magic.gov.uk Satellite imagery: Google Earth Pro	Water bodies may support species within the groups listed above (for example legally protected great crested newts): **in**

[39] The 500m area of search reflects the distance that great crested newts usually occur within surrounding a breeding pond, in line with English Nature (2001): Great Crested Newt Mitigation Guidelines.
[40] The area of search reflects the Core Sustenance Zones of bat species which could potentially occur in the area, in line with guidance from the Bat Conservation Trust (Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidance (3rd edn)).
[41] The area of search reflects the potential mechanisms for effects on habitats distant from the Proposed Development, such as fragmentation of habitat, pollution incidents and changes in air quality.

Desktop data	Source of desktop data	Details of the information
		the pond and ditch area of search defined in Section 11.4.5-11.4.7.

Survey work

11.4.10 A summary of the survey results used to inform the assessment undertaken to date and the outstanding data requirements are provided in **Table 11. 7 Surveys for biodiversity assessment**.

Table 11.7 Surveys for biodiversity assessment

Survey	Survey dates	Survey methodology	Further Comments
Extended Phase 1 habitat survey	29 September to 2 October 2020; 10 December 2020; 18 to 20 January 2021; 12 to 15 April 2021; 26 to 29 April 2021; 18 to 21 May 2021; 14 to 16 June 2021; 19 to 21 July 2021; and 9 to 12 August 2021.	Habitats were classified and mapped in accordance with the methods described in the Joint Nature Conservation Committee (JNCC) Handbook for Phase 1 habitat survey (2016)[42]. The survey was 'extended' to identify the presence or potential presence of species of importance for biodiversity conservation and/or species that are afforded legal protection. This survey included preliminary hedgerow assessments, aimed at identifying hedgerows that might be classified as 'important' based on the relevant ecological and structural criteria set out in The Hedgerows Regulations 1997. This survey included a preliminary ground level assessment of buildings and trees to determine suitability for roosting bats in accordance with good practice guidance (Collins, 2016)[43]. **The Survey Area encompasses land within the Order limits and within**	

[42] Joint Nature Conservation Committee (JNCC), 2016. Handbook for Phase 1 habitat survey, a technique for environmental audit. JNCC, Peterborough, ISBN 0 86139 636 7.
[43] Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidance (3rd edn). The Bat Conservation Trust, London.

Survey	Survey dates	Survey methodology	Further Comments
		a 100m surrounding buffer[44].	
Phase 2 National Vegetation Classification survey	None undertaken.	The survey aim is to classify vegetation communities, in accordance with the methodology described in the National Vegetation Classification Users' handbook[45], which are present within areas of habitat identified as being potentially important during the extended Phase 1 habitat survey (see above) which occur **on land within 25m of the Order limits[46].**	Hedgerow (HPI) and ditches in the form of fenland drains (Cambridgeshire and Peterborough Additional Habitats of Interest) were recorded within the Order limits. However, these areas of habitat were species-poor, consisting of common and widespread species, and did not support significant assemblages of vegetation, therefore Phase 2 National Vegetation Classification surveys were not necessary to determine the importance of the habitat presence. Ponds and traditional orchard (HPI) were recorded within the Survey Area surrounding the Grid Connection Corridor, but considering the nature of the proposed works along the Grid Connection, and the distance from these areas of habitat, the potential for direct or indirect impacts is negligible therefore Phase 2 National Vegetation Classification were not undertaken.

[44] The survey area was extended beyond the Proposed Development boundary to reflect the potential for effects (directly or indirectly) to off-site habitats and species included within the scope of the survey. This was determined based on a combination of best practice guidance and professional judgement, considering the ZoI for the relevant environmental changes that the ecological feature may be sensitive to, such as land take/landcover change and fragmentation of habitats (see **Section 11.6**).

[45] Rodwell, J.S. (2006). National Vegetation Classification User's Handbook. Joint Nature Conservation Committee, Peterborough.

[46] The survey area reflects the potential for direct and indirect effects to habitats. This was determined based on the ZoI for land take/landcover change and fragmentation of habitat (see **Section 11.6**) being within the Proposed Development boundary, and included a surrounding survey buffer to allow for potential change to the layout of the Proposed Development during the design phase.

Survey	Survey dates	Survey methodology	Further Comments
Hedgerow Regulations Assessment survey	None undertaken.	The survey aim is to identify Important hedgerows under the Hedgerow Regulations, focussing on any hedgerows identified as being potentially important during the extended Phase 1 habitat survey (see above) which occur **on land within 25m of the Order limits**[47].	No potentially important hedgerows were identified within the Study Area, so Hedgerow Regulations Assessment surveys were not required.
Bats – roosting (trees)[48]	**Preliminary ground level roost assessments:** 19 July 2021 - undertaken concurrently with the extended Phase 1 habitat survey **Roost emergence/re-entry surveys:** 10 August 2021 (re-entry survey) and 08 September 2021 (emergence survey).	Bat roost surveys focused on establishing which suitable trees support roosting bats **within and up to 25m from the Order limits**[49]. Emergence/re-entry surveys focused on those trees identified as being suitable for roosting bats during preliminary ground level assessment during the extended Phase 1 habitat survey (see above). The surveys followed the Bat Conservation Trust Good Practice Guidelines (2016)43, Bat Tree Habitat Key (2016)[50] and British Standard 8596:2015: Surveying for bats in trees and woodland, 201651.	
Bats – foraging and commuting	**Manual transect survey:** 27 April 2021 19 May 2021 14 June 2021 20 July 2021 10 August 2021 06 September 2021 06 October 2021	A suite of monthly bat activity surveys, comprising manual walked transects and/or static detector deployment (dependent on accessibility of habitats), was carried out. Surveys were undertaken inside the Order limits only	

[47] The survey area reflects the potential for direct and indirect effects to hedgerows. This was determined based on the ZoI for land take/landcover change and fragmentation of habitat (see **Section 11.6**) being within the Proposed Development boundary, and included a surrounding survey buffer to allow for potential change to the layout of the Proposed Development during the design phase..
[48] It is unlikely that that buildings or structures will be impacted by the Proposed Development and as such no surveys have been required to inform the assessment within this chapter.
[49] The survey area was determined based on the ZoI for land take/landcover change and fragmentation of habitat to directly affect bat roosts within the Proposed Development boundary, and the potential for increased noise and vibration and increased light levels indirectly affect bat roosts outside of the Proposed Development boundary (see **Section 1.6**), based on professional judgement and the consideration of construction and operational activities and likely background levels of disturbance given the sites industrial and urban context.
[50] Andrews, H. et al (2016). Bat Tree Habitat Key, 3rd edn. Bridgewater: AEcol.
[51] BSG ecology, (2016). British Standard BS 8596:2015 – Surveying For Bats In Trees And Woodland. Available online at: https://www.bsg-ecology.com/british-standard-bs-85962015-surveying-for-bats-in-trees-and-woodland/ [Accessed 05/03/2021]

Survey	Survey dates	Survey methodology	Further Comments
	07 October 2021 **Automated monitoring:** 5 consecutive nights monthly April to October: 18 to 23 April 2021; 26 to 31 May 2021; 16 to 21 June 2021; 19 to 24 July 2021; 11 to 16 August 2021; 6 to 11 September 2021; and 3 to 8 October 2021.	where proposed construction works would remove large amounts of optimal habitat or important linking features[52]. The surveys followed the Bat Conservation Trust Good Practice Guidelines (2016)[43].	
Great crested newts	**Habitat Suitability Index (HSI):** Undertaken concurrently with the extended Phase 1 habitat survey (see dates above). **Presence/likely absence survey (eDNA surveys[53]):** w/c 26 April 2021; w/c 17 May 2021; and w/c 28 June 2021.	HSI assessment surveys were undertaken on **all potentially suitable ponds[54] within the 500m pond area of search[55] defined in Section 11.4.5-11.4.7**, where suitable habitat connectivity[56] was identified, and on **all potentially suitable ditches within the 100m ditch area of search defined in Section 11.4.5-11.4.7**. Ponds and ditches within the respective **areas of search defined in Section 11.4.5-11.4.7**, which were identified as having suitability to support great crested newts (HSI score equating to 'below average' suitability or above) and where there are suitable habitat linkages to the Proposed Development, were subject to eDNA surveys to determine the presence/likely absence of the species. The surveys were undertaken in line with Natural England Great	

[52] The survey area was determined based on the ZoI for land take/landcover change and fragmentation of habitat (see **Section 11.6**) being within the Proposed Development boundary.
[53] eDNA analysis is a technique using laboratory analysis of water samples collected from suitable waterbodies to detect eDNA of great crested newts, and thus determine presence or likely absence of this species.
[54] Subject to access
[55] The survey area is derived from good practice guidance and reflects the potential for great crested newt to utilise terrestrial habitat up to approximately 500m from their breeding ponds, based on guidelines from Natural England (see **Section 11.4**).
[56] Ponds were scoped out at the desk study stage where there was reasonable evidence of them being unsuitable for great crested newts (e.g., large fishing lakes stocked with fish), or where they are isolated from the Proposed Development (i.e., where significant barriers to dispersal occurred between the pond and Proposed Development, such as major roads or large tracts of unsuitable habitat).

Survey	Survey dates	Survey methodology	Further Comments
		Crested Newt Mitigation Guidelines[57], Oldham et al "Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus)" (2000)[58], and Biggs et al "Analytical and methodological development for improved surveillance of the Great Crested Newt" (2014)[59].	
Otter	Undertaken concurrently with the extended Phase 1 habitat survey (see dates above).	Otter surveys, looking for signs of activity and resting places, were undertaken on **land within the Order limits and along suitable waterbodies up to 250m upstream and downstream of it**[60]. Surveys were undertaken using techniques described by Chanin in "Monitoring the Otter" (2003)[61].	
Water vole	**Habitat Assessments:** Undertaken concurrently with the extended Phase 1 habitat survey (see dates above) **Presence/likely absence survey:** 12 April to 15 April 2021 11 August to 12 August 2021	Water vole presence/likely absence surveys were undertaken to search for signs of activity and burrows **on potentially suitable ditches within the 100m ditch area of search defined in Section 11.4.5-11.4.7 where proposed construction and access activities are expected to occur within 10m of a suitable ditch**[62]. Surveys were extended up to 200m upstream and downstream	

[57] English Nature (2001). *Great Crested Newt Mitigation Guidelines.* English Nature (now Natural England), Peterborough.
[58] Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*).
[59] Biggs et al. (2014) Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA. Freshwater Habitats Trust, Oxford.
[60] The survey area is based on professional judgement and is based on the potential for disturbance of otters and their rest sites at a distance from the Proposed Development.
[61] Chanin, P. (2003). Ecology of the European Otter. Conserving Natura 2000 Rivers Ecology Series No.10. English Nature, Peterborough.
[62] The survey area encompassed where proposed construction and access activities are expected to occur within 10m of a suitable ditch. This distance is reflective of best practice guidance to avoid impacts to water vole in The Water Vole Mitigation Handbook (Dean et al, 2016), which states that 3-5m is the likely buffer distance that is require between construction activities and the toe of a bank to ensure that water vole burrows are not affected (should they be present) by the associated environmental changes (see **Section 11.6**),and allows an additional small buffer as a precaution.

Survey	Survey dates	Survey methodology	Further Comments
		along the ditch at each location[63]. Surveys were undertaken using techniques described in the "Water Vole Mitigation Handbook" (Dean et al. 2016)[64].	
Birds - vantage-point flight survey (winter)	December 2019 to March 2020 inclusive.	A total of 36 hours of survey was completed from each of two vantage points (VP1 and 2), with a further 21 hours from VP3 aligned to an early iteration of the Grid Connection as far as Walpole. The 2km viewsheds for VP2 and VP3 included part (approximately 20%) of the final Grid Connection[65]. Survey methods followed that provided in SNH (2017)[66].	
Birds - vantage-point flight survey (breeding/ passage)	April to September 2020 inclusive.	A total of 72 hours of survey were completed from each of VPs 1 and 2 (as for the winter), 36 hours in each of the breeding season (April-June) and autumn passage periods (July-September). Survey methods followed that provided in SNH (2017)[66]. **The survey representatively covered habitats within the Grid Connection Corridor**.	
Birds – breeding bird appraisal	March to June 2021 inclusive.	A breeding bird appraisal was carried out which included a generic breeding bird survey **of the EfW CHP Facility Site and CHP Connection Corridor (subject to access) and**	

[63] Best practice survey guidance (Dean et al, 2016) recommends that for permanent loss of ditch habitat, surveys should extend 200-500m up and down stream of affected sections of ditch (proportionate to the likely fragmentation effects). Due to the nature of the works throughout the majority of the Proposed Development (i.e., low impact temporary works along the Grid Connection), surveys would be undertaken up to 200m in the first instance, but this would be extended if necessary based on the initial survey results and potential fragmentation effects.
[64] Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.
[65] Vantage point surveys covered approximately 20% of the final Grid Connection, but encompassed the most suitable and least disturbed areas of habitat along the route (i.e., where target species are most likely to occur). Therefore, the surveys are considered to have covered a representative sample of habitat which is suitable for the target species.
[66] Scottish Natural Heritage (2017). Recommended bird survey methods to inform impact assessment of onshore wind farms. http://www.snh.gov.uk/docs/C278917.pdf.

Survey	Survey dates	Survey methodology	Further Comments
		100m buffer, involving four visits, using an abridged territory mapping method based on those in Marchant (1983)[67]. The appraisal also included a Schedule 1 breeding bird survey of the entire site and 500m buffer[68], included checks of OHL towers for breeding peregrine, and scans of woodland for breeding hobby and red kite, following the methods prescribed for these species in Hardey (2013)[69]. A search was also made for barn owl nest boxes[70].	
Birds – winter bird transect survey	December 2019 to March 2020 inclusive[71].	Wintering bird surveys were undertaken monthly, using a roving transect field by field count methodology, focused on locating waders and wildfowl and any large aggregations of other notable species. **The Survey Area included land within the Order limits and a 500m buffer**.	
Reptiles	**Habitat Assessments:** Undertaken concurrently with the extended Phase 1 habitat survey (see dates above) **Presence/likely absence survey:** 27 April 2021 29 April 2021 19 May 2021 21 May 2021 06 September 2021 08 September 2021	Reptile presence/likely absence surveys, comprising seven visits using artificial refugia, were undertaken on land within the **Order limits, focussing on suitable habitat to be permanently lost[72]**. Surveys followed Froglife (1999) Advice sheet 10: Reptile survey[73].	

[67] Marchant, J. (1983). Common Birds Census Instructions. British Trust for Ornithology, Tring.
[68] Survey areas are based on the distances at which key species could potentially be disturbed due to environmental changes (see **Section 11.6**) based on best practice guidance and professional judgement.
[69] Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. (2013). Raptors: a field guide to survey and monitoring (3rd Edition). The Stationery Office, Edinburgh.
[70] Local barn owl groups would be contacted to obtain supplementary information on breeding sites for the species.
[71] Winter bird transect surveys were predominantly undertaken to identify uses of land along the Grid Connection by bird species associated with the designations of statutory nature conservation sites which could be impacted by factors such as displacement and collision risk associated with overhead line infrastructure. Very few records of qualifying bird species of relevant statutory nature conservation sites were recorded during the surveys. The final design of the Grid Connection utilises an underground cable, so displacement and collision risk associated with overhead line infrastructure is no longer a consideration, therefore, updated surveys were not undertaken following the final design of the Proposed Development.
[72] The survey area was determined based on the ZoI for land take/landcover change and fragmentation of habitat (see **Section 11.6**) to directly affect reptiles within the Proposed Development boundary.
[73] Froglife (1999). Froglife Advice Sheet 10 Reptile Survey. Froglife, Suffolk.

Survey	Survey dates	Survey methodology	Further Comments
	10 September 2021		
Badger	Undertaken concurrently with the extended Phase 1 habitat survey (see dates above).	Badger surveys focused on identifying signs of activity and places of shelter (setts) **on land within the Order limits and within 50m of it**[74]. Surveys were informed by Natural England standing advice (2015)[75] and good practice guidelines by Scottish Badgers (2018)[76].	
Terrestrial and freshwater invertebrates	None undertaken.	Terrestrial and freshwater invertebrate surveys use a range of techniques (dependent on target species/habitats) to identify valued invertebrate species/populations within significant sections of semi-natural habitat (e.g., scrub, woodlands, grasslands, watercourses) **within the Order limits**. Survey methodology is detailed in Natural England Research Report NERR005 "Surveying terrestrial and freshwater invertebrates for conservation evaluation" (2007)[77].	Habitat types present are unsuitable or unfavourable for significant assemblages of SPI or conservation notable invertebrate species so terrestrial and freshwater invertebrate surveys were not required.

[74] The survey area is based on a combination of good practice guidance by English Nature 'Badgers and Development' (2001) and professional judgement, and reflects the potential for direct effects due to land take/landcover change to occur at distance from badger sett entrances due to the fact that tunnels can extend up to approximately 30m, and for indirect effects as a result of increased noise and vibration and light levels (see **Section 11.6**).
[75] Natural England, (2015). Badgers: surveys and mitigation for development projects. Available online at: https://www.gov.uk/guidance/badgers-surveys-and-mitigation-for-development-projects [Accessed 05/03/2021]
[76] Scottish Badgers, (2018). Surveying for Badgers: Good Practice Guidelines. Version 1.
[77] Drake, C.M., Lott, D.A., Alexander K.N.A. and Webb J. (2007). Natural England Research Report NERR005: Surveying terrestrial and freshwater invertebrates for conservation evaluation.

11.5 Baseline

Current baseline

Nature conservation sites

11.5.1 There are a number of statutory and non-statutory nature conservation sites which are designated at an international, European, national or local level (also referred to as 'designated sites') which are described in the following sections.

Statutory nature conservation sites (National Site Network- European sites)

11.5.2 There are two SACs, two SPAs and two Ramsar Sites within 15km of the Proposed Development (the Ouse Washes SAC/SPA/Ramsar Site, and the Nene Washes SAC/SPA/Ramsar Site). Additionally, The Wash SPA and Ramsar Site are within the 20km Area of Search for sites of ornithological interest. There are no potential or possible SPAs, SACs, Ramsar Sites or SCIs within the search areas.

11.5.3 Details of the international sites within the area of search and their qualifying features are listed in **Table 11.8 National Site Network – European sites designated for nature conservation** and locations are shown on **Figure 11.2: Statutory and non-statutory designated sites for nature conservation identified within areas of search (Volume 6.3)**. The distances provided are from the closest point of the Order limits.

Table 11.8 National Site Network – European sites designated for nature conservation

Site name	Designation	Designated features	Distance/ direction from the Order limits
Nene Washes	Ramsar Site	Ramsar Criterion 2 An important assemblage of nationally rare breeding birds and a wide range of raptors through the year. The site also supports several nationally scarce plants, and two vulnerable and two rare British Red Data Book invertebrate species have been recorded. Ramsar Criterion 6 Populations of international importance in winter of Bewick's swan (694 individuals). Populations of international importance, with peak numbers during the spring and autumn passage periods of black-tailed godwit (482 individuals). Species with peak counts in winter, northern pintail (1848 individuals).	7.2km south-west

Site name	Designation	Designated features	Distance/ direction from the Order limits
Nene Washes	SPA	The site qualifies under Article 4.1 of the EC Birds Directive by regularly supporting, in winter, an internationally important wintering population of Bewick's swan (1,300 individuals: over 7% of the north-west European population wintering population: average of peak counts for the five-year period 1987/88 to 1991/92). Nene Washes qualifies also under Article 4.2 by supporting, in summer, in recent years, nationally important breeding populations of regularly occurring migratory species: 25 pairs of gadwall (5% of British): five pairs of garganey (10% of British), 36 pairs of shoveler (3% of British), and 16 pairs of black-tailed godwits (30% of British), as well as several other rare birds. The site further qualifies under Article 4.2 by supporting, in winter, nationally important wintering populations of five migratory species (average peak counts for the most recent five year period for which data is available (1984/5 - 1985/86 and 1988/89 - 1990/91): 3,640 wigeon (over 1 % of the British wintering population): 980 teal (1% of British), 95 gadwall (over 1% of British): 440 Pintail (over 1% of British) and 110 shoveler (over 1% of British).	7.2km south-west
Nene Washes	SAC	Spined loach is the Annex II species that is the primary reason for this designation.	7.2km south-west
Ouse Washes	Ramsar Site	Ramsar Criterion 1 The site is one of the most extensive areas of seasonally-flooding washland of its type in Britain. Ramsar Criterion 2 The site supports several nationally scarce plants, including small water pepper, whorled water-milfoil, greater water parsnip, river water dropwort, fringed water-lily, long-stalked pondweed, hair-like pondweed, grass-wrack pondweed, tasteless water-pepper and marsh dock. Invertebrate records indicate that the site holds relict fenland fauna, including the British Red Data Book species: the scarce chaser dragonfly and the rifle beetle. A diverse assemblage of nationally rare breeding waterfowl associated with seasonally-flooding wet grassland. Ramsar Criterion 5 Internationally important assemblage of waterfowl in winter comprising a total of 59,133 birds. Ramsar Criterion 6 Populations of international importance in winter for the following species: Bewick's swan (1,140 individuals), whooper swan (653), wigeon (22,630), gadwall (438), teal (3,384), pintail (2,108) and shoveler (627).	12.5km south-east

Site name	Designation	Designated features	Distance/ direction from the Order limits
Ouse Washes	SPA	The Ouse Washes qualifies under Article 4.1 of the EC Birds Directive by supporting, in summer, a nationally important breeding population of ruff. The site also qualifies under Article 4.1 by regularly supporting internationally or nationally important wintering populations of Bewick's swan, whooper swan and hen harrier. The Ouse Washes qualifies under Article 4.2 by supporting, in summer, nationally important breeding populations of gadwall, mallard, garganey, shoveler and black-tailed godwit. The site further qualifies under Article 4.2 as a wetland of international importance by virtue of regularly supporting over 20,000 waterfowl, with an average peak count of 60,950 birds recorded in the five-winter period 1986/7 to 1990/91, the waterbird assemblage The site also qualifies under Article. 4.2 by virtue of regularly supporting, in summer, a diverse assemblage of the breeding migratory waders of lowland wet grassland, the breeding bird assemblage.	12.5km south-east
Ouse Washes	SAC	Spined loach is the Annex II species that is the primary reason for this designation.	12.5km south-east
The Wash	Ramsar Site	Ramsar Criterion 1 The Wash is a large shallow bay comprising very extensive saltmarshes, major intertidal banks of sand and mud, shallow water and deep channels. Ramsar Criterion 3 Qualifies because of the inter-relationship between its various components including saltmarshes, intertidal sand and mud flats and the estuarine waters. The saltmarshes and the plankton in the estuarine water provide a primary source of organic material which, together with other organic matter, forms the basis for the high productivity of the estuary. Ramsar Criterion 5 Internationally important assemblage of waterfowl in winter comprising a total of 292,541 birds. Ramsar Criterion 6 Populations of international importance, with peak numbers in winter for the following species: pink-footed goose (29,099 individuals), dark-bellied brent goose (20,861), shelduck (9,746), pintail (431), dunlin (36,600) and bar-tailed godwit (16,549).	17.3km north

Site name	Designation	Designated features	Distance/ direction from the Order limits
		Populations of international importance, with peak numbers during the spring and autumn passage periods for the following species: oystercatcher (15,616 individuals), grey plover (13,129), knot (68,987), sanderling (3,505), curlew (9,438), redshank (6,373) and turnstone (888).	
The Wash	SPA	The Wash qualifies under Article 4(1) because it supports 30 breeding pairs of little terns (2% of the British Population) and 220 pairs of common tern (2%); and because it supports 130 Bewick's swans (3%) in winter. The Wash qualifies under Article 4(2) as an internationally important wetland by supporting in winter an average of 163,000 waders and also 51,000 wildfowl; and because it supports on average the following internationally important numbers of individual species: 17,000 dark-bellied brent geese (12% of the European wintering population), 7,300 pink-footed geese (7%), 16,000 shelduck (12%), 1,700 pintail (2%), 24,000 oystercatcher (3%), 5,500 grey plover (7%), 500 sanderling (3%), 7,500 knot (21%) 29,000 dunlin (1%) 8,200 bar-tailed godwit (1%), 3,700 curlew (1%), 4,331 redshank (5%) and 980 turnstone (2%).	17.3km north

Statutory nature conservation sites (national/local)

11.5.1 There are no statutory nature conservation sites of national/local importance within the 5km area of search of the Proposed Development.

Non-statutory nature conservation sites

11.5.2 There is one non-statutory nature conservation site within the 2km area of search of the Proposed Development (River Nene CWS). Its qualifying features are listed in **Table 11.9 Non-statutory sites designated for nature conservation** and its location is shown on **Figure 11.2: Statutory and non-statutory designated sites for nature conservation Identified within areas of search (Volume 6.3)**. The distance provided is from the closest point of the Order limits.

Table 11.9 Non-statutory sites designated for nature conservation

Site name	Designation	Designated features	Approximate distance (km) / direction from the Order limits
River Nene	CWS	A major river which is not grossly modified by canalisation or poor water quality. The river supports at least 3 species of pondweed which are Nationally Scarce vascular plant species. Although the site boundary is demarcated as a linear feature	0.2km west

Site name	Designation	Designated features	Approximate distance (km) / direction from the Order limits
		along the river, the designation also includes any complementary semi-natural habitat adjacent to the river corridor.	

HPI and other conservation-notable habitats

11.5.3 Three HPI or other conservation-notable habitat types were identified during the desk study from the Priority Habitat Inventory within the area of search:

- Coastal and floodplain grazing marsh (HPI/Cambridgeshire and Peterborough Biodiversity Action Plan (BAP)/Norfolk BAP);
- Deciduous woodland (deciduous woodland is a broad habitat type on the Priority Habitat Inventory); and
- Traditional orchard (HPI/Cambridgeshire and Peterborough BAP/Norfolk BAP).

11.5.4 The desk study identified no records of ancient woodland within the area of search.

11.5.5 Additionally, the following HPI or other conservation-notable habitat types have been recorded during field surveys:

- Hedgerow (HPI/Cambridgeshire and Peterborough BAP/Norfolk BAP);
- Ponds (HPI/Cambridgeshire and Peterborough BAP/Norfolk BAP); and
- Ditches ('fenland drainage ditches' is a Cambridgeshire and Peterborough Additional Habitats of Interest).

Habitats

11.5.6 A general overview of habitat types is provided separately for the main parts of the Proposed Development and associated Survey Areas, followed by detailed descriptions of individual habitat types. Where there is a major difference in the habitat present, descriptions of individual habitat types are provided separately for each part of the Proposed Development, otherwise descriptions for some or all parts of the Proposed Development have been combined where the habitat present is sufficiently similar.

11.5.7 The distribution of habitat types recorded within the Survey Area is shown on **Figure 3.1 in Appendix 11D Desk Study and Extended Phase 1 Habitat Survey (Volume 6.4)**, which also includes pond and ditch numbers.

Overview – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.5.8 The broad habitat types recorded within the Survey Area include:

- Woodland and trees (including plantation woodland – broadleaved; individual trees – broadleaved);

- Scrub (dense);
- Grassland (including poor semi-improved and improved);
- Running water (ditches);
- Standing water (ditches);
- Hedgerows (native species-poor);
- Ephemeral/short-perennial; and
- Other habitats (including tall ruderal; earth bank; fences; bare ground; hardstanding/tarmac; buildings).

Overview – Grid Connection

11.5.9 The broad habitat types recorded within the Survey Area include:

- Woodland and trees (including traditional orchard; plantation woodland – broadleaved; plantation woodland – orchard; plantation woodland – coniferous; individual trees – broadleaved; individual trees - coniferous);
- Scrub (including dense and scattered);
- Grassland (including poor semi-improved improved and amenity);
- Running water (ditches);
- Standing water (including ponds and ditches);
- Ditches (dry);
- Arable (including arable field margins);
- Hedgerows (including native species-poor hedgerows; native species-poor hedgerows with trees); and
- Other habitats (including tall ruderal; bare ground; fences; hardstanding/tarmac; buildings).

Woodland and trees – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.5.10 No ancient woodland or veteran trees have been identified through the desk study, or the extended Phase 1 habitat survey of accessible land (see **Section 11.1. Limitations of the ES**). A tree survey did not identify any veteran trees to be present (see **Tree Survey Volume 7.13**).

11.5.11 Broadleaved plantation woodland and scattered trees have been identified during the extended Phase 1 habitat survey. A line of scattered mature poplar trees encloses dense scrub in the south-east of the EfW CHP Facility Site. The line of trees also extends immediately south of the TCC, and immediately north of the most eastern extent of the Access Improvements. Lines of cypress trees and semi-mature silver birch trees are present on the western boundary of the CHP Connection Corridor immediately south and north of Weasenham Lane, respectively.

11.5.12 A commercial orchard is present north of the Water Connections. It consists of high-density plantations of a variety of fruit trees within areas of herbicide-managed grassland.

Woodland and trees – Grid Connection

11.5.13 No ancient woodland or veteran trees have been identified through the desk study, or the extended Phase 1 habitat survey of accessible land. A tree survey of the Walsoken Substation Site (see **Tree Survey Volume 7.13)** did not identify any veteran trees to be present, and no tree removal would be required along the remainder of the Grid Connection.

11.5.14 Several woodland types have been identified during the extended Phase 1 habitat survey; broadleaved and coniferous plantation woodland including orchards, and scattered trees.

11.5.15 Broadleaved plantation woodland is dominated by commercial orchards which are widespread in the Survey Area. These orchards do not fulfil the criteria for HPI traditional orchard, as they consist of intensively managed systems to maximise fruit production, with high-density plantations of mixed fruit tree varieties with short-mown herbicide-managed grassland beneath them.

11.5.16 A section of traditional orchard which potentially qualifies as HPI is located immediately south of the A47. Unmanaged fruit trees, mainly apple, are present among tall grasses and overgrown bramble and hawthorn scrub which is impenetrably dense, obstructing survey access (see **Section 11.1. Limitations of the ES**). A second area of traditional orchard which potentially qualifies as HPI is located adjacent to the north-west of the Grid Connection.

11.5.17 Broadleaved plantation woodland is also present along the A47 and typically consists of willow, lime, field maple, pedunculate oak and horse chestnut. Sections of this habitat are maintained by National Highways as evident by the presence of areas that have previously been cleared. There is limited understory with low flora diversity, with bramble and common nettle the dominant species.

11.5.18 One parcel of coniferous plantation woodland to the north of the A47 is present within the Survey Area and is intensively managed as a commercial Christmas tree crop, which undergoes regular felling.

11.5.19 Frequent scattered broadleaved and less frequent coniferous trees and tree lines are present throughout the Survey Area, consisting of species such as poplar and cypress usually along field margins, along the boundaries of commercial orchards, and lining the A47.

Scrub – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.5.20 Dense/continuous scrub was identified within the Survey Area during the extended Phase 1 habitat survey. Dense bramble scrub enclosed by a line of scattered mature poplar trees is present in the south-east of the EfW CHP Facility site. This area of dense scrub extends immediately south of the TCC, and immediately north of the most eastern extent of the Access Improvements. Small, scattered stands of bramble scrub are present within the TCC

11.5.21 Scrub was recorded throughout the CHP Connection Corridor comprising dense bramble and hawthorn, and frequent dog rose and buddleia. Scrub is also present around the grassland in the north consisting of bramble, rose, broom, hawthorn and buddleia.

Scrub – Grid Connection

11.5.22 Dense/continuous and scattered scrub were identified within the Survey Area during the extended Phase 1 habitat survey.

11.5.23 Dense scrub is occasionally present throughout the Survey Area, particularly associated with field boundaries. The dominant scrub species is bramble, with rose also present, interspersed with ivy and common nettle.

11.5.24 Scattered scrub is occasionally present throughout the Survey Area, and primarily consists of bramble.

Grassland – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.5.25 Grassland types identified during the extended Phase 1 habitat survey include poor semi-improved grassland which dominates a large area of the TCC towards the east of the site. Here, the grassland adjacent to the industrial area on the northern boundary has a higher water table than the remainder of the area with localised areas of horsetail and amphibious bistort present compared to frequent ragwort, bristly oxtongue and ribwort plantain where the grassland is drier. Grasses include perennial rye grass, false oat grass, cock's foot and common couch. Poor semi-improved grassland is also present within the south-eastern part of the EfW CHP Facility Site.

11.5.26 Poor semi-improved grassland is the main habitat present in the more open (limited scrub) sections of the northern CHP Connection Corridor. The poor semi-improved grassland sward is tall (approximately 50cm), largely tussocky, and is comprised of frequent cock's-foot, Yorkshire fog and tufted hair-grass. Other species in the sward include ribwort plantain, creeping cinquefoil, curled dock, red clover, bird's-foot trefoil, black medic, wild carrot, bristly oxtongue and herb Robert.

11.5.27 South of the Water Connection along New Bridge Lane is an area of grassland that is rarely managed with a tall sward of approximately 50cm consisting of false oat grass, perennial rye grass, cock's foot, Yorkshire fog, spear thistle, creeping thistle, ragwort, common hogweed, cow parsley, common nettle, goat's beard and white clover.

11.5.28 Improved grassland is also present as occasional fields to the south of the Access Improvements.

Grassland – Grid Connection

11.5.29 Grassland types identified during the extended Phase 1 habitat survey include poor semi-improved and improved grassland.

11.5.30 Poor semi-improved grassland occurs rarely, consisting of a tussocky sward including species such as cock's-foot and tufted hair-grass, with limited diversity of other grass and herb species.

11.5.31 Improved grassland is present as occasional fields and surrounding Walsoken Substation Site, but most commonly associated with field margins bordering arable land. Typical species include perennial rye-grass, Yorkshire fog, and tufted hair-grass with ribwort plantain, clover, white dead nettle, creeping thistle and bristly oxtongue. This habitat type is also common within the orchard plantations with additional frequent common species including common nettle and dandelions.

11.5.32 Amenity grassland is present primarily in areas of residential housing and farmsteads with private gardens which are regularly mown short swards with low diversity of grass and herb species.

Standing water (ponds) – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC, Water Connections; Grid Connection

11.5.33 Fifteen ponds were identified during the desk study within the 500m pond area of search, as defined in **Section 11.4**. These vary in shape and size, but there are no particularly large waterbodies (for example large drinking water reservoirs) with the vast majority being less than a hectare in extent. All these ponds are considered likely to fulfil the criteria as HPI[78] and are treated as such for the purposes of the assessment within this chapter.

Ditches – Overview

11.5.34 Ninety-seven ditches were identified during the desk study within the 100m ditch area of search defined in **Section 11.4.** Sixty-four of the ditches were accessible during the extended Phase 1 habitat survey, and of these 20 ditches were found to contain water, while 38 ditches were dry and one ditch was not present. The ditches containing running water, standing water and those which were dry are described respectively in subsequent sections, however there is interchange between these categorisations as fluctuation in water levels and flow rates were often recorded.

Running water (ditches) – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.5.35 Two of the accessible ditches (D15 and D16) contained shallow running water at the time of survey and are located to the south of the Access Improvements. These ditches are drainage ditches that run through the edge of an industrial area likely to receive surface water run-off, and continued into adjacent fields, and are regularly dredged/managed by the internal drainage board (IDB) and their banks have been reprofiled. Running water was heard in the ditches however the substrate and water level was not visible due to being choked by common reed. Steep earth and stone banks vegetated with common reed, teasel and scattered bramble scrub.

[78] Ponds are all considered to be HPI as the criteria governing qualifications requires extensive data on the flora and fauna that inhabit them. This information is not available and hence a precautionary view has been taken.

Running water (ditches) – Grid Connection

11.5.36 Three of the accessible ditches, D44, D46 and D48, contained shallow running water. Water turbidity was high at the time of survey such that the substrate within the channels was not visible. The ditches have steep earth/clay banks, approximately 2.5m in height, dominated by short grasses due to being regularly managed/dredged by the IDB, as evidenced by the presence of dredge marks. Bankside species include Yorkshire fog and perennial rye-grass with common nettle, common hogweed and plantain also present. Adjacent land use is dominated by agricultural fields and a major road.

Standing water (ditches) – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.5.1 Ditch D24 is located within the EfW CHP Facility Site and is connected to ditch D26 within the TCC which extends along the northern perimeter of New Bridge Lane and the Water Connections. Both ditches are bordered by poor semi-improved grassland and an industrial aggregates site. The ditches have steep earth banks approximately 2m in height and contain shallow, heavily polluted water, the turbidity of which obscures the channel substrate. Bankside vegetation includes perennial rye-grass, Yorkshire fog, false oat grass, common nettle, bramble, willowherb and common reed. The in-channel vegetation is dominated by common reed which is subject to regular management including dredging.

11.5.2 Ditch D8 which runs adjacent the southern half of the CHP Connection Corridor western perimeter was not directly accessible due to security fencing. It was however partly visible from the roadside and was observed to have steep earth banks vegetated with bramble, common nettle and common reed. At the time of survey, the water level was very low (suggesting it is liable to drying out), with evidence of contamination (oil slick on the surface).

Standing water (ditches) – Grid Connection

11.5.3 Ditches mostly exist as drains along the margins of land parcels. They were generally found to hold low water levels and are commonly choked with vegetation such as common reed and terrestrial grasses other vegetation such as nettles and bramble. Evidence that the ditches are managed and reprofiled is present, the level and frequency of maintenance appears variable.

11.5.4 Several ditches were inaccessible at the time of survey (see **Section 11.1 Limitations of the ES**).

Ditches (dry) – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.5.5 Ditch D25 is located within the EfW CHP Facility Site, extending to the southern perimeter of the TCC before heading south to New Bridge Lane/Water Connections. It is a shallow dry ditch that borders a line of poplar trees and dense bramble scrub. The ditch appears to never hold water and is filled with leaf litter from the associated trees. The earth banks are shallow, approximately 20cm on either side. Grassland on the eastern side of the ditch is regularly managed and kept to a short sward to allow access for vehicles.

Ditches (dry) – Grid Connection

11.5.6 Thirty-eight dry ditches were identified during the extended Phase 1 habitat survey within the Survey Area along the Grid Connection, mostly forming drainage networks around the boundaries of arable fields.

11.5.7 The dry ditches were predominantly choked with terrestrial species such as bramble, common nettle, cock's-foot and other grasses and common reed. Evidence of occasional management such as bank profiling and dredging is present resulting in an often steep and high bank profile.

11.5.8 Several ditches along were inaccessible at the time of survey due to proximity to heavy traffic along the A47 road (see **Section 11.1 Limitations of the ES**).

Arable – Grid Connection

11.5.9 Arable land is the dominant habitat type within the Survey Area along the Grid Connection. At the time of survey arable fields included those in crop (for example, maize and root vegetables such as swede), and those that were recently ploughed. The arable land within the survey area has a high likelihood of being Best and Most Valuable (BMV) land in terms of agricultural land classification[79], however BMV is not reflective of ecological importance and it would not be affected by the Grid Connection which is within highway land.

11.5.10 Arable fields are large and extensive, interspersed with drainage ditches creating boundary features. Field margins are generally narrow due to ploughing close to ditches, and lack species diversity, usually consisting of improved grassland. As such, they do not fulfil the criteria for HPI arable field margins.

Hedgerow – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.5.11 Hedgerows were recorded within the Survey Area associated with field boundaries to the south of the Access Improvements/Water Connections, and along the eastern boundary of the EfW CHP Facility site. All hedgerows recorded were species-poor and dominated by hawthorn and are generally intact without significant gaps. No species-rich hedgerows were recorded.

11.5.12 All native hedgerows over 20m in length are defined as HPI[80]; it is therefore likely that all hedgerows identified would qualify as HPI and are treated as such for the purposes of the assessment within this chapter. None of the hedgerows qualify as important hedgerows in accordance with the criteria under the Hedgerow Regulations.

[79] The arable land present is located within an area identified as 'High likelihood of BMV land (>60% area BMV)' on the Natural England *Likelihood of Best and Most Versatile (BMV) Agricultural Land - Strategic scale map Eastern Region (ALC020)* Available online at: [redacted] [Accessed 17/02/2022]. BMV land is defined as Agricultural Land Classification Grades 1, 2 and 3a, and is the land which is most flexible, productive and efficient in response to inputs and which can best deliver future crops for food and non-food uses such as biomass, fibres and pharmaceuticals. BMV is not reflective of ecological importance.

[80] UK Biodiversity Action Plan; Priority Habitat Descriptions: Hedgerows. Available online at: https://data.jncc.gov.uk/data/ca179c55-3e9d-4e95-abd9-4edb2347c3b6/UKBAP-BAPHabitats-17-Hedgerows.pdf [Accessed 17/02/2022].

Hedgerow – Grid Connection

11.5.13 Hedgerows were recorded within the Survey Area associated with field boundaries. Hedgerows recorded include species-poor hedges with and without trees and are generally intact without significant gaps. No species-rich hedgerows were recorded.

11.5.14 The hedgerows recorded were typically dominated by a single native woody species, usually hawthorn or blackthorn. Additional woody species recorded within hedgerows include elder, willow, rose, and holly. The most common trees occurring along hedgerows are willow and alder.

11.5.15 All native hedgerows over 20m in length are defined as HPI; it is therefore likely that all hedgerows identified would qualify as HPI and are treated as such for the purposes of the assessment within this chapter. None of the hedgerows qualify as important hedgerows in accordance with the criteria under the Hedgerow Regulations.

Ephemeral/short perennial – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.5.16 The extended Phase 1 habitat survey identified ephemeral/short perennial vegetation occupying patches of exposed ballast amongst areas of dense scrub along the disused March to Wisbech Railway within the CHP Connection Corridor. These areas have an open sward with patches of bare ground, and very variable species composition including species such as red fescue, white clover, common mouse-ear, common vetch, ribwort plantain, wild carrot, white clover, perfoliate St John's wort, smooth tare, black medic, lesser trefoil, hope trefoil, dove's-foot crane's-bill, stonecrop, yarrow, common knapweed, oxeye daisy and encroaching bramble. At the edges of the existing track bed, the sward becomes taller and tends towards sparse grassland before quickly grading into scrub which dominates the majority of the CHP Corridor on either side of the existing track bed. In these areas the sward has increased abundance of grass species including false-oatgrass, cock's-foot, Yorkshire fog, barren brome, and rare occurrences of soft brome. A few scattered plants of bee orchid (one plant) and common broomrape (three plants) were recorded in more open areas of habitat at the north of the CHP Connection Corridor to the west of the existing track bed.

Other habitats

11.5.17 The remainder of the land within the Survey Area largely supports common and widespread habitats such as tall ruderal vegetation, boundary features including earth banks and fences, bare ground, hardstanding/tarmac and buildings (including commercial and residential development).

SPI and other conservation-notable plants

11.5.18 The desk study and field surveys identified no records of SPI or other conservation-notable plants. The habitat types recorded during the extended Phase 1 habitat survey are generally common and widespread, and therefore the land within the Proposed Development is not considered to support a unique assemblage of plant species.

Invasive non-native flora – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection

11.5.19 No records of invasive non-native plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were identified during the desk study within the area of search (either within the Order limits or within 2km of it). Two Schedule 9 invasive non-native plant species, Japanese knotweed and *Cotoneaster* sp., were recorded during field surveys within the Order limits within the CHP Connection Corridor, and a further one species (New Zealand pigmyweed) was recorded in a pond outside of the Order limits approximately 450m from the Grid Connection.

11.5.20 A total of three stands of Japanese knotweed were recorded in the CHP Connection Corridor. One stand located towards the north of the CHP Connection Corridor, at the edge of a stand of dense bramble scrub, showed clear evidence of previous treatment as confirmed by the landowner, but has since started to re-grow. A second untreated stand exists within the dense bramble scrub approximately 10m to the east. *Cotoneaster* sp. is also present within the CHP Connection Corridor at this location.

11.5.21 A further stand of approximately 40m^2 of Japanese knotweed is present at the eastern edge of the CHP Connection Corridor adjacent to the north of Weasenham Lane.

11.5.22 There is potential for other common invasive non-native plant species such as Himalayan balsam to occur associated with ditch habitat, although this species was not recorded during the baseline surveys.

Fauna

Bats – Overview

11.5.23 The desk study returned a total of six records of bats within 2km of the Site boundary, with species including common pipistrelle, soprano pipistrelle, an unidentified pipistrelle species, and an unidentified species. There were three records of bat roosts within 5km of the Site boundary, including brown long-eared and unidentified species, and a further two granted European Protected Species Mitigation Licences for bats for species including common pipistrelle, serotine and brown long-eared bats.

Bats – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.5.24 Buildings, individual trees and blocks of treeline and scrub within accessible land in the Survey Area were subject to a preliminary assessment for Potential Roost Features (PRFs). No buildings were identified to be suitable within the areas surveyed, being of modern industrial construction which lacks suitable roost features.

11.5.25 Seven trees were assessed to have a range from low to moderate bat roost suitability. These are a line of scattered mature poplar trees that encloses dense scrub in the south-east of the EfW CHP Facility site and immediately south of the TCC. The western half of the treeline/scrub is located within the EfW CHP Facility

Site, while the eastern half is located outwith the EfW CHP Facility Site and immediately south of the TCC. Emergence and re-entry surveys of the trees did not record any evidence of bat roosts.

11.5.26 Habitats within the EfW CHP Facility Site, CHP Connection Corridor and TCC were assessed as having moderate suitability to be used as foraging resources and commuting routes for bats. The grassland and treeline and scrub immediately south-east of the site provide suitable habitat for foraging and commuting bats although these are not unique habitats locally. The dense scrub along the disused March to Wisbech Railway and CHP Connection Corridor immediately west of the EfW CHP Facility Site provides a suitable linear commuting corridor for bats through an otherwise built-up environment. An area of open grassland at the north of the CHP Connection Corridor also provides a suitable sheltered foraging area for foraging bats. Overall, habitat within the EfW CHP Facility is considered to have moderate suitability[81] for commuting and foraging by bats. The TCC is predominantly open grassland with occasional stands of dense bramble scrub.

11.5.27 Habitats within the Access Improvements and Water Connections are dominated by hardstanding roads, with a small area at the edge of a commercial orchard in the south-eastern end of the Water Connections. Overall, habitat within these areas is considered to have negligible-low suitability[82] for commuting and foraging by bats.

11.5.28 Monthly activity transect surveys targeting the EfW CHP Facility Site and CHP Connection Corridor were carried out. At least two species/species groups were confirmed including common pipistrelle and noctule. Overall, there was an average of 9.36 bat passes per hour recorded across the transect, for all species across all months. There is a slight increase in numbers toward July in the maternity period, and then a decrease thereafter. Common pipistrelle were recorded in all months, while noctule were only recorded in June and September.

11.5.29 Common pipistrelle was the most frequently recorded species and foraging and social calls were identified. The majority of common pipistrelle recordings were located at the point the CHP Connection Corridor crosses over Weasenham Lane. This is a well-lit industrial section of the CHP Connection and marks a break in the corridor, however, the habitats immediately north and south of this point are dense bramble and buddleia scrub that extends along the CHP Connection Corridor. Calls from this species were also recorded at multiple locations throughout the transect route primarily in close association with the CHP Connection Corridor along the western boundary of the EfW CHP Facility Site which is dominated by bramble, hawthorn and buddleia scrub, as well as the treeline and scrub south of the EfW CHP Facility Site which is bordered by open poor semi-improved grassland.

[81] The Bat Conservation Trust, in their 'Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition (Collins, 2016), provide guidelines for assessing the potential suitability of Proposed Development sites for bats, based on the presence of habitat features in the landscape, and potential roost features on buildings, structures and trees. Table 4.1 page 35 of the guidance outlines habitat features associated with negligible, low, moderate and high suitability for commuting, foraging and roosting by bats; based on the quality, extent and connectivity of suitable habitats and potential roost features which are present.

[82] The Bat Conservation Trust, in their 'Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition (Collins, 2016), provide guidelines for assessing the potential suitability of Proposed Development sites for bats, based on the presence of habitat features in the landscape, and potential roost features on buildings, structures and trees. Table 4.1 page 35 of the guidance outlines habitat features associated with negligible, low, moderate and high suitability for commuting, foraging and roosting by bats; based on the quality, extent and connectivity of suitable habitats and potential roost features which are present.

11.5.30 Noctule make up 5% of all recordings on the transect, with commuting activity recorded in June and September high above the southern section of the main EfW CHP Facility Site which is dominated by bare ground. Surrounding habitats in this area include the CHP Connection Corridor of dense scrub and treeline and scrub and grassland at the south of the EfW CHP Facility Site.

11.5.31 Two automated static bat detectors were deployed for monthly monitoring during April to October inclusive, one located within the disused March to Wisbech Railway along the western boundary of the EfW CHP Facility Site adjacent to the CHP Connection Corridor (Location 1), and the second detector situated within the tree line on the northern boundary of a sheltered area of grassland habitat in the north of the CHP Connection Corridor (Location 2).

11.5.32 At least six species/species groups were confirmed to be using the Survey Area during the automated monitoring survey work: Common pipistrelle, soprano pipistrelle, noctule, serotine, *Myotis* species, and brown long-eared. Overall, there was an average of 125 bat recordings per night for all species combined, across both locations and all months. Activity levels were notably different between the monitoring locations, with an average of 52.26 recordings per night at Location 1 and 72.6 recordings per night at Location 2.

11.5.33 Common pipistrelle were by far the most frequently recorded species during the automated monitoring survey, with recordings of these species accounting for approximately 95% of all recordings across all locations and all months (an average of 118.06 recordings per night). The next most frequently recorded species across both monitoring locations was noctule, which make up 0.89% of all recordings (an average of 2.03 recordings per night). Soprano pipistrelle, serotine, Myotis species and brown long-eared were all recorded rarely, at an average of less than 1.66 recordings per night, when considering both locations and all months (1.11, 0.06, 1.66 and 1.17 recordings per night, respectively).

11.5.34 All species/species groups bar serotine and brown long-eared were recorded using this survey method at both monitoring locations; serotine and brown long-eared were only recorded at Location 2. However, the species were not evenly distributed across the Survey Area. A greater proportion of activity was recorded at Location 2 for all species.

11.5.35 Ecobat[83] was used to analyse data collected during the automated monitoring. Common pipistrelle activity at both Location 1 and Location 2 ranged from low to high with the majority of nights classed as high. Soprano pipistrelle activity was assessed as ranging from low to moderate at Location 1 and ranged from low to low/moderate at Location 2; the majority of nights at both sites classed as low/moderate. *Nyctalus* species ranged between low and moderate at the Location 1 site with the majority between low to low/moderate. *Nyctalus* species ranged from between low to moderate/high at the Location 2 site with the majority recorded as low. *Myotis* species activity recorded at the Location 1 site ranged from low to

[83] Ecobat is an online tool that compares data collected by automated bat detectors at any given site with data collected by the same means within the surrounding 100km. The programme identifies the number of nights in which species data collected by an automated detector could be considered to represent a 'high' (81st-100th percentile); 'moderate/high' (61st – 80th percentile); 'moderate' (41st to 60th percentile); 'low/moderate'; or 'low' level of activity compared with the average. Due to the limitations of the tool, the outputs provided by Ecobat can provide only a very basic and indicative assessment of bat activity levels recorded in the survey area.

low/moderate, and from low to moderate/high at the Location 2 site; the majority of nights classed as low. Brown long-eared activity was classed as low to moderate at the Location 2 site with the majority classed as low/moderate.

Bats – Grid Connection

11.5.36 Buildings, individual trees and blocks of woodland within accessible land in the Survey Area were assessed for PRFs. Only one building was assessed to have potential for roosting bats, being classed as having low-moderate bat roost suitability. Trees within a treeline running adjacent the northern edge of the A47 were assessed to have a range from low to moderate bat roost suitability.

11.5.37 The habitat along the Grid Connection has varying suitability for commuting/foraging bats. Large areas of open arable land are often less suitable and at times unsuitable for most species of bats as they provide little in the way of suitable foraging habitat, or linear features or cover for commuting. Habitats such as hedgerows, ditches and woodland along the Grid Connection offer localised areas of suitable commuting and foraging habitats for bats, and these habitat types are relatively common throughout the wider landscape. Areas which are most suitable for bats occur in places where a range of suitable habitat types coincide to provide a variety of ecotones for commuting and foraging, suitable for a variety of bat species. This includes areas where there are combinations of habitat such as scrub, orchard, hedgerows, treelines and woodland, interspersed with ditches and areas of grassland. Overall, habitat along the Grid Connection is considered to be low-moderate suitability for commuting and foraging for bats.

11.5.38 No bat activity monitoring or roost surveys were conducted along the Grid Connection based on professional judgement, due to construction activities being predominantly low impact and restricted to unsuitable or unfavourable habitat within the hardstanding carriageway and the immediate road verge of the A47, where adjoining habitats are subject to disturbance from heavy traffic flows, and are unlikely to directly or indirectly impact key foraging or commuting habitats or potential roosts.

Great crested newt – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections; Grid Connection

11.5.39 Pond and ditch numbers referred to in this section are shown on **Figure 3.1 in Appendix 11.G Great Crested Newt Survey (Volume 6.4)**.

11.5.40 The desk study identified four records of great crested newt within 2km of the Order limits. None of the records of great crested newt are from inside the Order limits. All four records are from two ponds located approximately 380m and approximately 495m west of the CHP Connection Corridor, both of which are separated from the Site by the River Nene.

11.5.41 During the desk study, a review of Ordnance Survey maps and aerial imagery identified a total of 15 ponds within the 500m pond area of search defined in **Section 11.4**, and 97 ditches within the 100m ditch area of search. Of the 15 ponds identified, seven were screened as being potentially suitable for great crested newt, i.e., where there were no obvious reasons for a pond to be considered unsuitable (e.g., a stocked fisheries), and where the desk-based review indicated there was

connectivity between a pond and the Order limits via a distance of no more than 500m of suitable connective habitat. Overall, habitats along the CHP Connection Corridor and the land surrounding the EfW CHP Facility Site are considered to be favourable for great crested newt, while the more extensive areas of arable fields and hardstanding along the Grid Connection, Access Improvements and Water Connections are considered to be unfavourable for great crested newt.

11.5.42 Waterbodies (including ponds and wet ditches) that could be accessed during the extended Phase 1 habitat survey were subject to HSI assessments to determine their suitability for great crested newts (see **Section 11.1 Limitations of the ES**). Of the seven potentially suitable ponds and 97 ditches identified above, all seven ponds and 64 ditches were accessible during the extended Phase 1 habitat survey of the Survey Area and were subject to HSI assessments in 2020/21.

11.5.43 Four ponds (P4, P9, P10 and P15) were assessed to have suitability to support great crested newt (i.e., HSI scores of 'below average' or above) and were subject to great crested newt presence/likely absence surveys using eDNA analysis during 2021. The remaining three ponds achieved HSI scores of 'poor' and thus were classified as unsuitable. However, one of the unsuitable ponds (P14) was included in the presence/likely absence surveys as a precaution due to anecdotal evidence of great crested newt presence from a landowner.

11.5.44 Nine ditches were assessed to have suitability to support great crested newt (of which three achieved HSI scores of 'average' and six 'below average'). Of these, one suitable ditch was located within an industrial site and was inaccessible for presence/likely absence surveys. Four ditches were identified after the great crested newt field season had ended due to a later iteration of the Order limits, so consequently could not be subject to presence/likely absence survey. The remaining four ditches (D8, D39, D66 and D78) were subject to great crested newt presence/likely absence surveys using eDNA analysis during 2021.

11.5.45 The remaining ditches were scoped out of presence/likely absence surveys; 11 achieved HSI scores of 'poor'; five were deemed unsuitable for great crested newt due to containing flowing water; 38 were dry at the time of survey; and one ditch was not present on the ground.

11.5.46 All five ponds and four ditches subject to presence/likely absence surveys using eDNA analysis achieved negative results and are therefore considered to have likely absence of great crested newts.

11.5.47 Although a number of additional ditches were identified following confirmation of the Proposed Development design along the Grid Connection which could not be surveyed (see **Section 11.1 Limitations of the ES**), ditches that were assessed within the 100m ditch area of search were found to have at best 'below average' suitability for great crested newt, while the majority of ditches assessed were found to have poor suitability for great crested newt or were dry at the time of survey (i.e., unsuitable). Presence/likely absence surveys were completed for all ponds within the 500m pond area of search (constituting optimal habitat compared to ditches) which were deemed to be suitable for great crested newt, and where there was appropriate habitat connectivity between the pond and the Order limits. The surveys therefore encompassed optimal aquatic habitat for great crested newt within the

Survey Area, as well as a sample of suitable ditch habitats, and the survey data obtained is therefore considered to provide a robust baseline for assessment.

11.5.48 In addition to the ponds and ditches surveyed within 500m and 100m respectively of the Proposed Development, eDNA presence/likely absence surveys were completed for an additional four ponds and seven ditches within the Survey Area around a previous alignment of the Grid Connection, and all 11 waterbodies returned negative eDNA results concluding likely absence of great crested newts. Although these ponds and ditches are outside of the respective 500m pond and 100m ditch areas of search in relation to the final Order limits, they provide additional contextual information on the status of great crested newts within the locality.

Otter – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections; Grid Connection

11.5.49 The desk study returned one record of otter outside of, but within 2km of the Order limits, located approximately 160m east of the CHP Connection Corridor.

11.5.50 No otters, potential rest sites or other evidence was recorded during the extended Phase 1 habitat survey. Habitats present within the Survey Area are predominately unsuitable for otter, although one main river (River Nene) is located approximately 540m west of the EfW CHP Facility Site, approximately 240m west of the CHP Connection Corridor, approximately 650m west of the TCC, approximately 200m west of Access Improvements, approximately 660m west of Water Connections and the Grid Connection. It is considered to provide suitable holt creation, foraging and commuting habitat. Wet ditches are present within the Order limits, but offer only limited suitability for commuting purposes. Water quality within these ditches is variable and they hold often little or no water and so are predominantly not suitable for foraging, with the likely exception of supporting scattered amphibians. Several stocked fishing ponds which are in close proximity to the ditch network adjoining the Grid Connection Corridor offer localised areas of suitable foraging habitat.

Water vole – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections; Grid Connection

11.5.51 Pond and ditch numbers referred to in this section are shown on **Figure 3.1 in Appendix 11.I Water Vole Survey (Volume 6.4)**.

11.5.52 The desk study returned one record of water vole within 2km of the Proposed Development, located outside of the Order limits, approximately 1.2km to the west of the CHP Connection Corridor.

11.5.53 During the desk study, review of Ordnance Survey maps and aerial imagery identified a total of 97 potential ditches within the 100m ditch area of search defined in **Section 11.4**. 64 of these ditches were accessible during the extended Phase 1 habitat survey to determine their suitability for water vole. Of these, one ditch is not present on the ground (D81), and 20 ditches contained water. Twenty-six ditches were assessed as potentially suitable for water voles due to water level and/or factors such as suitably vegetated steep earth banks. Thirty-seven ditches were assessed as unsuitable for water vole due to a combination of factors such as poor water quality, unsuitable bankside material for burrows, unsuitable bankside and surrounding vegetation for foraging and cover, evidence of frequent and highly

disturbing dredging, and other intensive management such as clearance of bankside vegetation. No ditches were assessed to be optimal for water vole.

11.5.54 Presence/likely absence surveys were carried out on any ditch that is located within 10m of any work activities as a result of the Proposed Development. Thus, 16 ditches were subject to water vole presence/likely absence surveys. These surveys recorded conclusive evidence of water vole along ditches D24 and D26. No confirmed water vole burrows were recorded.

11.5.55 Ditch D24 is located within the EfW CHP Facility Site and along its eastern boundary that adjoins to the TCC; it measures approximately 295m in length. A potential burrow was recorded at the western end of D24 on the southern bank between the culvert headwall and sheet piling weir, close to the water level. The hole was a size/shape that could be attributed to water vole or brown rat, but there was no obvious evidence of use by either species, and there was vegetation and moss growing at the entrance and dead vegetation hanging across the entrance. Camera trap monitoring recorded no animals entering, leaving or otherwise showing interest in the hole. Occasional footage of individual water vole and brown rat were recorded, with brown rat recorded most frequently, while water vole was usually recorded no more than once per day. Water vole and brown rat were both recorded exiting the water at this location and ascending the bank at the edge of the sheet piling weir, where it is assumed they are passing from one side of the weir to the other.

11.5.56 Multiple rat droppings were found on ditch D24 at and around the culvert and elsewhere along the ditch, and a water vole latrine was recorded on a raft of polystyrene floating amongst other litter and debris trapped between the culvert head wall and piling weir. Rat burrows with well-connected runs and rat droppings were found on the stretch of D24 at the north-eastern boundary between the EfW CHP Facility Site and TCC.

11.5.57 Two additional old water vole latrines were also recorded amongst reeds on D24 at the juncture where it adjoins D26, with one of the latrines appearing to have been trampled by water vole; a trampled latrine is indicative that breeding is/has potentially taken place[84]. Potential feeding stations are also located at the reedbed.

11.5.58 A short section of ditch D26 is located within the TCC, while the majority runs along the boundary of the TCCTCC before heading south and then east adjacent to the Water Connections along New Bridge Lane. Ditch D26 totals approximately 230m in length. Two potential water vole feeding stations are located at the eastern extent of the ditch along the northern edge of New Bridge Lane. A freshwater vole latrine was located on top of this second feeding station. A further three water vole latrines were recorded in this area. Rat droppings are present along the entire ditch, and a rat was also observed at the ditch during a bat survey.

11.5.59 Although outside the Survey Area, incidental evidence of water vole was identified on the southern bank of Pond P5, which is located approximately 30m south of the Grid Connection. Two water vole latrines were recorded along the southern bank of

[84] People's Trust for Endangered Species (PTES). Your guide to looking for signs of water voles and other riverbank Species Available online at: [redacted] [Accessed 17/02/2022].

the pond. One of the latrines was present adjacent to characteristically chewed vegetation indicating a water vole feeding station as well.

11.5.60 Inconclusive evidence of water vole was recorded along four ditches D8, D11, D27, and D39, which are either adjoining or close to those ditches where presence was confirmed. They are located at the north of the EfW CHP Facility Site (D11); west of the disused March to Wisbech Railway and CHP Connection Corridor (D8); along the north side of New Bridge Lane (D27); and leading northwards from New Bridge Lane to the west of the A47 (D39).

11.5.61 Potential evidence recorded on these ditches included unconfirmed droppings and feeding remains, and occasional potential borrows of a size/shape that could be attributed to water vole or brown rat but there was no evidence indicative of use by either species. Multiple burrows with evidence indicative of rat use were recorded on the ditches (including rat droppings, inter-connecting worn runs and small spoil mounds in front of entrances).

11.5.62 Heavy rat activity was recorded throughout the Survey Area on the majority of ditches.

11.5.63 Confirmed water vole latrines were recorded at D24 and D26 and potential latrines at D27 and D39, all during the first surveys in spring, with no latrines recorded during the second survey in summer. Population estimates for the ditches, based on density of latrines in spring, are low for D24, D27 and D39 and medium for D26. Overall, scattered records of water vole were recorded on a proportion of ditches surveyed, with no evidence indicating water voles using any of the potential burrows recorded. Presence of brown rat is extensive throughout the ditch network confirmed by regular occurrence of droppings, and the species was recorded in all areas of confirmed or potential water vole presence.

11.5.64 All ditch habitat surveyed was suboptimal for water vole, and recorded levels of activity fluctuated throughout the survey period. This is likely to be a result of the intensive management of the channel and bankside vegetation and poor water quality associated with discharges from connected industrial areas.

Birds (WCA Schedule 1 species and SPI/BoCC Red list Breeding bird assemblage) – Overview

11.5.65 The desk study identified records for 30 bird species within 2km of the Order limits within the past 10years, 12 of which are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). Of these, there is potentially suitable breeding habitat within 500m of the Order limits for peregrine (on pylons), red kite and hobby (woodland), barn owl (farm buildings/ nest boxes) and kingfisher and Cetti's warbler (ditches).

11.5.66 Records include 18 SPI and/or Birds of Conservation Concern 5 (BoCC)[85] Red-listed species, for which there is potentially suitable breeding habitat within the Order limits for: bullfinch, corn bunting, cuckoo, dunnock, house sparrow, lapwing, linnet,

[85] Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds 114*: 723-747.

reed bunting, skylark, song thrush, spotted flycatcher, starling, swift, turtle dove, yellow wagtail and yellowhammer.

11.5.67 Desk study records also include species that are qualifying (non-breeding) features of the Wash, Nene Washes and Ouse Washes SPAs and Ramsar Sites, including four records of whooper swan during 2010-2016/17[86].

Birds (WCA Schedule 1 species and SPI/BoCC Red list Breeding bird assemblage) – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.5.68 Results from the breeding bird appraisal and survey of the area in 2021, covering the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections, indicate that the area supports a breeding bird community comprised primarily of common and widespread species typical of the local area and habitats present (commercial buildings, interspersed by scrub and gardens). The industrial buildings support relatively high numbers of nesting house sparrow with herring and lesser black-backed gulls nesting on the roof tops. The limited areas of scrub and gardens support relatively low densities of SPI such as dunnock, song thrush, linnet and bullfinch.

11.5.69 Results from the desk studies and Schedule 1 bird survey in 2021 indicate that the area covering the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections provides very limited opportunities for nesting Schedule 1 species such as barn owl, peregrine and red kite. There are no undisturbed areas of woodland for nesting red kite and any suitable nesting locations for barn owl and peregrine are likely to be in too disturbed an environment to be suitable (i.e., close to active commercial properties, urban residential areas and busy roads). However, given that peregrine and red kite are increasing in numbers and range in the region, the future presence of all of these species nesting within 500m of the area covering the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections cannot be entirely ruled out.

Birds (WCA Schedule 1 species and SPI/BoCC Red list Breeding bird assemblage) – Grid Connection

11.5.70 Results from the breeding bird appraisal in 2021 indicate that the habitats either side of the Grid Connection (primarily arable farmland and grassland) are broadly similar to those adjacent to the TCC and Water Connections area. In view of this, the breeding bird community either side of the Grid Connection is also likely to comprise a low diversity of common and widespread species associated with the farmland, scrub and hedgerows present.

11.5.71 No evidence of nesting Schedule 1 bird species was obtained, within 500m of the Grid Connection from the ornithological appraisal surveys undertaken in 2021 or the VP and other bird surveys undertaken during 2019-2020. In addition, given that the Grid Connection is located adjacent to the very busy A47 road, the area close to the Grid Connection is unlikely to provide suitable conditions for any nesting Schedule 1 bird species. However, given that peregrine and red kite are increasing in numbers

[86] These were the most recent records at the time which the ornithological desk study was undertaken, and are considered to remain representative given that the land use has not changed significantly in the intervening period.

and range in the region, the future presence of all of these species nesting within 500m of the Grid Connection cannot be entirely ruled out.

Reptiles – Overview

11.5.72 The desk study returned no records of reptiles within 2km of the Order limits or within it.

Reptiles – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.5.73 No reptiles or evidence of reptiles was recorded within the Survey Area during the extended Phase 1 habitat survey. Parts of the EfW CHP Facility Site are subject to high levels of disturbance and the habitats consist predominantly of hard standing surfaces which are unsuitable for reptiles. However, areas of suitable habitat are present, mostly around the peripheries of the EfW CHP Facility Site including partially vegetated earth bunds around the boundaries, treeline, scrub, grassland and wet ditches to the south, and predominantly scrub habitat along the disused March to Wisbech Railway (part of which forms the CHP Connection Corridor) along the western boundary, which provide suitable habitat for foraging, refuging and hibernating.

11.5.74 Poor semi-improved grassland in the north of the CHP Connection Corridor offers suitable foraging habitat. While dense scrub, exposed ballast and railway sleepers, and fly-tipped material offer suitable habitat for reptiles such as common lizard and slow worm, providing opportunities for basking, foraging, refuging and hibernating.

11.5.75 The TCC consists predominantly of poor semi-improved grassland providing suitable foraging habitat, while occasional stands of bramble scrub provide refuge habitat.

11.5.76 The extensive areas of hardstanding within the Access Improvements and Water Connections are considered to be unfavourable for reptiles, although adjacent grassland and orchard habitat may provide some suitability.

11.5.77 Presence/likely absence reptiles surveys were targeted where favourable habitat was recorded and where the Proposed Development would result in permanent habitat loss and thus a higher risk of affecting reptiles if present. Thus, surveys were carried within the EfW CHP Facility Site and the CHP Connection Corridor. Access along the CHP Connection Corridor was restricted due to dense scrub vegetation including a complete cover of bramble in areas, meaning only locations at the northern and southern extents of the CHP Connection Corridor were subject to survey. No reptiles were recorded at either of the two survey sites during the surveys.

Reptiles – Grid Connection

11.5.78 No reptiles or evidence of reptiles was recorded within the Survey Area during the extended Phase 1 habitat survey. The majority of the Survey Area comprised arable fields and hard standing along the A47 which are either unsuitable or sub-optimal for reptiles. The improved grassland verges are highly disturbed and improved in nature making them unfavourable for foraging, basking or commuting reptiles.

However, arable field margins, hedgerows, dense scrub and a network of ditches provide some suitable habitat for reptiles with opportunities for basking, foraging, refuging and hibernating, though features such as these are at times sparse and isolated within the arable landscape.

Badgers – Overview

11.5.79 The desk study returned no records of badger within 2km of the Order limits or within it.

Badgers – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.5.80 During the extended Phase 1 habitat survey and badger survey undertaken, no signs or evidence of badger were recorded within the Survey Area. Habitats such as treeline, scrub and grassland within the EfW CHP Facility Site and TCC, and the disused March to Wisbech Railway (i.e., CHP Connection Corridor) along the western boundary of the EfW CHP Facility Site provide suitable habitats for sett creation, foraging, and commuting. The dense scrub within the CHP Connection Corridor also provides suitable habitats for sett creation, foraging and commuting. However, the CHP Connection is within a narrow corridor of suitable habitats through industrial and residential areas, which are predominantly unsuitable for badger. The extensive areas of hardstanding within the Access Improvements and Water Connections are considered to be unsuitable for badger, although adjacent grassland and orchard habitat may provide some suitability.

Badgers – Grid Connection

11.5.81 During the extended Phase 1 habitat survey and badger survey undertaken, a deceased badger was recorded at the side of the A47 within the Grid Connection; no other evidence of badger activity was recorded within the Survey Area.

11.5.82 Habitats such as woodland, scrub, hedgerows and the steep banks of dry ditches within the Survey Area provide suitable habitat for sett creation, foraging and commuting. Arable land and grasslands provide additional suitable foraging resources. The hard standing along the A47 and immediate road verge that dominates the Grid Connection is unsuitable for badger.

SPI vertebrate species – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections; Grid Connection

11.5.83 One record of brown hare was identified approximately 1.6km south-east of the Order limits.

11.5.84 During the extended Phase 1 habitat survey no SPI vertebrate species were recorded. Although habitats within the Survey Area could support SPI vertebrate species, the habitats are generally common and widespread in the wider landscape, and therefore land within the Order limits is not considered to support a unique assemblage of SPI vertebrate species in the local context. Considering the habitat types present, significant assemblages of SPI vertebrate species are unlikely to occur within the Order limits.

SPI and other conservation-notable terrestrial and freshwater invertebrates – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections; Grid Connection

11.5.85 The desk study returned no records of terrestrial or freshwater invertebrates within 2km of the Order limits or within it.

11.5.86 During the extended Phase 1 habitat survey no SPI or other conservation notable invertebrate species were recorded. Habitat types present are considered predominantly unsuitable or unfavourable for significant assemblages of SPI or conservation notable invertebrate species. Further to this, the habitats are generally common and widespread in the wider landscape, and therefore the land within the Order limits is unlikely to support a unique assemblage of species in the local context. Considering the habitat types present, significant assemblages of invertebrate species are unlikely to occur within the Order limits.

Future baseline

EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.5.87 In the absence of the Proposed Development, it is likely that current management and land use will remain unchanged and therefore baseline conditions are likely to remain similar in the future except for the CHP Connection Corridor where there are proposals to reopen the disused March to Wisbech Railway. If this proposal goes ahead it would likely lead to the loss of vegetation along what is presently identified as the CHP Connection Corridor. The future baseline in respect of features within the wider Study Area outside of the Order limits is likely to experience a gradual change in response to a range of factors such as, but not restricted to, loss of habitat as a result of any employment and housing development within the local area, increased traffic and recreational usage in the wider area, climate change (e.g., changes in mean air or water temperatures affecting phenology and distribution and abundance of certain extant species or occurrence of new species), air quality (e.g., due to transport emissions) and invasive non-native species, such as the continuing spread of Ash Dieback disease within the UK.

11.5.88 The above factors could result in a gradual deterioration in the ecological baseline, which is likely to be non-significant. The future baseline for biodiversity is therefore unlikely to significantly alter to an extent that it would affect the outcome of the any assessment within this chapter.

Grid Connection

11.5.89 In the absence of the Proposed Development, it is likely that current management and land use (predominantly roadside verge and adjoining agricultural land) will remain unchanged and therefore baseline conditions are likely to remain similar in the future.

11.5.90 Across some of the agricultural land, changes in farming policy and efforts by third parties may see further benefits for biodiversity and natural capital secured (e.g., hedgerow establishment, tree planting, natural flood resilience measures etc.).

However, these are likely to be relatively localised and unlikely to be implemented at scale prior to the construction phase for the Proposed Development.

11.5.91 In the longer-term, climate change may alter the type of habitats present by favouring certain species over others (e.g., changes in mean air or water temperatures affecting phenology and distribution and abundance of certain extant species or occurrence of new species). This could alter the species make-up of habitats such as the woodland or grassland present, although is considered unlikely to change habitat types within the lifetime of the Proposed Development.

11.5.92 Additionally, the future baseline is likely to experience a gradual change in response to a range of factors such as, but not restricted to, loss of habitat as a result of any employment and housing development within the local area[87], increased traffic and recreational usage in the wider area, air quality (e.g., due to transport emissions) and invasive non-native species, such as the continuing spread of Ash Dieback disease within the UK.

11.5.93 The above factors could result in a gradual deterioration in the ecological baseline, which is likely to be non-significant. The future baseline for biodiversity is therefore unlikely to significantly alter to an extent that it would affect the outcome of the any assessment within this chapter.

11.6 Scope of the assessment

Overview

11.6.1 This section sets out the scope of the assessment for biodiversity. This scope has been refined as the Proposed Development design has evolved and responds to feedback received to date as set out in **Section 11.2**.

11.6.2 The starting point for defining the scope of the biodiversity assessment was to use the baseline data that were collected through the desk study and field surveys undertaken to date (see **Section 11.5**) to determine which of the identified ecological features are 'important'. Following CIEEM (2018, updated 2019) guidance, the importance of each ecological feature was determined using a geographic scale[88] (see **Table 11.10 Defining importance of ecological features**). The importance of the ecological features has been described in relation to UK legislation and policy and regarding the extent of habitat or size of population that may be significantly affected by the Proposed Development.

11.6.3 The importance of ecological features can therefore differ from that which would be conferred solely by legislative protection or identification as a conservation notable species. For example, house sparrow is important at a national level (in policy terms) because it is a SPI[30] and features on the Birds of Conservation Concern red list[89].

[87] Land north of the A47 is, in part, allocated for employment and housing development within the Fenland Local Plan (Adopted 2014).
[88] Where this was not possible due to the level of baseline information available the highest relevant level of importance is assumed to ensure no ecological features are scoped out of assessment when not appropriate.
[89] The IUCN red list provides taxonomic, conservation status and distribution information on taxa that have been globally evaluated using the IUCN Red List Categories and Criteria. This system is designed to determine the relative risk of extinction, and the main purpose of the IUCN Red List is to catalogue and highlight those taxa that are facing a higher risk of global extinction - those listed as Critically Endangered, Endangered and Vulnerable. Available online at: [redacted] [Accessed 17/02/2022].

However, a small population that could be affected by a development might be assessed as only being of local importance due to the large, albeit declining, UK population (in excess of five million pairs). Similarly, a small length of hedgerow (a HPI[31]), even if deemed to be 'important[90]' with regard to the Hedgerow Regulations, is unlikely to be considered to have greater than 'local' importance due to the extent of this habitat type across a given county.

11.6.4 Wherever possible, information regarding the extent and population size, population trends and distribution of the ecological features was used to inform their categorisation and determine their importance at the project level. Where detailed criteria or contextual data were not available at this stage of the Proposed Development, professional judgement was used to determine importance.

Table 11.10 Defining importance of ecological features

Geographic context of importance	Description
International or European	National site network constituents including SPAs, SCIs, SACs and candidate SACs. pSPAs, pSACs, Ramsar Sites (designated under international convention) and proposed Ramsar Sites are also considered in the same manner, in accordance with national planning policy. Areas of habitat or populations of species which meet the published selection criteria based on discussions with Natural England and field data collected to inform the EcIA for designation as a constituent of the national site network, but which are not currently designated at this level.
National (UK context)	A nationally designated site including SSSIs and NNRs. Areas (and the populations of species which inhabit them) which meet the published selection criteria guidelines for selection of biological SSSIs but which are not themselves designated based on field data collected to inform the EcIA, and in agreement with Natural England. SPIs and HPIs, Red listed and legally protected species that are not addressed directly in Part 2 of the 'Guidelines for Selection of Biological SSSIs'[91] but can be determined to be of national importance using the principles described in Part 1 of the guidance. Areas of ancient woodland, for example woodland listed within the Ancient Woodland Inventory and ancient and veteran trees.
Regional (East of England)	The East of England Biodiversity Forum provides information on biodiversity targets for habitats and species at a regional scale within their Delivery Plan. In respect of the Proposed Development, features of regional importance will be determined based on the targets set in the Delivery Plan. Regularly occurring HPI or populations of SPI, Red listed and legally protected species may be of regional importance in the context of published information on population size and distribution.

[90] This refers to the legal definition of 'important' within the Hedgerow Regulations 1997 – this is different from how the same term is used within the CIEEM guidelines.
[91] JNCC (2019). Guidelines for selection of biological SSSIs. Available online at: https://jncc.gov.uk/our-work/guidelines-for-selection-of-sssis/ [Accessed 17/02/2022].

Geographic context of importance	Description
County (Cambridgeshire/ Norfolk)	LNRs and local non-statutory designated biodiversity sites including CWSs. Areas which, based on field data collected to inform the EcIA, meet the published selection criteria for those sites listed above (for habitats or species, including those listed in relevant Local Biodiversity Action Plans) but which are not themselves designated.
Local	HPI and SPI, Red listed and legally protected species that based on their extent, population size, quality etc are determined to be at a lesser level of importance than the geographic contexts above. Common and widespread semi-natural habitats occurring within the Study Area in proportions greater than may be expected in the local context. Common and widespread native species occurring within the Study Area in numbers greater than may be expected in the local context.
Negligible	Common and widespread semi-natural habitats and species that do not occur in levels elevated above those surrounding the Study Area. Areas of heavily modified or managed land uses (for example, hard standing used for car parking, as roads etc.)

11.6.5 Where protected species are present and there is the potential for a breach of legislation due to the Proposed Development, those species are considered to be 'important' features regardless of extent of occurrence. With the exception of such species receiving specific legal protection, or those subject to legal control (for example, invasive species), all ecological features determined to be important at negligible level are scoped out of the assessment. This approach is consistent with that described in CIEEM (2018, updated 2019).

11.6.6 Legally protected species and ecological features that are of sufficient importance that effects upon them arising from the Proposed Development could be significant, were then taken through to the next stage of the scoping assessment (see **Section 11.6 Potential Features**). Through an understanding of the activities associated with the Proposed Development and the resulting environmental changes, it is possible to identify ecological features that may be subject to potentially significant effects (see **Section 11.6 Likely Significant Effects**). To identify such ecological features, all the activities and consequent environmental changes associated with the construction and operation of the Proposed Development have been considered. Given the ongoing design process, at this stage of the Proposed Development, the environmental changes have been considered in broad categories only. Wherever there is uncertainty as to the potential level of effect or the occurrence of a particular ecological feature, a precautionary approach has been taken.

Spatial scope

11.6.7 The spatial scope of the assessment of biodiversity covers the area of the Proposed Development, together with the ZoIs that have formed the basis of the Study Area which was described in **Section 11.4**.

11.6.8 Key to establishing a likely significant effect is the determination of a ZoI for each ecological feature (in other words the area within which a significant effect on an ecological feature may occur as a result of the Proposed Development). ZoIs differ depending on the type of environmental change (in other words the change from the existing baseline) as a result of the Proposed Development, and the ecological feature being considered.

11.6.9 The construction and operational phases of the Proposed Development may result in the following broad environmental changes:

- Permanent or temporary land take/land cover change (resulting in habitat loss or degradation and/or loss of fauna);
- Fragmentation of habitats (resulting in a reduction in connectivity and/or exclusion from suitable habitats and barrier effects);
- Increased noise and vibration (resulting in disturbance/displacement);
- Increased light levels (resulting in disturbance/displacement);
- Changes in hydrology (ground water levels and surface water run-off rates resulting in habitat change);
- Air quality changes (e.g., dust, vehicle emissions, emissions from the EfW CHP Facility chimneys);
- Pollution events (including the liberation of dust, sediments and chemicals resulting in loss or degradation of fauna and flora); and
- Introduction of invasive non-native species (resulting in habitat degradation).

11.6.10 The most straightforward ZoI to define is the area affected by land-take and direct land-cover changes associated with the Proposed Development. By contrast, for each environmental change that can extend beyond the area affected by land-take and land-cover change (for example noise created by construction), the ZoI may vary between ecological features, dependent upon their sensitivity to the change and the precise nature of the change. For example, a water vole might only be disturbed by noise generated close to its burrow, whilst nesting lapwing might be disturbed by noise generated at a much greater distance; other species (for example many invertebrates) may be unaffected by changes in noise. In view of these complexities, the definition of the ZoI that extends beyond the land-take area was based upon professional judgement informed, as far as possible, by a review of published evidence (for example disturbance criteria for various species) and consideration the baseline data collected.

11.6.11 The ZoIs for each broad environmental change are specified below:

- Permanent or temporary land take/land cover change – ZoI within the footprint of the Proposed Development for habitats and sedentary species; mobile

species may be affected beyond that if the Proposed Development lies within their typical home-ranges;

- Fragmentation of habitats – ZoI within the footprint of the Proposed Development for habitats and sedentary species; mobile species may be affected beyond that if the Proposed Development lies within their typical home-ranges;
- Increased noise and vibration – ZoI for sensitive species is up to 500m of construction works, noting that for mobile qualifying features of designated sites this is related to the species habitat use and associated foraging home range distance, as opposed to designation boundary;
- Increased light levels – ZoI for sensitive species is up to 500m of construction works, noting that for mobile qualifying features of designated sites this is related to the species habitat use and associated foraging home range distance, as opposed to designation boundary;
- Changes in air quality: vehicle emissions or emissions from the EfW CHP Facility chimneys – ZoI for habitats and sensitive species is within the area where air quality changes due to emissions could occur as a result of the Proposed Development described within **Chapter 8 Air Quality (Volume 6.2)**, noting that for mobile features of designated sites this is related to the species land use and associated foraging home range distance, e.g., Functionally Linked Land (FLL), as opposed to designation boundary. The ZoI is considered to be up to 15km for international nature conservation sites and 2km for local nature conservation sites[92];
- Pollution events – ZoI for habitats and species is 500m, or further if the source and the ecological feature are directly linked e.g., via watercourses such as ditches and rivers; and
- Introduction of invasive non-native species – ZoI for habitats and species is 500m, or further if the source and the ecological feature are directly linked e.g., via watercourses such as ditches and rivers.

11.6.12 It should be noted that the avoidance of potential effects through design and other embedded environmental measures (see **Section 11.7**) are implicitly taken into account through the consideration of each ZoI, for example a sensitive lighting design has been developed to minimise light levels and spillage and thus potential for effects on sensitive ecological features (see **Appendix 3A Outline Lighting Strategy (Volume 6.4**).

11.6.13 Furthermore, when scoping in or out ecological features from further assessment, embedded environmental measures (see **Section 11.7**) associated with good practice have been taken into account (for example dust suppression, appropriately scheduled vegetation removal etc.).

11.6.14 Ecological features that are scoped in or out of the assessment (in other words, those of sufficient importance occurring within a relevant ZoI), for the environmental changes and resultant effects are outlined in **Section 11.6 'Likely Significant Effects'** in **Table 11.11 Ecological features scoped in for further assessment**

[92] In accordance with the Environment Agency's Air Emissions Risk Assessment for an environmental permit relating to combustion activity with a thermal input exceeding 50MW.

and **Table 11.12 Ecological features scoped out of further assessment** respectively.

11.6.15 The following environmental changes are scoped out for all ecological features:

- Changes in hydrology – **Chapter 12 Hydrology (Volume 6.2)** does not identify any likely significant effects on the hydraulic regimes across designated biodiversity sites or ground water dependent terrestrial ecosystems due to the construction or operation of the Proposed Development. Therefore, the ecological features that these designated biodiversity sites and habitats support will also not be subject to likely significant effects;
- Changes in air quality: dust deposition – the risk of dust deposition during construction and operation would be controlled via the implementation of embedded environmental measures (see **3 – Construction Environmental Management Plan** in **Section 11.7**; also see **Chapter 8 Air Quality (Volume 6.2)**). These measures will be effective in negating the risk to ecological features;
- The risk of pollution from the construction site or the operational assets would be controlled via the implementation of embedded environmental measures (see **3 – Construction Environmental Management Plan** in **Section 11.7**). These measures will be effective in negating the risk to ecological features; and
- The risk of spreading non-native invasive species across and beyond the construction site or via operational activities would be controlled via the implementation of embedded environmental measures (see **8 – Management of invasive species** in **Section 11.7**). These measures would be effective in negating the risk to ecological features.

Temporal scope

11.6.16 The temporal scope of the assessment for biodiversity is consistent with the period over which the Proposed Development would be carried out and therefore covers the construction and operational periods.

11.6.17 Construction is scheduled to commence in 2023, and the Proposed Development would commence operation in 2026. The assessment has been based on the construction programme set out in **Section 3.7** in **Chapter 3 Description of the Proposed Development (Volume 6.2)**.

11.6.18 The assessment in **Section 11.6 Likely Significant Effects** describes the effects on the ecological features scoped in and highlights the importance of the temporal scope as necessary.

Potential features

11.6.19 **Table 11B.1** in **Appendix 11B Evaluation of Ecological Features (Volume 6.4)** lists the ecological features and their importance that were identified within the Study Area during the desk study and field surveys, that are relevant to the assessment because they are either legally protected or of sufficient biodiversity importance that an effect on them could be significant, and which could be affected by the Proposed Development. A justification is provided for any ecological features that are scoped out of further assessment because they are assessed as being of insufficient

importance for likely effects to be significant. The ecological features identified during the assessment of sufficient importance which could potentially be affected by the Proposed Development are summarised below:

- **Designated biodiversity sites:** statutory sites: Nene Washes SPA/Ramsar/SAC; Ouse Washes SPA/Ramsar/SAC; The Wash SPA/Ramsar. Non-statutory sites: River Nene CWS;
- **Conservation-notable habitats, including HPI:** traditional orchard; native species-poor hedgerows; native species-poor hedgerows with trees; ponds/standing open water; ditches (standing water; dry);
- **Other habitats:** scrub;
- **Legally protected species:** badger; bats; great crested newt; otter; reptiles; water vole; Schedule 1 breeding birds; and
- **Conservation-notable species, including SPI:** brown hare; common toad; harvest mouse; hedgehog; polecat; breeding and non-breeding bird SPI.

11.6.20 The following ecological features have been scoped out of further assessment where they are of insufficient importance for likely effects to be significant:

- **Conservation-notable habitats, including HPI:** arable field margins; and
- **Other habitats:** plantation woodland – broadleaved; plantation woodland – orchard; plantation woodland – coniferous; individual trees – broadleaved; individual trees – coniferous; arable; poor semi-improved grassland; improved grassland; amenity grassland; tall ruderal vegetation; earth banks; ephemeral/short-perennial; buildings; hardstanding/bare ground.

11.6.21 In addition to the above, the following features have been scoped out of further assessment for the additional reasons provided below:

- Dormouse: The desk study records obtained from the Local Record Centres identified no recent records of dormouse within an area of search of 2km from the Proposed Development. This is supported by an absence of records within the National Dormouse Database[93] maintained by the People's Trust for Endangered Species (PTES) and the current PTES dormouse distribution map[94]. It is therefore considered that this species does not occur within the Order limits or ZoI for environmental changes to which this species could be sensitive[95];
- Ancient woodland: The desk study identified no areas of ancient woodland within an area of search of 1km from the Proposed Development, and no ancient woodland was recorded during the extended Phase 1 habitat surveys within the Order limits and surrounding 100m Survey Area. Although small areas of land were inaccessible during field surveys (see **Section 11.1 Limitations of the ES**) such as sections of the CHP Connection Corridor, there were no inaccessible

[93] PTES (2020). National Dormouse Database. Available on the National Biodiversity Atlas. Available online at: [redacted] [Accessed 17/02/2022]
[94] PTES dormouse distribution map. Available online at: [redacted] [Accessed 17/02/2022]
[95] This was agreed with LPA Ecologists during a consultation meeting on 31st March 2021 (see **Table 11A.2 Summary of additional engagement regarding biodiversity** in **Appendix 11.A Consultation and Stakeholder Engagement (Volume 6.4)**).

areas of land where ancient woodland would potentially occur considering the surrounding land use and broad habitat types present. It is therefore considered that ancient woodland does not occur within the Order limits or ZoI for environmental changes to which this habitat could be sensitive;

- Veteran trees: The desk study identified no veteran trees within an area of search of 1km from the Proposed Development, and no veteran trees were recorded during the extended Phase 1 habitat surveys within the Order limits and surrounding 100m Survey Area. Although small areas of land were inaccessible during field surveys (see **Section 11.1 Limitations of the ES**) such as sections of the CHP Connection Corridor, veteran trees are unlikely to occur in these areas considering the former land use as the March to Wisbech Railway, surrounding land use and broad habitat types present. However, embedded environmental measures (see **Section 11.7**) include pre-construction update surveys and protection of veteran trees as a precaution, in the unlikely event that a veteran tree is discovered at the pre-construction stage. It is therefore considered that there would be no negative effects on veteran trees as a result of the Proposed Development; and
- SPI and other conservation-notable species[38] – terrestrial and freshwater invertebrates, and plant species: The desk study records obtained from the Local Record Centres identified no recent records of SPI and other conservation-notable terrestrial and freshwater invertebrates and plant species within an area of search of 2km from the Proposed Development. No evidence of such species was recorded during the extended Phase 1 habitat survey, nor was any favourable habitat recorded that would be likely to support assemblages of these species. It is therefore considered that these species groups do not occur within the Order limits or ZoI for environmental changes to which they could be sensitive.

11.6.22 Where potential ecological features have been identified above, the potential for those features to be significantly affected by the Proposed Development is considered in the following section.

Likely significant effects

11.6.23 Through an understanding of the activities associated with the Proposed Development and the resulting environmental changes, ecological features have been identified which may be subject to likely significant effects (i.e., where an ecological feature with sufficient biodiversity importance is sensitive to an environmental change, and occurs within the ZoI).

11.6.24 Ecological features have only been assessed against potential environmental changes to which they are likely to be sensitive. Where an ecological feature is not considered sensitive to an environmental change or to the scale of an environmental change, it is scoped out.

11.6.25 During this process, embedded environmental measures (see **Section 11.7**) associated with good practice have been taken into account.

11.6.26 Those ecological features which may be subject to likely significant effects are taken forward for further assessment in **Section 11.9**. The ecological features that have

been scoped in and taken forward for assessment are summarised in **Table 11.11 Ecological features scoped in for further assessment**. The ecological features scoped out from being subject to further assessment because the environmental changes and resultant potential effects are not considered likely to be significant are summarised in **Table 11.12 Ecological features scoped out of further assessment**.

11.6.27 During the process of scoping ecological features and likely significant effects that would be subject to further assessment, the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC, Water Connections and the Grid Connection have been considered separately where relevant, as the presence of ecological features and the environmental changes they may be subject to may vary throughout different parts of the Proposed Development.

Table 11.11 Ecological features scoped in for further assessment

Feature	Relevant statutory and non-statutory criteria	Environmental change and likely significant effects/legal contravention
Nene Washes Ramsar Site. All features	Habitats Regulations	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** *Environmental changes:* Air pollution. There is potential for effects on supporting habitats within the Ramsar Site that qualifying species depend on as a result of temporary changes in air quality due to vehicle emissions during construction of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection, and permanent changes in air quality due to emissions from vehicles and the chimneys during operation of the EfW CHP Facility.
Nene Washes SPA. All features	Habitats Regulations	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** *Environmental changes:* Air pollution. There is potential for effects on supporting habitats within the SPA site that qualifying species depend on as a result of temporary changes in air quality due to vehicle emissions during construction of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection, and permanent changes in air quality due to emissions from vehicles and the chimneys during operation of the EfW CHP Facility.
Nene Washes SAC. All features	Habitats Regulations	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** *Environmental changes:*

Feature	Relevant statutory and non-statutory criteria	Environmental change and likely significant effects/legal contravention
		Air pollution. There is potential for effects on the cited habitats and species within the SAC as a result of temporary changes in air quality due to vehicle emissions during construction of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection, and permanent changes in air quality due to emissions from vehicles and the chimneys during operation of the EfW CHP Facility.
Ouse Washes Ramsar Site. **All features**	Habitats Regulations	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** *Environmental changes:* Air pollution. There is potential for effects on supporting habitats within the Ramsar Site that qualifying species depend on as a result of temporary changes in air quality due to vehicle emissions during construction of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection, and permanent changes in air quality due to emissions from vehicles and the chimneys during operation of the EfW CHP Facility.
Ouse Washes SPA. **All features**	Habitats Regulations	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** *Environmental changes:* Air pollution. There is potential for effects on supporting habitats within the SPA site that qualifying species depend on as a result of temporary changes in air quality due to vehicle emissions during construction of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection, and permanent changes in air quality due to emissions from vehicles and the chimneys during operation of the EfW CHP Facility.

Feature	Relevant statutory and non-statutory criteria	Environmental change and likely significant effects/legal contravention
Ouse Washes SAC. **All features**	Habitats Regulations	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** *Environmental changes:* Air pollution. There is potential for effects on the cited habitats and species within the SAC site as a result of temporary changes in air quality due to vehicle emissions during construction of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection, and permanent changes in air quality due to emissions from vehicles and the chimneys during operation of the EfW CHP Facility.
River Nene CWS	Non-statutory biodiversity site	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** *Environmental changes:* Air pollution. There is potential for effects on habitats and the species which they support within the CWS as a result of temporary changes in air quality due to vehicle emissions during construction of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection, and permanent changes in air quality due to emissions from vehicles and the chimneys during operation of the EfW CHP Facility.

Feature	Relevant statutory and non-statutory criteria	Environmental change and likely significant effects/legal contravention
Scrub		**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** *Environmental changes:* Land take/land cover change; fragmentation of habitat. *Likely significant effects:* There would be temporary loss and fragmentation of scrub habitat during construction and permanent loss and fragmentation throughout operation of the EfW CHP Facility and CHP Connection resulting from land take.
Ditches (running water; standing water; dry)	Cambridge and Peterborough BAP Additional Habitats of Interest	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** *Environmental changes:* Land take/land cover change; fragmentation of habitat. *Likely significant effects:* There is potential for temporary loss and/or fragmentation of habitat within EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection during construction, and permanent loss and/or fragmentation of habitat throughout operation of the EfW CHP Facility Site.
Native species-poor hedgerows	NERC Act 2006 Section 41 HPI Cambridge and Peterborough and Norfolk BAP Priority Habitat	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** *Environmental changes:* Land take/land cover change; fragmentation of habitat. *Likely significant effects:* There would be permanent loss of habitat within the EfW CHP Facility Site and TCC during construction.
Bats	Habitat Regulations *Wildlife and Countryside Act 1981 (as amended)*	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection**

Feature	Relevant statutory and non-statutory criteria	Environmental change and likely significant effects/legal contravention
	NERC Act 2006 Section 41 SPI (7 species) Cambridge and Peterborough and Norfolk BAP Priority Species (Barbastelle, Brown long-eared, Noctule, Soprano Pipistrelle)	*Environmental changes:* Land take/land cover change; fragmentation of habitat; increased noise and vibration; increased light levels. *Likely significant effects:* Potential for temporary and permanent effects as a result of land take/land cover change (habitat removal) and habitat fragmentation affecting commuting routes, and/or removal of/damage to and/or disturbance of roosts during construction and operation. Potentially resulting in disturbance or death/injury. Potential for temporary and permanent increased noise and vibration and increased light levels during construction and operation to disturb roosts and commuting and foraging bats.
Water vole	Wildlife and Countryside Act 1981 (as amended) NERC Act 2006 Section 41 Species of Principal Importance Cambridge and Peterborough and Norfolk BAP Priority Species	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** *Environmental changes:* Land take/land cover change; fragmentation of habitat; increased noise and vibration; increased light levels. *Likely significant effects:* Potential for temporary effects during construction of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection and permanent effects during operation of the EfW CHP Facility as a result of land take/land cover change (habitat removal or damage near to watercourses), to affect burrows and aquatic and terrestrial habitat. Potentially resulting in disturbance or death/injury of water voles.

Feature	Relevant statutory and non-statutory criteria	Environmental change and likely significant effects/legal contravention
WCA Schedule 1 species: breeding peregrine, red kite, hobby, barn owl, kingfisher and Cetti's warbler	Wildlife and Countryside Act 1981 (as amended) Schedule 1	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** *Environmental changes:* Increased noise and vibration and increased light levels (resulting in disturbance/displacement) *Likely significant effects:* Potential for temporary disturbance to Schedule 1 breeding birds during construction.
SPI/BoCC Red List breeding bird assemblage: **bullfinch, corn bunting, cuckoo, dunnock, greenfinch, herring gull, house sparrow, lapwing, linnet, mistle thrush, reed bunting, skylark, song thrush, spotted flycatcher, starling, swift, turtle dove, yellow wagtail and yellowhammer.**	NERC Act 2006 Section 41 Species of Principal Importance BoCC Red list species	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** *Environmental changes:* Permanent or temporary land take/land cover change; fragmentation of habitats; increased noise and vibration; increased light levels. *Likely significant effects:* Potential for land take/land cover change and indirect effects of habitat loss/barrier effects (i.e., the displacement of species) to result in declines in populations of breeding birds, and/or for disturbance of breeding birds, which would be temporary during construction and may be permanent throughout operation.
Reptiles	Wildlife and Countryside Act 1981 (as amended) NERC Act 2006 Section 41 Species of Principal Importance Cambridge and Peterborough BAP Priority Species	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** *Environmental changes:* Land take/land cover change; fragmentation of habitat. *Likely significant effects*

Feature	Relevant statutory and non-statutory criteria	Environmental change and likely significant effects/legal contravention
		Potential for temporary effects during construction of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection and permanent effects during operation of the EfW CHP Facility and CHP Connection as a result of land take/land cover change (habitat removal) and habitat fragmentation resulting in death or injury of reptiles, and disturbance.
Badger	Protection of Badgers Act 1992	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** *Environmental changes:* Land take/land cover change; fragmentation of habitat; increased noise and vibration; increased light levels. *Likely significant effects:* Potential for direct effects/damage to setts associated with land take/land cover change and fragmentation of habitat, and death or injury from falling into uncovered excavations during construction of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection. Increased noise and vibration and lighting resulting in potential disturbance of setts which may be temporary during construction of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection, and permanent throughout operation of the EfW CHP Facility Site.

Table 11.12 Ecological features scoped out of further assessment

Feature	Environmental Change	Justification	Agreement
Nene Washes Ramsar Site. All qualifying features	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** Permanent or temporary land take/land cover change; fragmentation of habitats; increased noise and vibration; increased light levels.	Feature is located 7.2km from the Order limits. There is no evidence from the baseline to indicate that the farmland within 500m of the EfW CHP Facility and Grid Connection is utilised by the Ramsar qualifying features and does not form FLL. Therefore, there would be no impacts from permanent or temporary land take/land cover change, fragmentation of habitats, increased noise and vibration, or increased light levels during construction and operation of the Proposed Development and consequently there would be no pathway for likely significant effects on any Nene Washes Ramsar Site's qualifying features.	This suggestion was included in the PEIR available as part of statutory consultation and no objections have been received. Following review of the draft HRA screening report (which was based on the design of the Proposed Development as it stood at the time of writing of the draft report, which included more extensive options for the Grid Connection), Natural England agreed that there is not likely to be a significant effect on the qualifying bird interest as a result of these environmental changes. Natural England agreed that it does not appear likely that the birds from this designated site are using the EfW CHP Facility Site or Grid Connection or nearby areas for foraging, or in terms of migration. See **Table 11A.2** in **Appendix 11A: Summary of additional engagement regarding biodiversity (Volume 6.4)**.
Nene Washes SPA. All qualifying features	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections**	Feature is located 7.2km from the Order limits. There is no evidence from the baseline to indicate that the farmland within 500m of the EfW CHP Facility and Grid Connection is utilised by the SPA qualifying features and does not form FLL. Therefore, there would be no impacts from permanent or temporary land take/land cover change, fragmentation of habitats, increased noise and vibration, or increased light levels during construction and operation of the	This suggestion was included in the PEIR available as part of statutory consultation and no objections have been received. Following review of the draft HRA screening report (which was based on the design of the Proposed Development as it stood at the time of writing of the draft report, which included more extensive options for the Grid Connection), Natural England agreed that there is

Feature	Environmental Change	Justification	Agreement
	and **Grid Connection** Permanent or temporary land take/land cover change; fragmentation of habitats; increased noise and vibration; increased light levels.	Proposed Development and consequently there would be no pathway for likely significant effects on any Nene Washes SPA qualifying features.	not likely to be a significant effect on the qualifying bird interest as a result of these environmental changes. Natural England agreed that it does not appear likely that the birds from this designated site are using the EfW CHP Facility Site or Grid Connection or nearby areas for foraging, or in terms of migration. See **Table 11A.2** in **Appendix 11A: Summary of additional engagement regarding biodiversity (Volume 6.4)**.
Nene Washes SAC. All qualifying features	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** Permanent or temporary land take/land cover change; fragmentation of habitats; increased noise and vibration; increased light levels.	Feature is not within ZoI. The SAC supports a population of the Annex II species spined loach. Considering the distance between the SAC and the Order limits (7.2km), the type of cited features and the lack of connectivity of aquatic habitat, mean that potential significant effects can be discounted.	This suggestion was included in the PEIR available as part of statutory consultation and no objections have been received.

Feature	Environmental Change	Justification	Agreement
Ouse Washes Ramsar Site. All qualifying features	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** Permanent or temporary land take/land cover change; fragmentation of habitats; increased noise and vibration; increased light levels.	Feature is located 12.5km from the Order limits. There is no evidence from the baseline to indicate that the farmland within 500m of the EfW CHP Facility and Grid Connection is utilised by the Ramsar qualifying features and does not form FLL. Therefore, there would be no impacts from permanent or temporary land take/land cover change, fragmentation of habitats, increased noise and vibration, or increased light levels during construction and operation of the Proposed Development and consequently there would be no pathway for likely significant effects on any of the Ouse Washes Ramsar Site's qualifying features.	This suggestion was included in the PEIR available as part of statutory consultation and no objections have been received. Following review of the draft HRA screening report (which was based on the design of the Proposed Development as it stood at the time of writing of the draft report, which included more extensive options for the Grid Connection), Natural England agreed that there is not likely to be a significant effect on the qualifying bird interest as a result of these environmental changes. Natural England agreed that it does not appear likely that the birds from this designated site are using the EfW CHP Facility Site or Grid Connection or nearby areas for foraging, or in terms of migration. See **Table 11A.2** in **Appendix 11A: Summary of additional engagement regarding biodiversity (Volume 6.4)**.
Ouse Washes SPA. All qualifying features	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** Permanent or temporary land take/land cover change;	Feature is located 12.5km from the Order limits. There is no evidence to indicate that the farmland within 500m of the EfW CHP Facility and Grid Connection is utilised by the SPA qualifying features and does not form FLL. Therefore, there would be no impacts from permanent or temporary land take/land cover change, fragmentation of habitats, increased noise and vibration, or increased light levels during construction and operation of the Proposed Development and consequently there would be no pathway for likely significant effects on any of The Ouse Washes SPA qualifying features.	This suggestion was included in the PEIR available as part of statutory consultation and no objections have been received. Following review of the draft HRA screening report (which was based on the design of the Proposed Development as it stood at the time of writing of the draft report, which included more extensive options for the Grid Connection), Natural England agreed that there is not likely to be a significant effect on the qualifying bird interest as a result of these environmental changes. Natural England agreed that it does not appear likely that the birds from this designated site are using the EfW CHP Facility Site or Grid Connection Corridor or

Feature	Environmental Change	Justification	Agreement
	fragmentation of habitats; increased noise and vibration; increased light levels.		nearby areas for foraging, or in terms of migration. See **Table 11A.2** in **Appendix 11A: Summary of additional engagement regarding biodiversity (Volume 6.4)**.
Ouse Washes SAC. All qualifying features	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** Permanent or temporary land take/land cover change; fragmentation of habitats; increased noise and vibration; increased light levels.	Feature is not within ZoI. The SAC supports a population of the Annex II species spined loach. Considering the distance between the SAC and the Order limits (12.5km), the type of cited features and the lack of connectivity of aquatic habitat, mean that potential significant effects can be discounted.	This suggestion was included in the PEIR available as part of statutory consultation and no objections have been received.
The Wash Ramsar Site. All qualifying features	**Grid Connection** Permanent or temporary land take/land cover change; fragmentation	Feature is located 17.3km from the Order limits. The feature is not within the ZoI for air pollution effects. There is no evidence from the baseline to indicate that the farmland within 500m of the EfW CHP Facility and Grid Connection is utilised by the Ramsar qualifying features and does not form FLL. Therefore, there would be no impacts	Scoping out effects resulting from permanent or temporary land take/land cover change; fragmentation of habitats; increased noise and vibration; and increased light levels. This suggestion was included in the PEIR available as part of statutory consultation and no objections have been received.

Feature	Environmental Change	Justification	Agreement
	of habitats; increased noise and vibration; increased light levels; air pollution.	from permanent or temporary land take/land cover change, fragmentation of habitats, increased noise and vibration, or increased light levels during construction and operation of the Proposed Development and consequently there would be no pathway for likely significant effects on any the Wash Ramsar Site's qualifying features.	Following review of the draft HRA screening report (which was based on the design of the Proposed Development as it stood at the time of writing of the draft report, which included more extensive options for the Grid Connection to Walpole Substation), Natural England agreed that there is not likely to be a significant effect on the qualifying bird interest as a result of permanent or temporary land take/land cover change; fragmentation of habitats; increased noise and vibration; and increased light levels. Natural England agreed that it does not appear likely that the birds from this designated site are using the EfW CHP Facility Site or Grid Connection or nearby areas for foraging, or in terms of migration. See **Table 11A.2** in **Appendix 11A: Summary of additional engagement regarding biodiversity (Volume 6.4)**. Effects resulting from air pollution have been subsequently scoped out as the feature is not within the 15km ZoI. This ZoI was included in the Air Quality chapter of the PEIR available as part of statutory consultation and no objections have been received.
The Wash SPA. All qualifying features	**Grid Connection** Permanent or temporary land take/land cover change; fragmentation of habitats; increased noise and vibration; increased light	Feature is located 17.3km from the Order limits. The feature is not within the ZoI for air pollution effects. There is no evidence from the baseline to indicate that the farmland within 500m of the EfW CHP Facility and Grid Connection is utilised by the SPA qualifying features and does not form FLL. Therefore, there would be no impacts from permanent or temporary land take/land cover change, fragmentation of habitats, increased noise and vibration, or increased light levels during construction and operation of the	Scoping out effects resulting from permanent or temporary land take/land cover change; fragmentation of habitats; increased noise and vibration; and increased light levels were included in PEIR consultation and no objections have been received. Following review of the draft HRA screening report (which was based on the design of the Proposed Development as it stood at the time of writing of the draft report, which included more extensive options for the

Feature	Environmental Change	Justification	Agreement
	levels; air pollution.	Proposed Development and consequently there would be no pathway for likely significant effects on any of The Wash SPA qualifying features.	Grid Connection), Natural England agreed that there is not likely to be a significant effect on the qualifying bird interest as a result of permanent or temporary land take/land cover change; fragmentation of habitats; increased noise and vibration; and increased light levels. Natural England agreed that it does not appear likely that the birds from this designated site are using the EfW CHP Facility Site or Grid Connection or nearby areas for foraging, or in terms of migration. See **Table 11A.2** in **Appendix 11A: Summary of additional engagement regarding biodiversity (Volume 6.4)**. Effects resulting from air pollution have been subsequently scoped out as the feature is not within the 15km ZoI. This ZoI was included in the Air Quality chapter of the PEIR available as part of statutory consultation and no objections have been received.
River Nene CWS	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** Permanent or temporary land take/land cover change; fragmentation of habitats;	Feature not within ZoI for land take/land cover change, or fragmentation, and not within the ZoI for increased noise/vibration/light for any cited species. The CWS is designated for river habitat supporting nationally scarce plant species. Considering the distance between the CWS and the Order limits (200m), the type of cited features and the lack of connectivity of aquatic habitat, mean that potential significant effects can be discounted.	This suggestion was included in the PEIR available as part of statutory consultation and no objections have been received.

Feature	Environmental Change	Justification	Agreement
	increased noise and vibration; increased light levels.		
Traditional orchard	**Grid Connection** Permanent or temporary land take/land cover change; fragmentation of habitats.	Feature is not within ZoI.	
Plantation woodland - broadleaved	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** And **Grid Connection** Permanent or temporary land take/land cover change; fragmentation of habitats.	The level of habitat present within the Order limits which could potentially be affected is small compared to the overall extent of this habitat in the local area. It does not qualify as an HPI. The embedded environmental measures designed to minimise land take, maintain habitat connectivity and protect retained habitat (i.e., measures **2, 5** and **7**; see **Section 11.7**) would avoid significant loss and avoid meaningful fragmentation for woodland.	This suggestion was included in the PEIR available as part of statutory consultation and no objections have been received.
Scrub	**Grid Connection** Permanent or	The level of habitat present within the Order limits which could potentially be affected is small compared to the overall extent of this habitat in the local area. It does not qualify as an HPI.	This suggestion was included in the PEIR available as part of statutory consultation and no objections have been received.

Feature	Environmental Change	Justification	Agreement
	temporary land take/land cover change; fragmentation of habitats.	The majority of the development footprint along the Grid Connection would be small and restricted to the road verge immediately adjacent to the carriageway and would not affect scrub habitat. Further to this, the embedded environmental measures designed to minimise land take, maintain habitat connectivity and protect retained habitat (i.e., measures **2, 5** and **7**; see **Section 11.7**) would avoid significant loss and meaningful fragmentation for scrub.	
Ponds/standing open water	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** Permanent or temporary land take/land cover change; fragmentation of habitats.	Feature is not within ZoI.	This suggestion was included in the PEIR available as part of statutory consultation and no objections have been received.
Ditches (running water; standing water; dry)	**Grid Connection** Permanent or temporary land take/land cover change;	The level of habitat present within the Order limits which could potentially be affected is small compared to the overall extent of this habitat in the local area, which exists as an extensive and well-connected network. Either Horizontal Directional Drilling (HDD) would be used where the underground cable of the Grid Connection crosses drainage ditches, or an open	This suggestion was included in the PEIR available as part of statutory consultation and no objections have been received.

Feature	Environmental Change	Justification	Agreement
	fragmentation of habitats.	cut method would be used that would avoid ditches by crossing an existing culvert bridge; thereby removing the risk of habitat loss/fragmentation. The development footprint along the Grid Connection would be small and along most of its length would be restricted to the road verge immediately adjacent to the carriageway where ditches would be unaffected. Further to this, the embedded environmental measures designed to minimise land take and maintain habitat connectivity, utilise existing crossing points and protect watercourses (i.e., measures **2, 5, 10** and **11**; see **Section 11.7**) would avoid significant loss and meaningful fragmentation of ditches and retain connectivity for supported fauna.	
Native species-poor hedgerows with trees	**Grid Connection** Permanent or temporary land take/land cover change; fragmentation of habitats.	Feature is not within ZoI.	Agreement to be sought from consultees.
Great crested newt	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection**	The desk study identified four records of great crested newt within the 2km area of search of the Proposed Development. No suitable ponds for great crested newt were identified within 500m of the EfW CHP Facility Site, TCC and Water Connections, and all ponds within 500m of the CHP Connection are located on the opposite side of the River Nene which acts as a barrier between the ponds and CHP Connection. There are four ponds present within 500m of the Grid Connection which were assessed as being suitable for great crested newts and connected to the Order limits via	Agreement to be sought from consultees.

Feature	Environmental Change	Justification	Agreement
	Permanent or temporary land take/land cover change; fragmentation of habitats; increased noise and vibration; increased light levels.	<500m of suitable habitat connectivity. Likely absence of great crested newt was confirmed by negative eDNA survey results for these four waterbodies. Further eDNA surveys were carried out at four suitable ditches within 100m of the Proposed Development, and a further pond (assessed as having poor suitability, located approximately 420m from the Order limits, but where there was an anecdotal record of great crested newt from a local resident); all of these eDNA survey results were also negative (likely absence). The design of the Proposed Development means that no suitable aquatic habitat would be affected during construction or operation. Further to this, the majority of suitable waterbodies (ponds and ditches), where there is habitat connectivity to the Proposed Development are associated with the Grid Connection, where the development footprint would be small and restricted to the roadside verge immediately adjacent to the carriageway where terrestrial habitat is either unsuitable or unfavourable for great crested newts. It is therefore considered that great crested newt are unlikely to occur within the ZoI for land take/land cover change and fragment of habitats. In the unlikely event that great crested newt do occur within the ZoI, the feature would not be subject to significant effects due to embedded environmental measures included within the Proposed Development (see **Section 11.7**, set out in **Table 11.13 Summary of the embedded environmental measures and how these influence the biodiversity assessment**) such pre-construction surveys, best practice guidelines followed during construction, habitat removal designed to avoid the risk of injury to great crested newts (e.g., timing ground works to	

Feature	Environmental Change	Justification	Agreement
		avoid removing suitable hibernation habitat during the hibernation period and implementing phased removal of habitat). Great crested newts are not considered to be susceptible to significant disturbance by noise and vibration or light.	
Otter	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** Permanent or temporary land take/land cover change; fragmentation of habitats; increased noise and vibration; increased light levels.	The desk study identified one record of otter approximately 160m east of the CHP Connection, however no otters or evidence of their presence was recorded during the baseline surveys. Habitats present within the Order limits and the ZoI are predominately unsuitable for otter, with aquatic habitat limited to wet ditches with only limited suitability for commuting. Water quality within these ditches is variable and they hold often little or no water and so are largely unsuitable for foraging. Otters would not be subject to significant effects due to embedded environmental measures included within the Proposed Development (see **Section 11.7**, set out in **Table 11.13 Summary of the embedded environmental measures and how these influence the biodiversity assessment**) such as pre-construction surveys, covering/infilling trenches overnight, avoidance of external lighting between dusk and dawn and avoiding light spill on to habitats adjacent to construction and operational areas, site speed limits, and following Pollution Prevention Guidelines (PPGs) would reduce the risk to otters in the unlikely event that they are present. With these measures in place the proposed works would not significantly affect the local otter population.	Agreement to be sought from consultees.

Feature	Environmental Change	Justification	Agreement
Nesting birds	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** Contravention of legislation.	Bird nests would not be subject to significant effects due to embedded environmental measures included within the Proposed Development. Embedded environmental measures (see **Section 11.7**, set out in **Table 11.13 Summary of the embedded environmental measures and how these influence the biodiversity assessment**) such as avoiding vegetation clearance during the nesting bird season where possible, otherwise carrying out pre-work checks for nesting birds and protecting active nests until chicks have fledged, would minimise the risk of contravention of legislation and mean that nesting birds are not significantly affected.	This suggestion was included in the PEIR available as part of statutory consultation and no objections have been received.
Reptiles	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** Increased noise and vibration; increased light levels.	Reptiles are not considered to be susceptible to significant disturbance by noise and vibration or light.	This suggestion was included in the PEIR available as part of statutory consultation and no objections have been received.

Feature	Environmental Change	Justification	Agreement
SPI – terrestrial vertebrate species (brown hare, common toad, harvest mice, hedgehog, polecat)	**EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections** and **Grid Connection** Permanent or temporary land take/land cover change; fragmentation of habitats; increased noise and vibration; increased light levels.	SPI terrestrial vertebrate species would not be subject to significant effects due to embedded environmental measures included within the Proposed Development. Embedded environmental measures (see **Section 11.7**, set out in **Table 11.13 Summary of the embedded environmental measures and how these influence the biodiversity assessment**) such as covering/infilling trenches overnight, avoidance of external lighting between dusk and dawn where possible and avoiding light spill on to habitats adjacent to construction and operational areas, site speed limits, and following PPGs would reduce the risk to terrestrial priority species. The development footprint along the Grid Connection would be small and along most of its length would be restricted to the road verge immediately adjacent to the carriageway where habitat is unfavourable or unsuitable for these species and subject to regular disturbance from passing traffic. Furthermore, large areas of suitable habitat would be retained. With these measures in place, the proposed works would not significantly affect local species populations.	This suggestion was included in the PEIR available as part of statutory consultation and no objections have been received.

11.7 Embedded environmental measures

11.7.1 Environmental measures have been embedded into the development and include the provision of an Outline Construction Environmental Management Plan (CEMP) (**Volume 7.12**) to provide an overview of the standard construction management measures that would be implemented as part of the Proposed Development. As such it aims to ensure that construction activities for the Proposed Development are carried out in accordance with legislation and best practice for minimising the effects of construction on the environment.

11.7.2 Measures have been incorporated into the design of the Proposed Development which reduce impacts on biodiversity, such as limiting the construction footprint of the CHP Connection which would retain habitat throughout the width of the CHP Connection Corridor and maintain habitat connectivity along the disused March to Wisbech Railway which provides a corridor of habitat throughout a predominantly urban and industrial area.

11.7.3 **Chapter 2: Alternatives (Volume 6.2)** describes the evolving design review process, and what steps have been taken as a result of consultation to minimise environmental effects to date. This notably includes the design of the Grid Connection selecting an underground cable to Walsoken Substation along the verge of the A47 instead of an overhead line to Walpole Substation; substantially reducing temporary and permanent loss and fragmentation of habitat, and reducing or removing the potential for other impacts to ecological features such as bird collision risk associated with overhead lines.

11.7.4 The embedded environmental measures incorporated into the Proposed Development to avoid or reduce potential adverse effects on features of biodiversity importance, and prevent breaches of the legislation, are listed below. Information on how these embedded environmental measures would be implemented is provided in **Chapter 4 Approach to the EIA (Volume 6.2)**.

11.7.5 Site-specific engineering design and methods have been summarised in **Chapter 3 Description of the Proposed Development (Volume 6.2)**. This summary includes an outline construction methodology describing typical methods and approaches to the delivery of construction works. Principles of best practice methods employed to minimise typical effects have been presented in relation to the construction methods described. These are embedded environmental measures that are incorporated into the Proposed Development design, and those generic measures that would be implemented on-site in delivery, prior to, during and following construction activities. General principles of these measures are summarised below, followed by feature-specific measures (where relevant) described in **Table 11.13 Summary of the embedded environmental measures and how these influence the biodiversity assessment**; these outline how the embedded environmental measures would influence the biodiversity assessment.

11.7.6 For biodiversity, the embedded environmental measures relate primarily to the construction phase, when environmental changes such as land take/land cover change, fragmentation of habitat, and increased noise and vibration predominantly occur. Other environmental changes such as increased light levels and air quality

changes may also occur during the operational phase, and it is noted below where associated embedded environmental measures apply during the operational phase.

- **1 – Standard best practice:** The Proposed Development would be subject to standard best practice mitigation measures employed to avoid and minimise potential effects to habitats and species under the supervision of an appointed Project Ecologist. This would include buffer zones to key habitats and species, seasonally sensitive construction, minimising the removal of vegetation and considered location of works;
- **2 – Minimise land take and micro-site:** Detailed design aims to minimise the land take for works and locate (and micro-site) those works away from the more important habitat and species features, particularly woodland, boundaries including ditches and hedgerows, as well as ponds and other wetland features, which would consequently limit effects on associated species interest;
- **3 – Construction Environmental Management Plan:** In line with good practice, an Outline CEMP (**Outline CEMP – Volume 7.12**) (see **Chapter 3 Description of the Proposed Development (Volume 6.2)**) ensures that any risk of effects on ecological features is negligible from dust emission through the use of standard dust suppression methods, and from other pollutants using standard pollution prevention methods. Compliance with the **Outline CEMP (Volume 7.12**) is secured through a DCO Requirement;
- **4 – Sensitive vegetation removal:** Vegetation is retained where possible. In order to avoid destruction of active nests, where practicable, in any areas where vegetation clearance is required, such works would be undertaken outside the breeding bird season (usually avoiding March to August inclusive). Where this is not possible, vegetation removal would be undertaken under supervision of an appointed project ecologist and appropriately managed to remove the risk of damaging or destroying active nests, young or eggs. Should an active nest be found, the project ecologist would advise on appropriate mitigation. Suitable methods would also be used to ensure vegetation with potential to support other legally protected species (e.g., reptiles) is removed sensitively and in compliance with legal requirements;
- **5 – Maintaining habitat connectivity:** Habitat connectivity is retained wherever possible by maintaining links within and to green corridors such as treelines and watercourses. The **Outline Landscape and Ecology Strategy** (see **Figure 3.14 (Volume 6.3)**) identifies where treeline habitat has been retained at the south of the EfW CHP Facility Site, and the design of the CHP Connection has maintained connectivity of habitat along the majority of the width of the CHP Connection Corridor (see **Figure 3.17 (Volume 6.3)**). Where effects on connectivity are unavoidable, it may be artificially supplemented by, for instance the creation of temporary brash hedges;
- **6 – Protection of veteran trees[96]:** Where practicable any veteran trees identified are avoided by micro-siting the design. A suitable root protection zone

[96] Although no veteran trees have been identified in the baseline surveys, due to small remnants of inaccessible land and the low chance that a veteran tree may be identified during pre-construction surveys, this measure has been included as a precaution.

(with reference to BS 5837)[97] would be identified and used to define the limits of the micro-siting;

- **7 – Protection of retained habitats:** The **Outline CEMP (Volume 7.12)** sets out measures for the protection of all retained areas of habitat. Appropriate fencing would be installed around those retained habitat features within the construction area, to protect them from direct effects during the works. Fencing would be modified to avoid isolation/obstruction of protected species as necessary;
- **8 – Management of invasive species:** The **Outline CEMP (Volume 7.12)** includes tried and tested invasive non-native species control and biosecurity measures to avoid the spread of infested materials. Measures would include pre-works checks to identify the location of invasive non-native species; the establishment of exclusion zones to prevent the spread of such species; and the use of invasive non-native species management plans where work within exclusion zones is unavoidable;
- **9 – Habitat reinstatement:** Areas of temporary habitat loss would be reinstated, wherever practicable, following the completion of construction in each area. Wherever possible, reinstatement would be back to the type of habitat affected. Areas of replacement tree planting would be undertaken where it is required to offset removals and following agreement with landowners. Tree and shrub planting would be undertaken with an emphasis on reinstatement with native species-rich mixes in agreement with the landowner(s). Planting would be subject to an aftercare programme for an agreed period, during which any trees lost would be replaced;
- **10 – Sensitive access and enabling works:** Access into the construction working areas is to be taken from existing the highways of Algores Way, Weasenham Lane, New Bridge Lane, A47 and Broadend Road. Access routes from these highways and into the construction working areas will avoid important habitats or key areas of importance for protected species wherever possible. The only locations where tracks would be required from the highway access points to the construction working areas would be to access parts of the CHP Connection, Walsoken Substation and Water Connections (HDD option). The length of track would be minimal and should a track be required, trackway panels would be used in preference to stone roads;
- **11 – Protection of watercourses:** A minimum stand-off from all watercourses and waterbodies is adopted where possible on a location-specific basis. This would be in line with regional Environment Agency and IDB requirements, excluding required access crossing points. In line with good practice, pollution prevention plans would be drawn up, as required by the **Outline CEMP (Volume 7.12)**, to detail how ground and surface waters would be protected during construction and operation. These would include information on the storage of any fuels, oils and other chemicals and pollution incidence response planning;
- **12 – Sensitive lighting design:** An **Outline Lighting Strategy** (**Appendix 3A Outline Lighting Strategy (Volume 6.4)**) for the design of all temporary and

[97] BSG (2012) BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.

permanent lighting has been developed and will be finalised once contractors are appointed; however, the principles of lighting design are detailed at the time of application and informed by the joint guidance provided by the Bat Conservation Trust and Institution of Lighting Professionals[98]. The lighting design accounts for the potential effects on terrestrial ecology by taking measures to minimise lighting usage, minimise light spill, use most appropriate wave lengths of light and locate lighting in the most appropriate locations – this is to decrease the potential displacement effects on light sensitive fauna such as bats. This measures and the **Outline Lighting Strategy (Volume 6.4)** applies during both the construction and operational phases. Details of the sensitive lighting design and reference to the **Outline Lighting Strategy (Volume 6.4)** are included within the **Outline CEMP (Volume 7.12)**;

- **13 – Construction traffic speed limits:** Speed limits will be imposed on all construction haul roads and access tracks to minimise the risk of road traffic collisions with fauna such as badgers, otters, bats and barn owls; and
- **14 – Pre-construction update surveys:** Pre-construction update surveys would be undertaken for protected species where relevant and necessary[99]. The requirement for pre-construction update surveys is included within the **Outline CEMP (Volume 7.12)**.

Table 11.13 Summary of the embedded environmental measures and how these influence the biodiversity assessment

Feature	Changes and effects	Embedded measures and influence on assessment[100]
Habitats	Loss, damage or fragmentation of habitats	**General measures:** 1 – Standard best practice 2 – Minimise land take and micro-site 3 – Construction Environmental Management Plan 5 – Maintaining habitat connectivity 7 – Protection of retained habitats 8 – Management of invasive species 9 – Habitat reinstatement 10 – Sensitive access and enabling works 11 – Protection of watercourses **Specific measures:** The scheme layout has been optimised and alternative options considered so that the Proposed Development avoids important habitats where possible, with the exception of areas of scrub and treeline at the main access to the EfW CHP Facility Site and scrub habitat within the construction footprint

[98] Bat Conservation Trust, (2018, updated 2019). Bats and artificial lighting in the UK.
[99] For example, to maintain up-to-date baseline data for known ecological features to inform mitigation requirements and European Protected Species licensing, or to identify potential additional ecological features which may become established within the Study Area (i.e., mobile species).
[100] **Table 11.16 Summary of indicative environmental measures to be implemented – relating to biodiversity** in **Section 11.11** sets out the responsibility and proposed mechanisms for how the embedded environmental measures (general and specific measures) would be implemented.

Feature	Changes and effects	Embedded measures and influence on assessment[100]
		of the CHP Connection where unavoidable habitat loss has been reduced as far as possible. Any habitat reinstatement would be reflective of the type and extent of habitats affected by the Proposed Development where appropriate, as well as local conservation objectives and initiatives. The requirement for any habitat compensation has been identified through EcIA process in line with the EcIA mitigation hierarchy[5]. A habitat management plan forms part of the Outline Landscape and Ecological Management Plan (LEMP) (**Volume 7.7**), which includes management of all areas of important retained semi-natural habitats, and creation of new habitats as part of the Proposed Development under the Outline Landscape and Ecology Strategy (see **Figure 3.14 (Volume 6.3)**). Standard PPGs would be followed for works adjacent to water-dependent habitats and this has been included within the **Outline CEMP (Volume 7.12)**. Also see embedded environmental measures within **Chapter 12 Hydrology (Volume 6.2)**. Successful implementation of these measures would minimise the loss, damage or fragmentation of habitats during construction.
Bats	Disturbance to foraging, commuting bats, potential damage or disturbance to roosts, kill/injure, destroy habitat, affect distribution.	**General measures:** 1 – Standard best practice 2 – Minimise land take and micro-site 5 – Maintaining habitat connectivity 7 – Protection of retained habitats 10 – Sensitive access and enabling works 12 – Sensitive lighting design 13 – Construction traffic speed limits 14 – Pre-construction update surveys **Specific measures:** A method statement and tool-box talk would be prepared that would include details of pre-construction verification surveys for bats and would describe the approach that would be followed to minimise the risk of contravening the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species Regulations 2017* (as amended). Best practice guidelines would be followed during

Feature	Changes and effects	Embedded measures and influence on assessment[100]
		the works. These specific measures have been included within the Ecological Mitigation Strategy (EMS) that forms an appendix of the **Outline CEMP (Volume 7.12).** Construction of the underground cable along the Grid Connection would be undertaken in a phased manner in short sections during nightly road closures, with progressive construction and habitat reinstatement expected to be completed for each section in a single night, minimising the risk of disturbance or obstruction of bat roosts in the unlikely event that they are present in roadside trees. Successful implementation of these measures would minimise the risk of affecting bats, their roosts and activity, and contravening legislation. The need for an EPS licence is not expected as no evidence of roosting bats was recorded during baseline surveys. A licence would only be needed in exceptional circumstances should a newly established/previously undetected roost be found during pre-construction surveys or the construction phase.
Great crested newt	Disturbance, kill/injure, destroy habitat, affect distribution.	**General measures:** 1 – Standard best practice 2 – Minimise land take and micro-site 4 – Sensitive vegetation removal 5 – Maintaining habitat connectivity 7 – Protection of retained habitats 9 – Habitat reinstatement 10 – Sensitive access and enabling works 14 – Pre-construction update surveys **Specific measures:** A method statement and tool-box talk would be prepared detailing the required approach to minimise the risk of contravening the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species Regulations 2017* (as amended). Best practice guidelines would be followed during the works. Removal of suitable habitat would be designed to avoid the risk of injury to great crested newts in the unlikely event that they are present, through measures such as timing ground works to avoid removing suitable hibernation habitat

Feature	Changes and effects	Embedded measures and influence on assessment[100]
		during the hibernation period and implementing phased removal of habitat. Construction and reinstatement along the Grid Connection would be progressive[101] and designed to avoid isolating or fragmenting great crested newt habitat. These specific measures have been included within the EMS that forms an appendix of the **Outline CEMP (Volume 7.12)**. Successful implementation of these measures would minimise the risk of affecting great crested newts and their habitats, and contravening legislation.
Otter	Disturbance, kill/injure, destroy habitat, affect distribution.	**General measures:** 1 – Standard best practice 2 – Minimise land take and micro-site 5 – Maintaining habitat connectivity 10 – Sensitive access and enabling works 11 – Protection of watercourses 12 – Sensitive lighting design 13 – Construction traffic speed limits 14 – Pre-construction update surveys **Specific measures:** A method statement and tool-box talk would be prepared to minimise the risk of contravening the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species Regulations 2017* (as amended). Best practice guidelines would be followed during the works including making all contractors aware of the potential presence of otters, and not leaving trenches uncovered overnight (or leaving an escape plank if excavations cannot be covered). Any obvious mammal trails would be kept clear of obstruction. As far as possible, all works would be undertaken between dusk and dawn. A pre-works check for holts and resting sites would be undertaken at each culvert/bridge location. These specific measures have been included within the EMS that forms an appendix of the **Outline CEMP (Volume 7.12)**. Successful implementation of these measures would minimise the risk of

[101] Construction of the underground cable along the Grid Connection would be undertaken in a phased manner in short sections during nightly road closures, with progressive construction and habitat reinstatement expected to be completed for each section in a single night.

Feature	Changes and effects	Embedded measures and influence on assessment[100]
		affecting otters, their rest sites/habitats, and activity, and contravening legislation.
Water vole	Disturbance, kill/injure, destroy habitat	**General measures:** 1 – Standard best practice 2 – Minimise land take and micro-site 5 – Maintaining habitat connectivity 7 – Protection of retained habitats 9 – Habitat reinstatement 10 – Sensitive access and enabling works 11 – Protection of watercourses 12 – Sensitive lighting design 14 – Pre-construction update surveys **Specific measures:** A method statement and tool-box talk would be prepared detailing the required approach to minimise the risk of contravening the *Wildlife and Countryside Act 1981* (as amended). Best practice guidelines would be followed during the works. This includes pre-works check and avoidance of active burrows if present. All site infrastructure and activities (with the exception of water course crossing points) would be located at least 5m from water courses wherever possible to minimise disturbance of water voles and their burrows. These specific measures have been included within the EMS that forms an appendix of the **Outline CEMP (Volume 7.12)**. Successful implementation of these measures would minimise the risk of affecting water voles, their burrows/habitats, and contravening legislation. The need for an EPS licence is not expected as no evidence of active water vole burrows was recorded during baseline surveys. A licence would only be needed in exceptional circumstances should a newly established/previously undetected burrow be found during pre-construction surveys or the construction phase.
Nesting birds	Kill/injure and disturb nesting birds	**General measures:** 1 – Standard best practice 2 – Minimise land take and micro-site 4 – Sensitive vegetation removal 7 – Protection of retained habitats 10 – Sensitive access and enabling works 12 – Sensitive lighting design 14 – Pre-construction update surveys

Feature	Changes and effects	Embedded measures and influence on assessment[100]
		Specific measures: Where possible, vegetation clearance would be timed to avoid nesting bird season (that is March – August inclusive), otherwise nesting bird checks and avoidance of active nests may be necessary. The construction works programme would incorporate and account for all Schedule 1 species nests should these are identified within species-specific disturbance distances during pre-construction update surveys and avoid, amend or reduce works during sensitive periods i.e., breeding season. Where works are unavoidable during the nesting bird season, appropriate control measures would be followed including pre-works surveys for nests. If a nest is found, measures would be implemented appropriate to the species and associated level of protection, and may include a protective buffer, a behavioural method statement with ecological monitoring, and if necessary, suitable screening around working areas to avoid significant human disturbance. These specific measures have been included within the EMS that forms an appendix of the **Outline CEMP (Volume 7.12)**. Successful implementation of these measures would minimise the risk of affecting nesting birds and disturbing Schedule 1 species, and contravening legislation (*Wildlife and Countryside Act 1981* (as amended).
Reptiles	Kill/injure reptiles	**General measures:** 1 – Standard best practice 2 – Minimise land take and micro-site 4 – Sensitive vegetation removal 5 – Maintaining habitat connectivity 7 – Protection of retained habitats 9 – Habitat reinstatement 10 – Sensitive access and enabling works **Specific measures:** A method statement and tool-box talk would be prepared to avoid contravening the *Wildlife and Countryside Act 1981* (as amended). Best practice guidelines would be followed during the works. Removal of suitable habitat would be designed to avoid the risk of injury to reptiles, through

Feature	Changes and effects	Embedded measures and influence on assessment[100]
		measures such as timing ground works to avoid removing suitable hibernation habitat during the reptile hibernation period and the gradual removal of habitat to displace any reptiles that may be present into areas of adjoining retained habitat. Construction along the Grid Connection would be progressive[101] and designed to avoid isolating or fragmenting reptile habitat. These specific measures have been included within the EMS that forms an appendix of the **Outline CEMP (Volume 7.12)**. Successful implementation of these measures would minimise the risk of affecting reptiles and ensure compliance with legislation.
Badger	Damage/disturbance to habitats, kill/injure.	**General measures:** 1 – Standard best practice 2 – Minimise land take and micro-site 5 – Maintaining habitat connectivity 7 – Protection of retained habitats 10 – Sensitive access and enabling works 12 – Sensitive lighting design 13 – Construction traffic speed limits 14 – Pre-construction update surveys **Specific measures:** A method statement and tool-box talk would be prepared that would include details of pre-construction surveys to check on the presence of badgers and the approach that would be followed to minimise the risk of contravening the *Protection of Badgers Act 1992*. Access and construction activities would be micro-sited where possible to avoid impacts on badgers and their setts. Measures would include making all contractors aware of the potential presence of badgers, minimising artificial lighting during the hours of darkness, and not leaving trenches uncovered overnight (or leaving an escape plank if excavations cannot be covered). Any obvious mammal trails would be kept clear of obstruction. These specific measures have been included within the EMS that forms an appendix of the **Outline CEMP (Volume 7.12)**. Successful implementation of these measures would minimise the risk of affecting badgers and their setts and contravening legislation.

Feature	Changes and effects	Embedded measures and influence on assessment[100]
		The need for a protected species licence is not expected as no evidence of badger setts was recorded during baseline surveys. A licence would only be needed in exceptional circumstances should a newly established/previously undetected sett be found during pre-construction surveys or the construction phase.
All other species identified within the baseline (including legally protected species, SPI and other conservation-notable species)	Kill/injure, disturbance	**General measures:** 1 – Standard best practice 2 – Minimise land take and micro-site 5 – Maintaining habitat connectivity 10 – Sensitive access and enabling works 11 – Protection of watercourses **Specific measures:** A general ecological method statement would outline ecological good practice measures to minimise impacts to all other species and their habitats. The ecological method statement would be briefed to site personnel through a tool-box talk to ensure site activities are conducted with awareness and sensitively for biodiversity. These specific measures have been included within the EMS that forms an appendix of the **Outline CEMP (Volume 7.12).** Successful implementation of these measures would minimise the risk of affecting these species and contravening legislation and policy. Where a protected species licence may be necessary to avoid contravention of legislation, this is considered as separate mitigation within the assessment in **Section 11.9**.
All species and habitats identified in the baseline	Damage to habitats and/or species through excessive dust	**General measures:** 3 – Construction Environmental Management Plan **Specific measures:** Dust control measures have been assessed in **Chapter 8 Air Quality (Volume 6.2)** and would be implemented during the construction phase of work. These specific measures have been included within the **Outline CEMP (Volume 7.12).** Successful implementation of these measures would minimise the risk of dust damage and ensure compliance with legislation and policy.

Feature	Changes and effects	Embedded measures and influence on assessment[100]
All species identified in the baseline	Disturbance from noise	**Specific measures:** Noise control measures have been assessed in **Chapter 11 Noise and Vibration (Volume 6.2)**. These would include maintaining buffer distances to sensitive Receptors, use of best technology, dampers on vibrating or noise emitting equipment, timing of works. These specific measures have been included within the **Outline CEMP (Volume 7.12).** Successful implementation of these measures would minimise the risk of disturbance and contravening legislation.
All species and habitats identified in the baseline	Damage to habitats and/or species through pollution (terrestrial and aquatic)	**General measures:** 3 – Construction Environmental Management Plan 11 – Protection of watercourses **Specific measures:** Pollution prevention control measures would be detailed in a method statement and implemented during the construction phase to avoid damage to habitats/species. Construction practices would comply with the Environment Agency's Pollution Prevention Guidelines with a view to preventing the pollution of ground and surface water. **Chapter 12 Hydrology (Volume 6.2)** details further measures. These specific measures have been included within the **Outline CEMP (Volume 7.12)**. Successful implementation of these measures would minimise the risk of damage through pollution, and ensure compliance with legislation and policy.

11.8 Assessment methodology

11.8.1 The generic project-wide approach to the assessment methodology is set out in **Chapter 4 Approach to the EIA (Volume 6.2)**, and specifically in **Sections 4.7 to 4.10**. However, whilst this has informed the approach that has been used in this biodiversity assessment, it is necessary to set out how this methodology has been applied, and adapted as appropriate, to address the specific needs of this biodiversity assessment. Within this chapter, the same methodology is applied to the assessment of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection.

11.8.2 The assessment methodology for biodiversity assessment is consistent with that provided in the EIA Scoping Report (Scoping Report, 2019)[102] and the PEIR and no changes to that methodology have been made since those respective phases.

11.8.3 The assessment methodology within this chapter is aligned with the standard industry guidance provided by CIEEM (2018, updated 2019), informed by the general approach described in **Section 11.6**. The assessment is based upon the results of the desk study and field surveys, and relevant published information (for example on the status, distribution, sensitivity to environmental changes and ecology of the features scoped into the assessment, where this information is available), technical engagement with Stakeholders (see **Section 11.2**), and professional knowledge of ecological processes and functions.

11.8.4 For each scoped-in ecological feature (see **Table 11.11 Ecological features scoped in for further assessment**), effects are assessed against the baseline conditions for that feature during construction and operational phases. Throughout the assessment process, findings about likely significant effects have been used to inform the identification of embedded environmental measures to avoid or reduce adverse effects or to deliver enhancements.

Determination of significance

11.8.5 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the EIA Regulations) recognise that developments will affect different environmental elements to differing degrees, and that not all of these are of sufficient concern to warrant detailed investigation or assessment through the EIA process. The EIA Regulations identify those environmental resources that warrant investigation as those that are "*likely to be significantly affected by the development"*.

11.8.6 The EIA Regulations do not define significance and it is necessary to state how this will be defined for the EIA. The significance of an effect resulting from a development during construction or operation is most commonly assessed by reference to the sensitivity (or value) of a Receptor and the magnitude of the effect. This approach provides a mechanism for identifying areas where mitigation measures may be required and to identify the most appropriate measures to alleviate the risk presented by the development.

11.8.7 CIEEM (2018, updated 2019) defines a significant effect as one "that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general".

11.8.8 When considering potentially significant effects on ecological features, whether these be negative or positive[103], the following characteristics of environmental change are taken into account:

- Extent – the spatial or geographical area over which the environmental change may occur;

[102] Medworth Energy from Waste Combined Heat and Power Facility: EIA Scoping Report.
[103] In line with the Guidelines for Ecological Impact Assessment (CIEEM 2018, updated 2019), when describing effects, 'negative' and 'positive' are used in place of 'adverse' and 'beneficial' within this chapter.

- Magnitude – the size, amount, intensity or volume of the environmental change;
- Duration – the length of time over which the environmental change may occur;
- Frequency – the number of times the environmental change may occur;
- Timing – the periods of the day/year etc. during which an environmental change may occur; and
- Reversibility – whether the environmental change can be reversed through restoration actions.

11.8.9 Although the characteristics described above are all important in assessing effects by using information about the way in which habitats and species are likely to be affected, a scale for the magnitude of the environmental change, as a result of the Proposed Development, has been described in **Table 11.14 Guidelines for the assessment of the scale of magnitude** to provide an understanding of the relative change from the baseline position, be that negative or positive changes.

Table 11.14: Guidelines for the assessment of the scale of magnitude

Magnitude	Criteria and resultant effect
High	The change permanently (or over the long-term) affects the conservation status of a habitat/species, reducing or increasing the ability to sustain the habitat or the population level of the species within a given geographic area. Relative to the wider habitat resource/species population, a large area of habitat or large proportion of the wider species population is affected. For designated sites, integrity is compromised. There may be a change in the level of importance of the feature in the context of the project.
Medium	The change permanently (or over the long-term) affects the conservation status of a habitat/species reducing or increasing the ability to sustain the habitat or the population level of the species within a given geographic area. Relative to the wider habitat resource/species population, a small-medium area of habitat or small-medium proportion of the wider species population is affected. There may be a change in the level of importance of this feature in the context of the project.
Low	The quality or extent of designated sites or habitats or the sizes of species' populations, experience some small-scale reduction or increase. These changes are likely to be within the range of natural variability and they are not expected to result in any permanent change in the conservation status of the species/habitat or integrity of the designated site. The change is unlikely to modify the evaluation of the feature in terms of its importance.
Very Low	Although there may be some effects on individuals or parts of a habitat area or designated site, the quality or extent of sites and habitats, or the size of species populations, means that they would experience little or no change. Any changes are also likely to be within the range of natural variability and there would be no short-term or long-term change to conservation status of habitats/species features or the integrity of designated sites.
Negligible	A change, the level of which is so low, that it is not discernible on designated sites or habitats or the size of species' populations, or changes that balance each other out over the lifespan of a project and result in a neutral position.

Negative effects

11.8.10 A negative effect is assessed as being significant if the conservation status of an ecological feature would be compromised or lost as a result of the proposed

development. Conservation status is defined in CIEEM 2018, updated in 2019 (in paragraph 5.3.2) as follows:

- *'Habitats – conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area'; and*
- *'Species – conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area'.*

11.8.11 The decision as to whether the conservation status of an ecological feature has been compromised will be made using professional judgement, drawing upon the results of the assessment of how each feature is likely to be affected by the proposed development.

11.8.12 A similar procedure will be used where designated sites may be affected by the proposed development, except that the focus will be on the effects on the integrity of each site; defined as: *'the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified'.*

11.8.13 The assessment of effects on integrity will draw upon the assessment of effects on the conservation status of the features for which the site has been designated.

Positive effects

11.8.14 A development may result in positive effects where there is a resulting change from baseline that improves the quality of the environment (for example increases species diversity, increases the extent of a particular habitat etc.), or halts or slows down an existing decline. For a positive effect to be considered significant, the level of importance of an ecological feature determined at the baseline state would need to increase by one or more geographical levels (for example where an ecological feature of borough importance becomes of county importance following delivery of the proposed development).

Air pollution effects

11.8.15 Parts of the assessment which assess air pollution effects on nature conservation sites should be read in conjunction with **Chapter 8 Air Quality (Volume 6.2)**, which describes the air quality dispersion modelling of emissions from vehicles and the EfW CHP Facility chimneys during operation that has been undertaken. The dispersion modelling calculated the incremental contributions to baseline concentrations of nitric oxide (NO_x), ammonia (NH_3), sulphur dioxide (SO_2) and hydrogen fluoride (HF), in addition to nitrogen and acid deposition rates at nature conservation sites as a result of the Proposed Development. The model accounted for background air pollution levels, including background nitrogen and acid deposition rates specific to each nature conservation site from the Air Pollution Information System (APIS).

11.8.16 With regard to the effect of emissions on international nature conservation sites, Environment Agency air quality emissions risk assessment guidance[104] sets out that effects may be screened out as insignificant and do not require further assessment if the long-term Process Contribution (PC) is less than 1%, or the short-term PC is less than 10%, of the air quality assessment levels (AQAL)[105]. For County Wildlife Sites (CWS) effects may be screened as insignificant if the long and short-term PCs are less than 100% of the AQAL.

11.8.17 The results of air quality dispersion modelling for nature conservation sites are set out in the **Section 8.9** in **Chapter 8 Air Quality (Volume 6.2)**.

Habitat Regulations Assessment

11.8.18 In line with the Planning Inspectorate's Advice Note 10[106], the relevant SoS is the competent authority for the purposes of the Habitats Directive and the Habitats Regulations in relation to applications for NSIPs. The Habitats Regulations require competent authorities, before granting consent for a plan or project, to carry out an appropriate assessment (AA) in circumstances where the plan or project is likely to have a significant effect on a European site (either alone or in combination with other plans or projects).

11.8.19 A draft HRA Screening Report was prepared in accordance with the Planning Inspectorate's Advice Note 10 to determine whether the Project (the Proposed Development) would have Likely Significant Effects on any European sites. The draft HRA Screening Report included the Nene Washes Ramsar/SPA/SAC which lies approximately 7.2km south-west of the Order limits, The Wash Ramsar/SPA which lie approximately 17.3km north, and the Ouse Washes Ramsar/SPA/SAC which lies approximately 12.5km south-west. The draft HRA Screening Report was provided as part of the statutory consultation at the PEIR stage (see **Table 11A.2** in **Appendix 11A Consultation and Stakeholder Engagement (Volume 6.4)**), which screened out the majority of Likely Significant Effects, but air quality effects remained screened in at that stage pending the results of air quality dispersion modelling. Following the completion of assessment of air quality effects within **Chapter 8 Air Quality (Volume 6.2)**, and **Section 11.9** of this chapter, a Habitat Regulations Assessment No Significant Effects Report (NSER) has been prepared for the Proposed Development (see **Habitat Regulations Assessment NSER Volume 5.3**).

In-combination climate change impact

11.8.20 The assessment of likely significant effects on ecological features as a result of the Proposed Development has considered the in-combination effects of climate change on ecological features throughout the assessment, and how climate change

[104] Environment Agency and Department for Environment, Food & Rural Affairs (2021). Guidance: Air emissions risk assessment for your environmental permit. Available online at: https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit#screening-for-protected-conservation-areas [Accessed 07/02/2022].
[105] The assessment levels were based on critical levels for NO_x, NH_3, SO_2 and HF and critical loads for nitrogen and acid deposition provided by the Air Pollution Information System (APIS).
[106] The Planning Inspectorate (2017). Advice Note Ten: Habitats Regulations Assessment relevant to Nationally Significant Infrastructure Projects (Version 8).

may affect the efficacy of proposed mitigation and ecological enhancement measures.

11.9 Environmental assessment of biodiversity effects

11.9.1 The following sections present the assessment of effects as a result of the Proposed Development for those ecological features which remain scoped in for assessment (see **Table 11.11 Ecological features scoped in for further assessment**), and the significance of effects.

Assessment of effects: Nene Washes Ramsar Site – all features

Detailed baseline – overview

11.9.2 The Nene Washes Ramsar Site is located 7.2km south-west of the Order limits.

11.9.3 The Ramsar Site consists of an extensive area of seasonally-flooding wet grassland (washland) of importance for international and national populations of breeding and wintering waders and wildfowl. It also supports nationally scarce plants and vulnerable, rare or relict fenland invertebrates. It meets Ramsar Criterion 2 (important assemblage of nationally rare breeding birds and a wide range of raptors through the year; several nationally scarce plants; two vulnerable and two rare British Red Data Book invertebrates) and Criterion 6 (internationally important populations of Bewick's swan in winter), and additionally supports an internationally important population of black-tailed godwit.

11.9.4 There is no evidence to indicate that the farmland within 500m of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection is utilised by the Ramsar Site's qualifying features and therefore this land does not form FLL.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

Air pollution – vehicle emissions and emissions from the chimneys

11.9.5 The potential for vehicle emissions during the construction and operational phases, and emissions from the EfW CHP Facility chimneys during the operational phase, to lead to negative effects on supporting habitats within the Ramsar Site that qualifying species depend on have been considered.

11.9.6 **Chapter 8 Air Quality (Volume 6.2)** sets out embedded mitigation measures that identify controls to minimise vehicle emissions during construction, such that these are considered to be negligible, and consequently are unlikely to result in a significant impact on local air quality. Air pollution due to emissions during construction is therefore unlikely to affect supporting habitats at the Ramsar Site 7.2km from EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections.

11.9.7 **Table 8.30 Impact to air quality at ecological Receptors at internationally designated biodiversity sites** and **Table 8.32 Deposition at ecological**

Receptors at internationally designated biodiversity sites in **Chapter 8 Air Quality (Volume 6.2)** presents the air quality dispersion modelling results, for the predicted PC as a result of emissions from vehicles and the EfW CHP Facility chimneys during the operational phase. The results show that the long-term average contributions to baseline concentrations of NO_x, NH_3, SO_2 and HF at the Ramsar Site are less than 1% of the critical level for the site, and that the average short-term contributions are less than 10% of the critical level. In addition, both nitrogen and acid deposition PC are predicted to contribute less than 1% of the critical load for the Ramsar Site. The predicted PC of emissions at the Ramsar Site during the operational phase are therefore within the screening limits described in **Section 11.8**; therefore, the effects of air pollution on the Ramsar Site are considered insignificant.

11.9.8 Considering that land within 500m of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections does not form FLL; there would be negligible emissions during construction; and that during the operational phase predicted PC at the Ramsar Site located 7.2km would be within limits considered insignificant, it is concluded that the magnitude of change would be Negligible. Although the effect is considered to be adverse, it would not result in a detectable change in the integrity of the Ramsar Site. This effect is therefore assessed as **Not Significant** on a feature of International importance.

Predicted effects and their significance – Grid Connection

Air pollution – vehicle emissions

11.9.9 The potential for vehicle emissions during the construction phase of the Grid Connection to lead to negative effects on supporting habitats within the Ramsar Site that qualifying species depend on have been considered.

11.9.10 **Section 8.7** of **Chapter 8 Air Quality (Volume 6.2)** sets out embedded mitigation measures that identify controls to minimise vehicle emissions during construction, such that these are considered to be negligible, and consequently are unlikely to result in a significant impact on local air quality. Air pollution due to emissions during construction is therefore unlikely to affect supporting habitats at the Ramsar Site 7.2km from the Grid Connection.

11.9.11 Other than limited and infrequent maintenance works, there are no activities associated with the operation of the Grid Connection that would result in emissions to the air, therefore operational effects of the Grid Connection on air quality are scoped out in **Chapter 8 Air Quality (Volume 6.2)**.

11.9.12 It is concluded that any change would be short-term during construction only, and that the magnitude would be Negligible. Although the effect is considered to be adverse, it would not result in a detectable change in the integrity of the Ramsar Site. This effect is therefore assessed as **Not Significant** on a feature of International importance.

Assessment of effects: Nene Washes SPA – all features

Detailed baseline – overview

11.9.13 The Nene Washes SPA is located 7.2km south-west of the Order limits.

11.9.14 The Nene Washes SPA consists of an area of seasonally flooding grassland and grazing marsh in the lower reaches of the River Nene. The site qualifies by regularly supporting an internationally important wintering population of Bewick's swan, and also by supporting, in summer, nationally important breeding populations of regularly occurring migratory species of waterfowl (gadwall, garganey and shoveler), black-tailed godwit, and several other rare birds. The site further qualifies by supporting nationally important wintering populations of five migratory species (wigeon, teal, gadwall, pintail and shoveler).

11.9.15 In addition to the above species, the site also supports a notable assemblage of wintering waterfowl, and a wide range of raptors throughout the year.

11.9.16 There is no evidence to indicate that the farmland within 500m of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections and Grid Connection is utilised by the SPA's qualifying features and therefore this land does not form FLL.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

Air pollution – vehicle emissions and emissions from the chimneys

11.9.17 The potential for vehicle emissions during the construction and operational phases, and emissions from the EfW CHP Facility chimneys during the operational phase of the Proposed Development, to lead to negative effects on supporting habitats within the SPA that qualifying species depend on have been considered.

11.9.18 **Chapter 8 Air Quality (Volume 6.2)** sets out embedded mitigation measures that identify controls to minimise vehicle emissions during construction, such that these are considered to be negligible, and consequently are unlikely to result in a significant impact on local air quality. Air pollution due to emissions during construction is therefore unlikely to affect supporting habitats at the SPA 7.2km from the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections.

11.9.19 **Table 8.30 Impact to air quality at ecological Receptors at internationally designated biodiversity sites** and **Table 8.32 Deposition at ecological Receptors at internationally designated biodiversity sites** in **Chapter 8 Air Quality (Volume 6.2)** presents the air quality dispersion modelling results, for the predicted PC as a result of emissions from vehicles and the EfW CHP Facility chimneys during the operational phase. The results show that the long-term average contributions to baseline concentrations of NO_x, NH_3, SO_2 and HF at the SPA are less than 1% of the critical level for the site, and that the average short-term contributions are less than 10% of the critical level. In addition, both nitrogen and acid deposition PC are predicted to contribute less than 1% of the critical load for the SPA. The predicted PC of emissions at the SPA during the operational phase

are therefore within the screening limits described in **Section 11.8**; therefore, the effects of air pollution on the SPA are considered insignificant.

11.9.20 Considering that land within 500m of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections does not form FLL; there would be negligible emissions during construction; and that during the operational phase predicted PC at the SPA located 7.2km would be within limits considered insignificant, it is concluded that the magnitude of change would be Negligible. Although the effect is considered to be adverse, it would not result in a detectable change in the integrity of the SPA. This effect is therefore assessed as **Not Significant** on a feature of International importance.

Predicted effects and their significance – Grid Connection

Air pollution – vehicle emissions

11.9.21 The potential for vehicle emissions during the construction phase of the Grid Connection to lead to negative effects on supporting habitats within the SPA that qualifying species depend on have been considered.

11.9.22 Section 8.7 of **Chapter 8 Air Quality (Volume 6.2)** sets out embedded mitigation measures that identify controls to minimise vehicle emissions during construction, such that these are considered to be negligible, and consequently are unlikely to result in a significant impact on local air quality. Air pollution due to emissions during construction is therefore unlikely to affect supporting habitats at the SPA 7.2km from the Grid Connection.

11.9.23 Other than limited and infrequent maintenance works, there are no activities associated with the operation of the Grid Connection that would result in emissions to the air, therefore operational effects of the Grid Connection on air quality are scoped out in **Chapter 8 Air Quality (Volume 6.2)**.

11.9.24 It is concluded that any change would be short-term during construction only, and that the magnitude would be Negligible. Although the effect is considered to be adverse therefore assessed as **Not Significant** on a feature of International importance.

Assessment of effects: Nene Washes SAC – all features

Detailed baseline – overview

11.9.25 The Nene Washes SAC is located 7.2km south-west of the Order limits.

11.9.26 The SAC qualifies by supporting a population of spined loach with the highest recorded density of this species in the UK.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

Air pollution – vehicle emissions and emissions from the chimneys

11.9.27 The potential for vehicle emissions during the construction and operational phases of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections, and emissions from the EfW CHP Facility chimneys during the operational phase, to lead to negative effects on supporting habitats within the SAC that the qualifying species depends on have been considered.

11.9.28 **Chapter 8 Air Quality (Volume 6.2)** sets out embedded mitigation measures that identify controls to minimise vehicle emissions during construction, such that these are considered to be negligible, and consequently are unlikely to result in a significant impact on local air quality. Air pollution due to emissions during construction is therefore unlikely to affect supporting habitats at the SAC 7.2km from the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections.

11.9.29 **Table 8.30 Impact to air quality at ecological Receptors at internationally designated biodiversity sites** and **Table 8.32 Deposition at ecological Receptors at internationally designated biodiversity sites** in **Chapter 8 Air Quality (Volume 6.2)** presents the air quality dispersion modelling, for the predicted PC as a result of emissions from vehicles and the EfW CHP Facility chimneys during the operational phase. The results show that the long-term average contributions to baseline concentrations of NO_x, NH_3, SO_2 and HF at the SAC are less than 1% of the critical level for the site, and that the average short-term contributions are less than 10% of the critical level. In addition, both nitrogen and acid deposition PC are predicted to contribute less than 1% of the critical load for the SAC. The predicted PC of emissions at the SAC during the operational phase of the EfW CHP Facility are therefore within the screening limits described in **Section 11.8**; therefore, the effects of air pollution on the SAC are considered insignificant.

11.9.30 Considering that there would be negligible emissions during construction, and that during the operational phase predicted PC at the SAC located 7.2km from the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections would be within limits considered insignificant, it is concluded that the magnitude of change would be Negligible. Although the effect is considered to be adverse, it would not result in a detectable change in the integrity of the SAC. This effect is therefore assessed as **Not Significant** on a feature of International importance.

Predicted effects and their significance – Grid Connection

Air pollution – vehicle emissions

11.9.31 The potential for vehicle emissions during the construction phase of the Grid Connection to lead to negative effects on supporting habitats within the SAC that the qualifying species depends on have been considered.

11.9.32 **Section 8.7** of **Chapter 8 Air Quality (Volume 6.2)** sets out embedded mitigation measures that identify controls to minimise vehicle emissions during construction,

such that these are considered to be negligible, and consequently are unlikely to result in a significant impact on local air quality. Air pollution due to emissions during construction is therefore unlikely to affect supporting habitats at the SAC 7.2km from the Grid Connection.

11.9.33 Other than limited and infrequent maintenance works, there are no activities associated with the operation of the Grid Connection that would result in emissions to the air, therefore operational effects of the Grid Connection on air quality are scoped out in **Chapter 8 Air Quality (Volume 6.2)**.

11.9.34 It is concluded that any change would be short-term during construction only, and that the magnitude would be Negligible. Although the effect is considered to be adverse, it would not result in a detectable change in the integrity of the SAC. This effect is therefore assessed as **Not Significant** on a feature of International importance.

Assessment of effects: The Ouse Washes Ramsar Site – all features

Detailed baseline – overview

11.9.35 The Ouse Washes Ramsar Site is located 12.5km south-east of the Order limits.

11.9.36 The Ramsar Site consists of a seasonally-flooded washland habitat managed in a traditional agricultural manner, supporting internationally and nationally important numbers of wintering waterfowl and nationally important numbers of breeding waterfowl. It supports a richness of aquatic flora and a large area of unimproved neutral grassland. It meets Ramsar Criterion 1 (one of the most extensive areas of seasonally-flooding washland in Britain), Criterion 2 (supporting several nationally scarce plants, and British Red Data Book invertebrates), Criterion 5 (internationally important assemblage of waterfowl in winter) and Criterion 6 (internationally important populations in winter of Bewick's swan, whooper swan, wigeon, gadwall, teal, pintail and shoveler).

11.9.37 There is no evidence to indicate that the farmland within 500m of the Proposed Development is utilised by the Ramsar Site's qualifying features and therefore this land does not form FLL.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

Air pollution – vehicle emissions and emissions from the chimneys

11.9.38 The potential for vehicle emissions during the construction and operational phases EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections, and emissions from the EfW CHP Facility chimneys during the operational phase, to lead to negative effects on supporting habitats within the Ramsar Site that qualifying species depend on have been considered.

11.9.39 **Chapter 8 Air Quality (Volume 6.2)** sets out embedded mitigation measures that identify controls to minimise vehicle emissions during construction, such that these are considered to be negligible, and consequently are unlikely to result in a significant impact on local air quality. Air pollution due to emissions during

construction is therefore unlikely to affect supporting habitats at the Ramsar Site 12.5km from the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections.

11.9.40 **Table 8.30 Impact to air quality at ecological Receptors at internationally designated biodiversity sites** and **Table 8.32 Deposition at ecological Receptors at internationally designated biodiversity sites** in **Chapter 8 Air Quality (Volume 6.2)** presents the air quality dispersion modelling results, for the predicted PC as a result of emissions from vehicles and the EfW CHP Facility chimneys during the operational phase. The results show that the long-term average contributions to baseline concentrations of NO_x, NH_3, SO_2 and HF at the Ramsar Site are less than 1% of the critical level for the site, and that the average short-term contributions are less than 10% of the critical level. In addition, both nitrogen and acid deposition PC are predicted to contribute less than 1% of the critical load for the Ramsar Site. The predicted PC of emissions at the Ramsar Site during the operational phase are therefore within the screening limits described in **Section 11.8**; therefore, the effects of air pollution on the Ramsar Site are considered insignificant.

11.9.41 Considering that land within 500m of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections does not form FLL; there would be negligible emissions during construction; and that during the operational phase predicted PC at the Ramsar Site located 12.5km would be within limits considered insignificant, it is concluded that the magnitude of change would be Negligible. Although the effect is considered to be adverse, it would not result in a detectable change in the integrity of the Ramsar Site. This effect is therefore assessed as **Not Significant** on a feature of International importance.

Predicted effects and their significance – Grid Connection

Air pollution – vehicle emissions

11.9.42 The potential for vehicle emissions during the construction phase of the Grid Connection to lead to negative effects on supporting habitats within the Ramsar Site that qualifying species depend on have been considered.

11.9.43 Section 8.7 of **Chapter 8 Air Quality (Volume 6.2)** sets out embedded mitigation measures that identify controls to minimise vehicle emissions during construction, such that these are considered to be negligible, and consequently are unlikely to result in a significant impact on local air quality. Air pollution due to emissions during construction is therefore unlikely to affect supporting habitats at the Ramsar Site 12.5km from the Grid Connection.

11.9.44 Other than limited and infrequent maintenance works, there are no activities associated with the operation of the Grid Connection that would result in emissions to the air, therefore operational effects of the Grid Connection on air quality are scoped out in **Chapter 8 Air Quality (Volume 6.2)**.

11.9.45 It is concluded that any change would be short-term during construction only, and that the magnitude would be Negligible. Although the effect is considered to be adverse, it would not result in a detectable change in the integrity of the Ramsar

Site. This effect is therefore assessed as **Not Significant** on a feature of International importance.

Assessment of effects: The Ouse Washes SPA – all features

Detailed baseline – overview

11.9.46 The Ouse Washes SPA is located 12.5km south-east of the Order limits.

11.9.47 The SPA consists of a wetland of major international importance comprising seasonally flooded washlands which are agriculturally managed in a traditional manner. It qualifies by supporting, in summer, a nationally important breeding population of ruff, and by regularly supporting internationally or nationally important wintering populations of Bewick's swan, whooper swan and hen harrier. It also qualifies by supporting, in summer, nationally important breeding populations of gadwall, mallard, garganey, shoveler and black-tailed godwit.

11.9.48 The site further qualifies as a wetland of international importance by virtue of regularly supporting over 20,000 waterfowl. The site also qualifies by virtue of regularly supporting, in summer, a diverse assemblage of the breeding migratory waders of lowland wet grassland.

11.9.49 There is no evidence to indicate that the farmland within 500m of the Proposed Development is utilised by the SPA's qualifying features and therefore this land does not form FLL.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

Air pollution – vehicle emissions and emissions from the chimneys

11.9.50 The potential for vehicle emissions during the construction and operational phases of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections, and emissions from the EfW CHP Facility chimneys during the operational phase of the, to lead to negative effects on supporting habitats within the SPA that qualifying species depend on have been considered.

11.9.51 **Chapter 8 Air Quality (Volume 6.2)** sets out embedded mitigation measures that identify controls to minimise vehicle emissions during construction, such that these are considered to be negligible, and consequently are unlikely to result in a significant impact on local air quality. Air pollution due to emissions during construction is therefore unlikely to affect supporting habitats at the SPA 12.5km from the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections.

11.9.52 **Table 8.30 Impact to air quality at ecological Receptors at internationally designated biodiversity sites** and **Table 8.32 Deposition at ecological Receptors at internationally designated biodiversity sites** in **Chapter 8 Air Quality (Volume 6.2)** presents the air quality dispersion modelling results, for the predicted PC as a result of emissions from vehicles and the EfW CHP Facility chimneys during the operational phase. The results show that the long-term average contributions to baseline concentrations of NO_x, NH_3, SO_2 and HF at the SPA are

less than 1% of the critical level for the site, and that the average short-term contributions are less than 10% of the critical level. In addition, both nitrogen and acid deposition PC are predicted to contribute less than 1% of the critical load for the SPA. The predicted PC of emissions at the SPA during the operational phase are therefore within the screening limits described in **Section 11.8**; therefore, the effects of air pollution on the SPA are considered insignificant.

11.9.53 Considering that land within 500m of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections does not form FLL; there would be negligible emissions during construction; and that during the operational phase predicted PC at the SPA located 12.5km distant would be within limits considered insignificant, it is concluded that the magnitude of change would be Negligible. Although the effect is considered to be adverse, it would not result in a detectable change in the integrity of the SPA. This effect is therefore assessed as **Not Significant** on a feature of International importance.

Predicted effects and their significance – Grid Connection

Air pollution – vehicle emissions

11.9.54 The potential for vehicle emissions during the construction phase of the Grid Connection to lead to negative effects on supporting habitats within the SPA that qualifying species depend on have been considered.

11.9.55 Section 8.7 of **Chapter 8 Air Quality (Volume 6.2)** sets out embedded mitigation measures that identify controls to minimise vehicle emissions during construction, such that these are considered to be negligible, and consequently are unlikely to result in a significant impact on local air quality. Air pollution due to emissions during construction is therefore unlikely to affect supporting habitats at the SPA 12.5km from the Grid Connection.

11.9.56 Other than limited and infrequent maintenance works, there are no activities associated with the operation of the Grid Connection that would result in emissions to the air, therefore operational effects of the Grid Connection on air quality are scoped out in **Chapter 8 Air Quality (Volume 6.2)**.

11.9.57 It is concluded that any change would be short-term during construction only, and that the magnitude would be Negligible. Although the effect is considered to be adverse, it would not result in a detectable change in the integrity of the SPA. This effect is therefore assessed as **Not Significant** on a feature of International importance.

Assessment of effects: The Ouse Washes SAC – all features

Detailed baseline – overview

11.9.58 The Ouse Washes SAC is located 12.5km south-east of the Order limits.

11.9.59 The SAC qualifies by supporting a population of spined loach.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

Air pollution – vehicle emissions and emissions from the chimneys

11.9.60 The potential for vehicle emissions during the construction and operational phases of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections, and emissions from the EfW CHP Facility chimneys during the operational phase of the Proposed Development, to lead to negative effects on supporting habitats within the SAC that the qualifying species depends on have been considered.

11.9.61 **Chapter 8 Air Quality (Volume 6.2)** sets out embedded mitigation measures that identify controls to minimise vehicle emissions during construction, such that these are considered to be negligible, and consequently are unlikely to result in a significant impact on local air quality. Air pollution due to emissions during construction is therefore unlikely to affect supporting habitats at the SAC 12.5km from the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections.

11.9.62 **Table 8.30 Impact to air quality at ecological Receptors at internationally designated biodiversity sites** and **Table 8.32 Deposition at ecological Receptors at internationally designated biodiversity sites** in **Chapter 8 Air Quality (Volume 6.2)** presents the air quality dispersion modelling results, for the predicted PC as a result of emissions from vehicles and the EfW CHP Facility chimneys during the operational phase. The results show that the long-term average contributions to baseline concentrations of NO_x, NH_3, SO_2 and HF at the SAC are less than 1% of the critical level for the site, and that the average short-term contributions are less than 10% of the critical level. In addition, both nitrogen and acid deposition PC are predicted to contribute less than 1% of the critical load for the SAC. The predicted PC of emissions at the SAC during the operational phase are therefore within the screening limits described in **Section 11.8**; therefore, the effects of air pollution on the SAC are considered insignificant.

11.9.63 Considering that there would be negligible emissions during construction, and that during the operational phase predicted PC at the SAC located 12.5km from the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections would be within limits considered insignificant, it is concluded that the magnitude of change would be Negligible. Although the effect is considered to be adverse, it would not result in a detectable change in the integrity of the SAC. This effect is therefore assessed as **Not Significant** on a feature of International importance.

Predicted effects and their significance – Grid Connection

Air pollution – vehicle emissions

11.9.64 The potential for vehicle emissions during the construction phase of the Grid Connection to lead to negative effects on supporting habitats within the SAC that the qualifying species depends on have been considered.

11.9.65 Section 8.7 of **Chapter 8 Air Quality (Volume 6.2)** sets out embedded mitigation measures that identify controls to minimise vehicle emissions during construction, such that these are considered to be negligible, and consequently are unlikely to result in a significant impact on local air quality. Air pollution due to emissions during construction is therefore unlikely to affect supporting habitats at the SAC 12.5km from the Grid Connection.

11.9.66 Other than limited and infrequent maintenance works, there are no activities associated with the operation of the Grid Connection that would result in emissions to the air, therefore operational effects of the Grid Connection on air quality are scoped out in **Chapter 8 Air Quality (Volume 6.2)**.

11.9.67 It is concluded that any change would be short-term during construction only, and that the magnitude would be Negligible. Although the effect is considered to be adverse, it would not result in a detectable change in the integrity of the Ramsar Site. This effect is therefore assessed as **Not Significant** on a feature of International importance.

Assessment of effects: River Nene CWS – all features

Detailed baseline – overview

11.9.68 The River Nene CWS is located 200m west of the Order limits.

11.9.69 The CWS consists of a major river which is not grossly modified by canalisation or poor water quality. The river supports at least three species of pondweed which are Nationally Scarce vascular plant species. The designation includes associated semi-natural habitats adjacent to the river corridor.

11.9.70 For the majority of the River Nene CWS within 2km of the Proposed Development the river is canalised, with the riparian corridor contained within flood defence walls. Narrow strips of steep riverbank approximately 5-15m wide exist between the toe of the riverbank and the flood defence walls, and are mostly dominated by tall ruderal vegetation consisting of common and widespread plant species including common nettle, greater willowherb, horseradish, cleavers, common reed and umbellifers. The river channel within this area is tidal, with exposed mud along the channel edges at low tide, tidal scouring and highly turbid water, and is unlikely to support the main aquatic macrophyte interest features of the CWS (pondweed species). The Environment Agency ecology and fish data explorer website does not hold macrophyte monitoring records, and the most recent records of freshwater invertebrates are greater than 20 years old and record low diversity.

11.9.71 The river channel within 2km of the Proposed Development passes through the town of Wisbech, and is bound by urban, industrial and residential development and arable farmland along the majority of the reach, with little in the way of semi-natural habitat along the river corridor.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

Air pollution – vehicle emissions and emissions from the chimneys

11.9.72 The potential for vehicle emissions during the construction and operational phases of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections, and emissions from the EfW CHP Facility chimneys during the operational phase of the Proposed Development, to lead to negative effects on the interest features of the CWS have been considered.

11.9.73 **Chapter 8 Air Quality (Volume 6.2)** sets out embedded mitigation measures that identify controls to minimise vehicle emissions during construction, such that these are considered to be negligible, and consequently are unlikely to result in a significant impact on local air quality. Further to this, the parts of the CWS within 2km are predominantly bounded by existing urban and industrial development. Air pollution due to emissions during construction is therefore unlikely to affect the interest features and habitat within the CWS above existing background levels.

11.9.74 **Table 8.31 Impact to air quality at ecological Receptors at Local Wildlife Site** and **Table 8.33 Deposition at ecological Receptors at Local Wildlife Sites** in **Chapter 8 Air Quality (Volume 6.2)** presents the air quality dispersion modelling results, for the predicted PC as a result of emissions from vehicles and the EfW CHP Facility chimneys during the operational phase. The results show that the long-term and short-term average contributions to baseline concentrations of NO_x, NH_3, SO_2 and HF at the CWS are in the range between 0-1% of the critical level for the site, with the exception of short-term NO_x at 5%. In addition, both nitrogen and acid deposition PC are predicted to contribute no more than 2% and 1% of the critical load for the CWS, respectively. The predicted PC of emissions at the CWS during the operational phase are therefore well within the 100% of critical level/load screening limits described in **Section 11.8**; Therefore, the effects of air pollution on the CWS are considered insignificant.

11.9.75 Further to this, the section of the CWS within 2km of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections is canalised with narrow banks contained within flood defence walls. Bankside vegetation is predominantly tall ruderal vegetation consisting of common and widespread species. The river is tidal in this area with tidal scouring and high turbidity, and exposed mud margins at low tide, and is therefore unlikely to support the macrophyte interest features that the CWS is designated for which could be sensitive to air pollution changes.

11.9.76 Considering that there would be negligible emissions during construction; that during the operational phase predicted PC at the CWS is well within limits considered insignificant; it is concluded that the magnitude of change would be Very Low. Although the effect is considered to be adverse, habitats within the CWS within 2km are unlikely to support the main interest features of the CWS, and it would not result in a detectable change in the integrity of the CWS. This effect is therefore assessed as **Not Significant** on a feature of County importance.

Predicted effects and their significance – Grid Connection

Air pollution – vehicle emissions

11.9.77 The potential for vehicle emissions during the construction phase of the Grid Connection to lead to negative effects on the interest features of the CWS have been considered.

11.9.78 Section 8.7 of **Chapter 8 Air Quality (Volume 6.2)** sets out embedded mitigation measures that identify controls to minimise vehicle emissions during construction, such that these are considered to be negligible, and consequently are unlikely to result in a significant impact on local air quality. Further to this, the parts of the CWS within 2km of the Grid Connection are predominantly bounded by existing urban and industrial development. Air pollution due to emissions during construction is therefore unlikely to affect the interest features and habitat within the CWS above existing background levels.

11.9.79 Other than limited and infrequent maintenance works, there are no activities associated with the operation of the Grid Connection that would result in emissions to the air, therefore operational effects of the Grid Connection on air quality are scoped out in **Chapter 8 Air Quality (Volume 6.2)**.

11.9.80 It is concluded that any change would be short-term during construction only, and that the magnitude would be Negligible. Although the effect is considered to be adverse, habitats within the CWS within 2km are unlikely to support the main interest features of the CWS, and it would not result in a detectable change in the integrity of the CWS. This effect is therefore assessed as **Not Significant** on a feature of County importance.

Assessment of effects: Scrub

Detailed baseline – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.9.81 Dense/continuous scrub was identified within the Survey Area during the extended Phase 1 habitat survey. Dense bramble scrub with scattered shrubs enclosed by a line of scattered mature poplar trees is present in the south-east of the EfW CHP Facility Site. Small, scattered stands of bramble scrub are present within the TCC.

11.9.82 Scrub habitat was recorded throughout the CHP Connection Corridor with dense bramble and hawthorn scrub, and frequent dog rose and buddleia. The scrub is impenetrably dense in places, while in other parts of the CHP Connection Corridor it becomes interspersed with areas of open ephemeral/short-perennial vegetation and patchy grassland associated with the track bed of the disused March to Wisbech Railway. Planted scrub is also present around a small area of grassland at the north of the CHP Connection Corridor consisting of bramble, rose, broom, hawthorn and buddleia.

11.9.83 The scrub habitat within the CHP Connection Corridor along the more extensive disused March to Wisbech Railway contributes to a linear feature of connected habitat through an otherwise heavily developed industrial and residential area.

11.9.84 The Schedule 9 invasive non-native species Japanese knotweed has been identified at three locations between Weasenham Lane and the northern end of the CHP Connection Corridor, and *Cotoneaster* sp. has also been recorded. These species potentially occur in other areas where impenetrably dense vegetation scrub prevented survey access.

11.9.85 Stands of scrub habitat within the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections have been condition assessed as having between poor and moderate condition using the Defra Biodiversity Metric 3.0.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

Land take/land cover change; fragmentation of habitat

11.9.86 Embedded environmental measure **2 – Minimise land take and micro-site** and **5 – Maintaining habitat connectivity** would seek to minimise loss of scrub habitat and connectivity through design wherever possible. However, there would be unavoidable temporary and permanent loss of scrub habitat during the construction and operational phases of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections. Approximately 0.30ha of dense scrub and approximately 0.07ha of bramble scrub would be lost within the south of the EfW CHP Facility during construction which would be permeant through the operational phase. Approximately 0.59ha of scrub would be lost within the CHP Connection Corridor during construction of which 0.16ha would be temporary throughout construction and 0.43ha would be permanent loss along the CHP Connection pipeline and associated maintenance easement. Small areas of scattered bramble scrub totalling approximately 0.11ha would be temporarily lost where these occur within grassland within the TCC.

11.9.87 Land take would therefore result in a total permanent loss of scrub habitat of approximately 0.8ha, with a further total temporary loss of approximately 0.27ha, including stands of scrub habitat ranging between poor and moderate condition. The embedded environmental measure **9 – Habitat reinstatement** would, wherever possible, seek to reinstate areas of scrub that are temporarily lost during construction with an emphasis on reinstating with native species-rich mixes in agreement with landowners.

11.9.88 The extent of scrub habitat loss due to land take is considered to be small in the local context. Within the local area scrub habitat is extensive along adjoining sections of the disused March to Wisbech Railway, and occurs relatively frequently within areas of grassland, traditional and less intensively managed orchards, along roadsides and occasional land boundaries. Compared to the areas lost, more extensive, well-connected scrub habitat would remain adjoining the EfW CHP Facility Site (namely along the disused March to Wisbech Railway adjoining the west of the Site, and a retained larger portion of the stand that would be partially lost at the south) and as retained habitat within the CHP Connection Corridor; minimising the effect of fragmentation.

11.9.89 Fragmentation and severance of the linear habitat would be avoided along the length of the CHP Connection Corridor, as the construction footprint of the CHP Connection would be limited to a 5.5m wide strip measured from the eastern side of the Order limits, which would reduce to 4m during the operational phase. This would mean that continuous scrub habitat would be retained across an average of approximately 70% of the width of the Order limits boundary along the CHP Connection Corridor during construction.

11.9.90 Three stands of the Schedule 9 invasive non-native plant species Japanese knotweed have been recorded within the CHP Connection Corridor, as well as *Cotoneaster* sp., and there is a risk that additional stands of these species occur within areas of impenetrable scrub that were inaccessible during baseline surveys. Invasive non-native species spread usually with detrimental effects on native flora and fauna. The embedded environmental measure **8 – Management of invasive species** would provide measures to minimise the risk of spreading invasive non-native species, as well as control measures to treat existing stands. If successful eradication of these species within the CHP Connection Corridor is achieved, it would result in a small positive effect on the conservation status of the retained scrub habitat.

11.9.91 Considering the embedded environmental measures described, the magnitude of change is assessed to be Low due to small temporary and permanent losses in the local context, with fragmentation no more than localised and not considered to affect the conservation status of the habitat. Therefore, the effect is assessed as adverse and **Not Significant** on an ecological feature of Local importance.

Assessment of effects: Ditches (running water; standing water; dry)

Detailed baseline – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.9.92 Ditch numbers referred to in this section are shown on **Figure 3.1** in **Appendix 11.D Desk Study and Extended Phase 1 Habitat Survey (Volume 6.4)**.

11.9.93 The desk study and extended Phase 1 habitat survey identified a relatively extensive network of land drainage ditches throughout the Study Area, present along most field boundaries, extending along roadsides, and into adjoining industrial areas.

11.9.94 Water quality within most ditches was found to be poor because of surrounding land use, with ditches receiving inputs of litter, industrial discharges, and surface water run-off from urban areas and roads, and drainage from agricultural land likely containing residues of fertilisers, herbicides, and pesticides.

11.9.95 Most ditches were found to be regularly managed with cutting and dredging often removing the majority of vegetation from the channel and banksides. Many ditches were observed to become choked with vegetation such as common reed prior to management, and with duckweed and algae becoming abundant in open water during low flow in summer where ditches have been cleared. Consequently, no ditches were recorded as supporting aquatic, marginal or bankside vegetation that included notable plant species or high diversity.

11.9.96 Water levels vary meaning that there is a flux between ditches being dry and containing standing or flowing water. Some ditches that are persistently dry and unmanaged have become overgrown with tall ruderal vegetation and encroaching bramble scrub.

11.9.97 There would be direct impacts to three ditches within the Order limits boundary of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections: ditch D8, D24 and D26. D8 runs through and industrial area before passing through a culvert beneath the Access Improvements on New Bridge Lane. D24 crosses the centre of the EfW CHP Facility Site after exiting a culvert beneath the disused March to Wisbech Railway, then runs up the north-eastern boundary between the EfW CHP Facility Site and TCC and is approximately 295m in length. D24 connects with D26. D26 is approximately 230m in length and runs south from the EfW CHP Facility Site and TCC before running along the northern side of New Bridge Lane, parallel to the Water Connection. These ditches have poor water quality and are regularly managed to remove silt and in-channel and bankside vegetation.

11.9.98 Ditches within the Order limits of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections are considered to be a conservation-notable habitat qualifying as a Cambridge and Peterborough BAP Additional Habitat of Interest. They have been condition assessed as being poor condition using the Defra Biodiversity Metric 3.0.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

Land take/land cover change; fragmentation of habitat

11.9.99 Embedded environmental measures including **2 – Minimise land take and micro-site**, **7 – Protection of retained habitats**, **10 – Sensitive access and enabling works** and **11 – Protection of watercourses** and other specific measures (see **Section 11.7**) would minimise the direct loss, damage and fragmentation of ditch habitat within the footprint of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections. However, there would be unavoidable permanent loss of approximately 52m of standing water ditch habitat along ditch D24 (which crosses the EfW CHP Facility Site) during the construction and operational phases, due to extending the existing culvert at the western end of the ditch (approximately 25m) to provide vehicle access to a laydown and storage area, and further east towards the centre of the ditch (approximately 27m) to provide the main vehicle access and egress route via the weighbridge during the operational phase.

11.9.100 Further to this, there would potentially be a very small permanent loss of standing water ditch habitat at the southern end of ditch D8 where an existing culvert would either be replaced or extended to accommodate carriage way widening along New Bridge Lane as part of Access Improvements.

11.9.101 In addition, two temporary single-span footbridges are planned to cross ditch D26 to provide pedestrian access between the EfW CHP Facility Site and the TCC during

construction, resulting in temporary shading of very small sections of standing water ditch habitat.

11.9.102 The ditch habitat is poor along all sections of ditches that would be affected permanently and temporarily.

11.9.103 Approximately 240m of D24 will be retained and protected throughout the construction and operational period within the EfW CHP Facility Site boundary. Ditches D24 and D26 are interconnected, providing approximately 470m of directly connected ditch habitat which is of similar quality to that permanently lost. Habitat within D24 and D26 is not unique, and these ditches link via short culverts into the wider ditch network in the locality, where similar well-connected ditch habitat would remain surrounding the majority of the Proposed Development and would further reduce the effect of fragmentation.

11.9.104 Direct loss, damage and fragmentation of ditches would be avoided during construction and operation of the Water Connections. Where the Water Connection crosses the A47 and associated roadside ditches, either HDD will be used to route the pipe connection beneath existing ditches, or an open cut method would be used which would be restricted to the road verge and an existing culverted bridge crossing between New Bridge Lane and the A47 that would avoid ditches (see **Chapter 3 Description of the Proposed Development (Volume 6.2)**).

11.9.105 Considering the embedded environmental measures described, the poor quality of affected habitat, and extensive areas of well-connected habitat that would remain surrounding the majority of the Water Connections, the magnitude of change due to land take/land cover change and fragmentation during construction and operation is assessed to be Very Low, and not considered to affect the conservation status of the habitat, for both permanent and temporary changes. Therefore, the effect is assessed as adverse and **Not Significant** on an ecological feature of Local importance.

Assessment of effects: Native species-poor hedgerows

Detailed baseline – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.9.106 There is a single hedgerow, consisting of 100m of native species-poor intact hedgerow dominated by hawthorn located at the north-east between the boundary of the EfW CHP Facility Site and the TCC. This is an isolated section of hedgerow at the edge of an industrial area, with no connectivity to similar habitat. The hedgerow is tall and dense and does not appear to be regularly trimmed, however it falls within the IDB maintenance corridor and therefore could be removed at any time. Ground flora is dominated by poor semi-improved grassland that grows alongside the hedgerow. The hedgerow has been condition assessed as being good condition using the Defra Biodiversity Metric 3.0. The hedgerow does not qualify as important when assessed against the criteria set out in the Hedgerow Regulations.

11.9.107 All native hedgerows over 20m in length are defined as HPI[107]; the hedgerow consists of native woody species (hawthorn) and is 100m in length, therefore qualifies as HPI.

11.9.108 Although species-poor hedgerows are a relatively common habitat type in the local area, occurring occasionally on the boundaries of orchards and to a lesser extent arable fields, the distribution of hedgerows is scattered, rarely forming a well-connected network.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

Land take/land cover change; fragmentation of habitat

11.9.109 The EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections would result in unavoidable loss of 104m of isolated native species-poor intact hedgerow dominated by hawthorn, which qualified as HPI, within the construction footprint of the EfW CHP Facility. However, this section of hedgerow falls within the IDB maintenance corridor and therefore could be removed at any time as part of the IDBs routine maintenance work.

11.9.110 Hedgerow planting as detailed in the Outline Landscape and Ecology Strategy (see **Figure 3.14 (Volume 6.3)**) will take place towards the end of the construction phase, which will result in an overall increase in hedgerow length by the creation of approximately 156m of linear planting of a species-rich mix of native shrubs and trees, providing a diversity of woody hedgerow species within the EfW CHP Facility Site during the operational phase (see **Section 11.10**). When the newly planted hedgerow reaches adequate maturity, it would offset the aforementioned loss of 104m of hedgerow, therefore the loss of hedgerow as a result of land take/land cover change is considered to be temporary.

11.9.111 Although not a hedgerow, an extensive area of habitat with similar species, habitat structure and ecological function would be retained through the Proposed Development in the form of continuous scrub habitat along the CHP Connection Corridor and adjoining disused March to Wisbech Railway, which forms an extensive and well-connected linear habitat feature.

11.9.112 Despite hedgerows being a relatively common habitat type in the local area, their distribution is generally scattered, rarely forming a well-connected habitat network. The effect of fragmentation due to the loss of a single 104m section of isolated hedgerow is therefore not considered to be significant in the local context.

11.9.113 The magnitude of change due to land take/land cover change and fragmentation associated with the temporary loss of 104m of isolated species-poor hedgerow qualifying as HPI during construction and part of the operational phase is assessed to be Very Low in the local context, and not considered to affect the conservation status of the habitat. Therefore, the effect is assessed as adverse and **Not Significant** on an ecological feature of Local importance.

[107] UK Biodiversity Action Plan; Priority Habitat Descriptions: Hedgerows. Available online at: https://data.jncc.gov.uk/data/ca179c55-3e9d-4e95-abd9-4edb2347c3b6/UKBAP-BAPHabitats-17-Hedgerows.pdf [Accessed 17/02/2022].

Assessment of effects: Bats

Detailed baseline – overview

11.9.114 The desk study returned a total of 23 records of bats within 2km of Order limits including common and soprano pipistrelle and brown long-eared bat, and unidentified bat species. There were nine records of bat roosts within 5km of the Order limits (predominantly within churches and other buildings) of species including brown long-eared bat, common pipistrelle, unidentified pipistrelle species, and unidentified bat.

Detailed baseline – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.9.115 No buildings were identified to be suitable for roosting bats, predominantly being modern industrial buildings. Seven trees with low to moderate suitability for roosting bats were recorded within treelines at the south of EfW CHP Facility Site, partially within and adjoining the Order limits, but no evidence of roosting bats was recorded during roost surveys.

11.9.116 Habitats within the EfW CHP Facility Site and TCC and CHP Connection Corridor were assessed overall as being moderate quality for commuting and foraging bats, including areas of grassland, scrub, ditches and treelines although these are not unique habitats locally.

11.9.117 Habitat along the CHP Connection Corridor and the wider disused March to Wisbech Railway provides a linear corridor of suitable habitat through industrial and residential areas which are otherwise unfavourable or unsuitable for bats.

11.9.118 Habitats within the Access Improvements and Water Connections are dominated by hardstanding roads and are negligible-low quality for commuting and foraging bats.

11.9.119 Common pipistrelle was the main species recorded during activity transect surveys, with occasional noctule. Common pipistrelle was also the most frequently recorded species during automated detector monitoring. Five other species/species groups were recorded rarely, including common pipistrelle, soprano pipistrelle, noctule, serotine, Myotis species, and brown long-eared.

11.9.120 Ecobat was used to provide a basic comparative analysis of recorded activity levels compared local and national species datasets. Analysis indicated that activity levels across the species were mostly within the range of low to moderate with only common pipistrelle regularly recorded at higher levels.

11.9.121 During both activity transect surveys and automated monitoring, bat activity was most frequently recorded in the northern reaches of the CHP Connection Corridor, associated with sheltered areas with a combination of habitats including scrub, grassland and trees which are likely to support increased invertebrate prey. The most frequently recorded activity at the EfW CHP Facility site was associated with scrub habitat along the CHP Connection Corridor and adjoining disused March to Wisbech Railway.

Detailed baseline – Grid Connection

11.9.122 Habitat along the Grid Connection consists predominantly of the hardstanding carriageway of the A47 road and the immediately adjacent roadside verge, which provides negligible habitat for bats.

11.9.123 A narrow tree line and area of grassland within the Grid Connection substation compound provides a small area of suitable habitat for commuting and foraging bats, but these habitats are not unique in the area, and more extensive areas of suitable habitat exist outside of the Order limits.

11.9.124 Habitats adjoining the Grid Connection include open arable fields, commercial and traditional orchards, ditches, scrub and roadside treelines, ranging between low to moderate quality habitat for committing and foraging bats. Trees with suitable features for roosting bats are occasionally present within roadside treelines and narrow woodland strips. Where scrub and treelines bound the road corridor these are unlikely to be utilised by foraging, commuting and roosting bats due to levels of disturbance from heavy traffic.

11.9.125 No bat activity monitoring or roost surveys were conducted along the Grid Connection due to construction activities being predominantly low impact and restricted to unsuitable or unfavourable habitat within the hardstanding carriageway and the immediate road verge, and unlikely to directly or indirectly impact key foraging or commuting habitats or potential roosts.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections; and *Grid Connection*

Land take/land cover change; fragmentation of habitat; increased noise and vibration; increased light levels

11.9.126 The embedded environmental measures **2 – Minimise land take and micro-site**, **5 – Maintaining habitat connectivity** and **10 – Sensitive access and enabling works** would minimise loss and fragmentation of habitat which is suitable for foraging, commuting and roosting bats as far as practicable. However, there would be unavoidable temporary and permanent loss of suitable habitat for bats during the construction and operational phases of the Proposed Development. Bat activity was most commonly associated with scrub and treeline habitats at the south of the EfW CHP Facility Site and along the CHP Connection and adjoining disused March to Wisbech Railway, and a small, enclosed area of grassland at the north of the CHP Connection Corridor; which provide cover and sheltered habitat for foraging and commuting which is favoured by the majority of species recorded. Approximately 0.40ha of dense scrub and treelines would be lost within the south of the EfW CHP Facility during construction which would be permanent through the operational phase. Additionally, approximately 0.33ha of open grassland and 104m of hedgerow would be temporarily lost during construction, though this would be offset by the creation of 156m of new hedgerow and treeline and 0.67ha of grassland within the EfW CHP Facility Site during the operational phase (see **Section 11.10**).

11.9.127 Approximately 0.64ha of scrub and a small area of other habitats including grassland and broadleaved plantation woodland would be lost within the CHP Connection Corridor during construction, of which 0.18ha would be temporary

throughout construction and 0.46ha would be permanent loss along the CHP Connection pipeline and associated maintenance easement.

11.9.128 Further to this, approximately 1.74ha of other suitable habitat will be temporarily lost during construction within the TCC, consisting mainly of open grassland which is less favourable for foraging and commuting by the majority of bat species recorded, and scattered stands of bramble scrub. This is reflected by lower levels of bat activity by fewer species recorded within this area.

11.9.129 Temporary loss and fragmentation of habitat would be negligible along the Grid Connection, with the majority of construction activities restricted to unsuitable or unfavourable habitat within the hardstanding carriageway and the immediate road verge. Removal of a minor treeline and area of grassland would result in negligible permanent habitat loss and fragmentation at the substation compound.

11.9.130 The overall extent of loss of suitable bat habitat due to land take is considered to be very small in the local context. Bats are mobile species and within the local area scrub habitat is extensive along adjoining sections of the disused March to Wisbech Railway, and the landscape outside of urban areas is consistently of low to moderate quality for commuting and foraging bats. Compared to the areas lost, more extensive, well-connected habitat would remain adjoining the EfW CHP Facility Site and retained within the CHP Connection Corridor; minimising the effect of fragmentation.

11.9.131 The highest levels of bat activity were recorded along the CHP Connection Corridor and the wider disused March to Wisbech Railway which supports foraging and commuting activity, and forms a linear corridor of suitable habitat through industrial and residential areas which are otherwise unfavourable or unsuitable for bats. Fragmentation and severance of the linear habitat would be avoided along the length of the CHP Connection Corridor, as the construction footprint would be limited to a 5.5m strip measured from the eastern side of the Order limits, which would reduce to 4m during the operational phase. This would mean that continuous habitat would be retained across an average of approximately 70% of the width of the Order limits along the CHP Connection Corridor during construction.

11.9.132 In line with embedded environmental measure **9 – Habitat reinstatement**, areas of temporary habitat loss would be reinstated back to the type of habitat affected, and wherever practicable, immediately following the completion of construction in each area to minimise periods of temporary loss.

11.9.133 Bats may be affected by noise, vibration and lighting associated with construction and potentially during the operation of the EfW CHP Facility Site. However, bats are mobile and due to there being extensive areas of connected habitat surrounding the Proposed Development, there is likely to be ample opportunity to avoid such disturbance during foraging, commuting and migrating without suffering a loss of fitness. Further to this, the embedded environmental measures **7 – Protection of retained habitats**, and **12 – Sensitive lighting design** and other specific measures (see **Section 11.7**) would minimise the effect of disturbance on bats associated with increased noise/vibration/light during the construction and operational phases, and would negate any potential negative effects upon foraging/commuting/migrating individuals.

11.9.134 Roost surveys of roadside trees along the Grid Connection were not considered necessary due to the existing level of disturbance from heavy traffic, and there being minimal risk of construction activities affecting roosting bats should they be present. Construction of the underground cable along the Grid Connection would be undertaken in a phased manner in short sections during nightly road closures, with progressive construction and habitat reinstatement expected to be completed for each section in a single night. The aforementioned embedded environmental measures would negate the risk of damage, disturbance or obstruction of bat roosts in the unlikely event that they are present in roadside trees.

11.9.135 No evidence of roosting bats was recorded within the EfW CHP Facility Site, CHP Connection Corridor and TCC and associated ZoI during baseline surveys, and no suitable habitat for roosting bats was identified along the Access Improvements or Water Connections.

11.9.136 As a precaution, the embedded environmental measures **4 – Sensitive vegetation removal**, **14 – Pre-construction update surveys** and other specific measures (see **Section 11.7**) would detect the presence of any new or previously unidentified bat roosts during construction land take/landcover change. In the unlikely event that a bat roost(s) be identified during the construction phase which cannot be avoided in terms of damage, destruction or disturbance through the embedded environmental measures, separate specific mitigation in the form of an EPS licence (under the Conservation of Habitats and Species Regulations 2017 (as amended)) from Natural England would be obtained in order for the Proposed Development to proceed while avoiding contravening legislation. By default, an EPS licence does not allow for a significant negative effect on the Favourable Conservation Status of those species affected and usually requires compensation[108] for habitat loss.

11.9.137 Considering the embedded environmental measures described, the magnitude of change is assessed to be Low due to very small temporary and permanent losses of suitable foraging and commuting habitat in the local context, with fragmentation no more than localised and minor, and not considered to affect the conservation status of the population. Therefore, the effect is assessed as adverse and **Not Significant** on an ecological feature of County importance.

Assessment of effects: Water vole

Detailed baseline – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections; and *Grid Connection*

11.9.138 Pond and ditch numbers referred to in this section are shown on **Figure 3.1** in **Appendix 11.I Water Vole Survey (Volume 6.4)**.

11.9.139 The desk study returned one record of water vole within 2km of the Proposed Development.

[108] Compensation for habitat loss in this respect is often required as part of the licence process in order to maintain favourable conservation status (i.e., providing an alternative roosting feature(s) where a bat roost is lost or damaged, or providing local habitat enhancements such as new refugia and hibernacula to compensate for loss of great crested newt terrestrial habitat features), and would be agreed with Natural England if the need for a licence is identified during the course of the Proposed Development.

11.9.140 The desk study and extended Phase 1 habitat survey identified a relatively extensive network of land drainage ditches throughout the Study Area, present along the majority of field boundaries, extending along roadsides, and into adjoining industrial areas. Ditch assessments identified suitable ditches for water vole, but no ditches were assessed as optimal habitat. The majority of ditches are unsuitable for water vole due to factors including poor water quality, unsuitable bankside material for burrows, bankside and surrounding vegetation that lacks cover and is unfavourable for foraging, evidence of regular and highly disturbing dredging, and other intensive management such as clearance of bankside vegetation.

11.9.141 A total of 16 suitable ditches were subject to presence/likely absence surveys where ditches are located within 10m of any work activities as a result of the Proposed Development. It was not possible to survey ditches along the majority of the Grid Connection along the A47 as these ditches only became included in the 100m ditch area of search following confirmation of the Order limits that occurred after the end of the water vole survey period in 2021 (see **Section 11.1.16-17 Limitations of the ES**). Ditches in close proximity to roads such as the A47 are likely to be less suitable for water vole decreased water quality due to run-off and litter. Given that the construction footprint in these areas would be restricted to the immediate roadside verge along the Grid Connection there would not be any substantive direct impacts to ditch habitat. It is also the case that there is an extensive adjoining and well-connected network of ditch habitat throughout the Study Area that is of equal or greater quality, where surveys of water vole were undertaken. In these instances, the ditches surveyed were assessed as being either suboptimal or unsuitable for this species, and the collective results of the water vole baseline surveys are therefore considered sufficiently robust to inform assessment of the likely effects of the Proposed Development for the Grid Connection.

11.9.142 Presence of water vole was confirmed (e.g., sighting, droppings and/or feeding remains recorded) on two ditches; D24 and D26. Potential presence was recorded on a further four ditches where inconclusive evidence was found; D8, D11, D27 and D39.

11.9.143 Although a small number of water vole latrines and feeding remains were present along D24 and one potential burrow, and camera trap monitoring revealed occasional passage of water vole and brown rat, it did not confirm use of the burrow by either species.

11.9.144 Rat burrows with well-connected runs and rat droppings were found on the stretch of D24 at the north-eastern boundary between the EfW CHP Facility Site and the TCC.

11.9.145 D24 has poor water quality and was often found to contain cloudy effluent. Bankside vegetation consists of poor semi-improved grassland, and the channel becomes dominated by common reed in between management. The ditch is regularly managed to remove silt and manage in-channel and bankside vegetation.

11.9.146 Ditch D24 adjoins D26 at the boundary between the EfW CHP Facility Site and TCC. Habitat along D26 is very similar to D24. Water vole evidence was recorded at the eastern end of D26, next to New Bridge Lane, consisting of four latrines and two small feeding stations with pieces of clipped reeds and willowherb leaves.

11.9.147 Inconclusive evidence of water vole was recorded along four ditches D8, D11, D27, and D39, which are either adjoining or close to those ditches where presence was confirmed. They are located at the north of the EfW CHP Facility Site (D11); west of the disused March to Wisbech Railway and CHP Connection Corridor (D8); along the north side of New Bridge Lane (D27); and leading northwards from New Bridge Lane to the west of the A47 (D39).

11.9.148 Potential evidence recorded on these ditches included unconfirmed droppings and feeding remains, and occasional potential borrows of a size/shape that could be attributed to water vole or brown rat but there was no evidence indicative of use by either species. Multiple burrows with evidence indicative of rat use were recorded on the ditches (including rat droppings, inter-connecting worn runs and small spoil mounds in front of entrances). Rat activity was regularly recorded throughout the Survey Area on the majority of ditches.

11.9.149 Confirmed water vole latrines were recorded at D24 and D26 and potential latrines at D27 and D39, all during the first surveys in spring, with no latrines recorded during the second survey in summer. Population estimates for the ditches, based on density of latrines in spring, are low for D24, D27 and D39 and medium for D26. Overall, scattered records of water vole were recorded on a proportion of ditches surveyed, with no evidence indicating water voles using any of the potential burrows recorded. Presence of brown rat is extensive throughout the ditch network confirmed by regular occurrence of droppings, and the species was recorded in all areas of confirmed or potential water vole presence.

11.9.150 All ditch habitat surveyed was suboptimal for water vole, and recorded levels of activity fluctuated throughout the survey period. This is likely to be a result of the intensive management of the channel and bankside vegetation and poor water quality associated with discharges from connected industrial areas.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections; and *Grid Connection*

Land take/land cover change; fragmentation of habitat; increased noise and vibration; increased light levels

11.9.151 Embedded environmental measures including **2 – Minimise land take and micro-site** and **10 – Sensitive access and enabling works** would minimise the direct loss, damage and fragmentation of suitable habitat within the footprint of the Proposed Development. However, there would be unavoidable permanent loss of approximately 52m of suboptimal ditch habitat along ditch D24 (which crosses the EfW CHP Facility Site) during the construction and operational phases, due to the requirement to extend the existing culvert at the western end of the ditch (approximately 25m), and further east towards the centre of the ditch (approximately 27m). Further to this, there would potentially be a very small permanent loss at the southern end of ditch D8 where an existing culvert beneath the carriage way would either be replaced or extended. Two temporary single-span footbridges would cross ditch D26 to provide pedestrian access between the EfW CHP Facility Site and the TCC during construction, resulting in the temporary shading of very small sections of ditch/bankside habitat.

11.9.152 The habitat is suboptimal for water vole along the sections of ditch D24 and D26 that would be affected permanently and temporarily. The low population estimate of water voles on ditch D24, combined with the presence of suboptimal habitat and pressure from coexistence with a higher density of brown rat, is likely to be suppressing the fitness of individual water voles and the local population at present, which potentially increases the sensitivity to loss of habitat within territories. Approximately 240m of D24 would be retained and protected throughout the construction and operational period within the Proposed Development boundary.

11.9.153 Ditches D24 and D26 are interconnected, providing approximately 470m of directly connected habitat which is of similar quality to that permanently lost. Culvert design would be appropriate to provide continued access for water voles through the culverts, minimising the effect of fragmentation on D24. Habitat within D24 and D26 is not unique, and these ditches link via short culverts into the wider ditch network, where suitable well-connected habitat would remain surrounding the majority of the Proposed Development and would further reduce the effect of fragmentation.

11.9.154 Direct loss, damage and fragmentation of ditches would be avoided during construction and operation of the Water Connections. Where the Water Connections cross the A47 and associated roadside ditches, either HDD will be used to route the pipe connection beneath existing ditches, or an open cut method would be used which would be restricted to the road verge and an existing culverted bridge crossing between New Bridge Lane and the A47 that would avoid ditches (see **Chapter 3 Description of the Proposed Development (Volume 6.2)**).

11.9.155 It was not possible to survey ditches along the majority of the Grid Connection adjacent to the A47 (see **Section 11.1 Limitations of the ES**). The aforementioned embedded environmental measures and specific measures outlined in **Section 11.7** would minimise the direct loss, damage and fragmentation of ditches along the Grid Connection. Construction activities associated with the underground cable are largely restricted to the existing hardstanding road carriageway and the immediately adjoining verge, therefore land take would avoid suitable ditch habitat for water voles.

11.9.156 Construction activities along the majority of the Grid Connection would be more than 3-5m from the toe of ditch banks[109], and where this standoff distance cannot be maintained they would be subjected to pre-construction surveys for presence of water vole burrows (embedded environmental measures **3 – Construction Environmental Management Plan** and **14 – Pre-construction update surveys**). Considering the baseline surveys undertaken for ditches in close proximity to the A47 are likely to be suboptimal or unsuitable for water vole, and any water voles present would likely be acclimatised to increased levels of noise and vibrations due to proximity to the heavy traffic along the A47. Further to this construction of the underground cable along the Grid Connection would be undertaken in a phased manner in short sections during nightly road closures, with progressive construction and habitat reinstatement along the route in line with embedded environmental

[109] 3-5m is the likely buffer distance that is require between construction activities and the toe of a bank to ensure that water vole burrows are not affected (should they be present), in accordance with best practice guidance to avoid impacts to water vole in The Water Vole Mitigation Handbook (Dean et al, 2016).

measure **9 – Habitat reinstatement**; significantly reducing the duration of any potential disturbance at any given location along the route.

11.9.157 No evidence of active water vole burrows was recorded within the construction footprint within the Order limits. A single potential burrow was identified within the construction footprint of the EfW CHP Facility Site (on ditch D24), but the hole was partially overgrown and no evidence to indicate active use by water vole was identified in terms of field signs or during camera trap monitoring.

11.9.158 The embedded environmental measures **4 – Sensitive vegetation removal**, **14 – Pre-construction update surveys** and other specific measures (see **Section 11.7**) would detect the presence of any burrows which could potentially be created prior to and during construction. In the event that a new water vole burrow is identified, and damage/disturbance cannot be avoided through the embedded environmental measures, separate specific mitigation in the form of a protected species licence (under the Wildlife and Countryside Act 1981 (as amended)) from Natural England would be obtained in order for the Proposed Development to proceed while avoiding contravening legislation. Natural England only issue water vole licences for the purposes of conservation[110] and not development, therefore licensable activities would require a conservation benefit for water voles, in which case the conservation status of the species would not be affected.

11.9.159 Other embedded environmental measures including **5 – Maintaining habitat connectivity, 7 – Protection of retained habitats, 9 – Habitat reinstatement, 11 – Protection of watercourses** and **12 – Sensitive lighting design** would further reduce the extent of effects of land take and fragmentation, as well as reducing the effects of increased noise/vibration/lighting on water voles, and avoid incidental killing/injuring throughout all parts of the Proposed Development.

11.9.160 Considering the embedded environmental measures described, the permanent loss of approximately 52m of suboptimal water vole habitat, and the extent of retained adjoining habitat of similar or greater quality, the magnitude of change due to land take/land cover change, fragmentation and increased noise/vibration/light during construction and operation is assessed to be Low, and not considered to affect the conservation status of the species, for both permanent and temporary changes. Therefore, the effect is assessed as adverse and **Not Significant** on an ecological feature of Local importance.

Assessment of effects: WCA Schedule 1 species: breeding peregrine, red kite, hobby, barn owl, kingfisher and Cetti's warbler

Detailed baseline – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections; and *Grid Connection*

11.9.161 The desk study identified records for 12 Schedule 1 bird species within 2km of the Order limits, of which there is potentially suitable breeding habitat within the

[110] In their standing advice guidance with respect to water vole licences, Natural England state that "Licences can't be issued for the specific purpose of development. In some circumstances Natural England will consider issuing a licence in relation to a development proposal if the licensed action is going to provide a conservation benefit for water voles." Available online at: https://www.gov.uk/guidance/water-voles-protection-surveys-and-licences#compensation-methods [Accessed 17/02/2022]

Proposed Development and ZoI for peregrine (on pylons), red kite and hobby (woodland), barn owl (farm buildings/nest boxes) and kingfisher and Cetti's warbler (ditches).

11.9.162 Results from the desk studies and Schedule 1 bird survey in 2021 indicate that the area covering the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections provides very limited opportunities for nesting Schedule 1 species such as barn owl, peregrine and red kite. There are no undisturbed areas of woodland for nesting red kite and any suitable nesting locations for barn owl and peregrine are likely to be in too disturbed an environment to be suitable.

11.9.163 No evidence of nesting Schedule 1 bird species was obtained within 500m of the Grid Connection from the ornithological appraisal surveys undertaken in 2021 or the VP and other bird surveys undertaken during 2019-2020. In addition, given that the Grid Connection is located adjacent to the very busy A47 road, the area close to the Grid Connection is unlikely to provide suitable conditions for any nesting Schedule 1 bird species.

11.9.164 However, given that peregrine and red kite are increasing in numbers and range in the region, the future presence of these species nesting within 500m of the Order limits cannot be entirely ruled out.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections; and *Grid Connection*

Increased noise and vibration; increased light levels

11.9.165 Embedded environmental measures including **2 – Minimise land take and micro-site, 4 – Sensitive vegetation removal for nesting birds, 7 – Protection of retained habitats, 10 – Sensitive access and enabling works, 12 – Sensitive lighting design, 14 – Pre-construction update surveys**, and other specific measures (see **Section 11.7**) such as implementation of "disturbance buffers" (to be determined on a case-by-case basis should evidence of breeding Schedule 1 species be recorded during pre-construction surveys or during the construction period) should ensure that the resultant effect on this species group as a result of disturbance/displacement due to increased noise, vibration and light is negligible, and there would be no effects to the conservation status of the Schedule 1 breeding birds. The conclusion is therefore that the magnitude of change would be Negligible, and the effect is assessed as **Not Significant** on an ecological feature of County importance.

Assessment of effects: SPI/BoCC Red List breeding bird assemblage: bullfinch, corn bunting, cuckoo, dunnock, greenfinch, herring gull, house sparrow, lapwing, linnet, mistle thrush, reed bunting, skylark, song thrush, spotted flycatcher, starling, swift, turtle dove, yellow wagtail and yellowhammer

Detailed baseline – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections; and *Grid Connection*

11.9.166 The desk study records included 18 SPI and/or BoCC Red-listed species, for which there is potentially suitable breeding habitat within the Order limits for: bullfinch, corn bunting, cuckoo, dunnock, house sparrow, lapwing, linnet, reed bunting, skylark, song thrush, spotted flycatcher, starling, swift, turtle dove, yellow wagtail and yellowhammer.

11.9.167 Results from the breeding bird appraisal and survey in 2021, covering the Study Area within and around the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections, indicate that the Study Area supports a breeding bird community comprised primarily of common and widespread species typical of the local area and habitats present (commercial buildings, interspersed by scrub and gardens). Buildings in the surrounding industrial area support relatively high numbers of nesting house sparrow with herring and lesser black-backed gulls nesting on the roof tops. The limited areas of scrub and gardens support relatively low densities of SPI such as dunnock, song thrush, linnet and bullfinch.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections; and *Grid Connection*

Land take/land cover change; fragmentation of habitat; increased noise and vibration; increased light levels

11.9.168 The embedded environmental measures including **2 – Minimise land take and micro-site**, **10 – Sensitive access and enabling works would minimise habitat loss wherever possible** and **4 – Sensitive vegetation removal for nesting birds** seeks to avoid direct impacts on nesting birds. Nevertheless, the most extensive permanent habitat loss would be throughout the operation of the EfW CHP Facility and CHP Connection, and a small area at the Grid Connection substation compound. However, habitats in these areas are currently relatively disturbed due to the urban industrial setting and are considered likely to support only common and widespread species. There would be temporary loss of suitable habitat for breeding birds associated with TCC. However, extensive areas of suitable well-connected habitat for breeding birds would remain surrounding the majority of the Proposed Development which would not be affected; minimising the effects of habitat loss such as displacement and fragmentation.

11.9.169 Fragmentation and severance of linear habitat connectivity would be avoided along the length of the CHP Connection Corridor, as the construction footprint would be limited to a 5.5m strip measured from the eastern side of the Order limits. This would mean that continuous habitat suitable for breeding birds would be retained across an average of approximately 70% of the width of the Order limits along the CHP Connection Corridor.

11.9.170 In addition to the embedded environmental measures referred to above, other measures including **7 – Protection of retained habitats**, **12 – Sensitive lighting design**, **14 – Pre-construction update surveys**, and other specific measures (see **Section 11.7**) should ensure that the resultant effect on this species group as a result of habitat loss and disturbance/displacement due to increased noise, vibration and light is very low, and there would be no effects to the conservation status of the SPI/BoCC breeding bird assemblage.

11.9.171 The conclusion is therefore that the magnitude of change would be Very Low for both permanent and temporary changes, and the effect is assessed as adverse and **Not Significant** on an ecological feature of Local importance.

Assessment of effects: Reptiles

Detailed baseline – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections; and *Grid Connection*

11.9.172 The desk study returned no records of reptiles within 2km of the Order limits or within it.

11.9.173 No reptiles or evidence of reptiles was recorded within the Survey Area during the extended Phase 1 habitat survey. No reptiles were recorded where presence/likely absence surveys of optimal habitat took place within the EfW CHP Facility Site to the south of the CHP Connection Corridor, and at the northern end of the CHP Connection Corridor, concluding likely absence of reptiles in the areas surveyed.

11.9.174 Although central parts of the CHP Connection Corridor were dense and inaccessible during surveys, assessment of satellite imagery indicates that there is likely to be suitable habitat for reptiles within the inaccessible areas. Suitable habitat for reptiles also exists throughout other parts of the EfW CHP Facility Site, and the TCC including scrub, tussocky grassland, ditch network, treelines and hedgerow, and adjoining areas of open habitat suitable for basking. These areas are suitable for common reptile species such as common lizard and slow worm.

11.9.175 The CHP Connection Corridor consists of extensive scrub of shrubs and bramble with a mosaic of open areas of ephemeral/short-perennial vegetation and patchy grassland associated with the old track bed of the disused March to Wisbech Railway. It provides a linear feature of suitable habitat through extensive urban and residential development which is otherwise predominantly unsuitable for reptiles.

11.9.176 With the exception of small areas of grassland habitat with limited suitability for reptiles at the eastern extent of the Water Connection and at the substation compound of the Grid Connection, the habitats throughout the Access Improvements, Water Connection and Grid Connection are largely unsuitable for reptiles consisting predominantly of the hardstanding roads and footpaths and the immediately adjoining verge, where reptiles are unlikely to occur.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

Land take/land cover change; fragmentation of habitat

11.9.177 No records of reptiles were identified during the desk study. Baseline surveys of favourable reptile habitat at the EfW CHP Facility Site and CHP Connection Corridor recorded absence of reptiles, however suitable habitat exists including areas which were inaccessible during surveys.

11.9.178 The embedded environmental measures **2 – Minimise land take and micro-site, 5 – Maintaining habitat connectivity** and **10 – Sensitive access and enabling works** would minimise loss and fragmentation of suitable habitat for reptiles as far as practicable. Nevertheless, there would be a small permanent loss of up to approximately 0.5ha suitable habitat for reptiles (predominantly throughout the operational phase within the footprint of the CHP Connection) and temporary loss during construction of up to approximately 3.5ha (e.g., within the wider construction limits of the EfW CHP Facility Site and CHP Connection, and within the TCC, Water Connections and the Grid Connection substation compound), but more extensive areas of suitable well-connected habitat for reptiles would remain surrounding the majority of the Proposed Development which would not be affected.

11.9.179 Fragmentation and severance of linear habitat connectivity would be avoided along the length of the CHP Connection Corridor, as the construction footprint would be limited to a 5.5m strip measured from the eastern side of the Order limits. This would mean that continuous habitat would be retained across an average of approximately 70% of the width of the CHP Connection Corridor. There may be a minor increase in the suitability of habitat along the CHP Connection Corridor for reptiles, where land take creates margins of open habitat suitable for basking through localised areas of very dense scrub.

11.9.180 The suitability of habitats within the ZoI of during construction and operation throughout the EfW CHP Facility Site, CHP Connection Corridor and TCC are not unique and areas of suitable connected habitat would remain surrounding the majority of the Order limits which would reduce the effect of fragmentation.

11.9.181 Embedded environmental measures including **2 – Minimise land take and micro-site, 4 – Sensitive vegetation removal, 5 – Maintaining habitat connectivity, 7 – Protection of retained habitats, 9 – Habitat reinstatement, 10 – Sensitive access and enabling works** and other specific measures (including common techniques to avoid death or injury of individuals; see **Section 11.7**) would minimise the risk of killing or injuring reptiles in the unlikely event that they occur within the construction footprint, and ensure that the potential for a likely significant effect on this species group is negligible.

11.9.182 Therefore, considering the embedded environmental measures described, the conclusion is that the magnitude of change due to land take/land cover change and fragmentation of habitat is assessed to be Very Low, and not considered to affect the conservation status of the species if present, for both permanent and temporary changes. Therefore, the effect is assessed as adverse and **Not Significant** on an ecological feature of Local importance.

Predicted effects and their significance – Grid Connection

Land take/land cover change; fragmentation of habitat

11.9.183 Reptile surveys were not undertaken along the Grid Connection due to habitats being largely unsuitable. No records of reptiles were identified during the desk study, and baseline surveys of favourable reptile habitat at the EfW CHP Facility Site and CHP Connection Corridor recorded absence of reptiles.

11.9.184 Reptiles are therefore considered unlikely to occur along the Grid Connection with the potential exception of a localised area of suitable habitat at the substation compound. Construction activities associated with the underground cable are largely restricted to the existing hardstanding road carriageway and the immediately adjoining verge which are regularly disturbed by heavy traffic and considered unsuitable for reptiles. Permanent land take of suitable habitat would be negligible, associated with the footprint of the substation compound.

11.9.185 Suitable habitat for reptiles within the ZoI of construction and operation of the Grid Connection is not unique, and favourable connected habitat would remain adjoining the majority of the Proposed Development, which would reduce the effect of fragmentation should reptiles be present. Further to this construction of the underground cable along the Grid Connection would be undertaken in a phased manner in short sections during nightly road closures, with progressive construction and habitat reinstatement along the route in line with embedded environmental measure **9 – Habitat reinstatement**; further reducing the extent of effects of fragmentation.

11.9.186 Embedded environmental measures including **2 – Minimise land take and micro-site, 4 – Sensitive vegetation removal, 5 – Maintaining habitat connectivity, 7 – Protection of retained habitats, 10 – Sensitive access and enabling works** and other specific measures (including common techniques to avoid death or injury of individuals; see **Section 11.7**) would minimise the risk of killing or injuring reptiles in the unlikely event that they occur within the construction footprint, and ensure that the potential for a likely significant effect on this species group is negligible.

11.9.187 Based on the habitat present along the Grid Connection and in the surrounding landscape, the reptile assemblage at a project level for the Grid Connection, should they occur, would be of no more than Local importance.

11.9.188 Therefore, considering the embedded environmental measures described, the conclusion is that the magnitude of change due to land take/land cover change and fragmentation of habitat is assessed to be Negligible, and not considered to affect the conservation status of the species if present, for both permanent and temporary changes. Therefore, the effect is assessed as adverse and **Not Significant** on an ecological feature of Local importance.

Assessment of effects: Badger

Detailed baseline – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections

11.9.189 The desk study returned no records of badger within 2km of the EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections boundaries or within them.

11.9.190 During the extended Phase 1 habitat survey, badger survey, and night-time bat surveys, no badgers or evidence of their presence was recorded within the Survey Area. A record of a dead badger at the side of the A47 within the Grid Connection confirms badger are present within the wider area.

11.9.191 Habitats such as woodland and grassland within the EfW CHP Facility Site and TCC, and dense scrub along the disused March to Wisbech Railway where it adjoins the western boundary of the EfW CHP Facility Site and continues throughout the CHP Connection Corridor, provide suitable habitats for sett creation, foraging, and commuting. The disused March to Wisbech Railway is a narrow corridor of suitable habitats providing a linear habitat connection through industrial and residential areas which are unsuitable for badger.

11.9.192 Several stretches of scrub habitat within the CHP Connection Corridor, and area at the south of the EfW CHP Facility Site and small scattered stands within the TCC were impenetrably dense so these could not be surveyed in detail. However, no evidence of badger presence was recorded in immediately adjoining accessible habitats such as footprints or worn mammal paths that would indicate presence of badger setts within the inaccessible areas.

11.9.193 The Access Improvements and Water Connections consist of habitat that is predominantly hardstanding and road verge which is unsuitable for badger. Small areas of grassland and commercial orchard within the eastern portion of the Water Connections provide limited opportunities for foraging and commuting.

Detailed baseline – Grid Connection

11.9.194 The desk study returned no records of badger within 2km of the Grid Connection boundary or within it.

11.9.195 During the extended Phase 1 habitat survey and badger survey undertaken, a deceased badger was recorded at the side of the A47. No other badgers or evidence of their evidence was recorded within the Survey Area.

11.9.196 Habitats within the Grid Connection are predominantly limited to the hardstanding carriageway of the A47, and the immediately adjoining roadside verge that consists of poor-semi-improved grassland which his heavily disturbed by road traffic. The Grid Connection crosses a narrow section of dry ditch and semi-mature treeline before entering an area of poor semi-improved grassland where the Walsoken Substation compound would be located. Habitat within this part of the Grid Connection is limited in extent, and located between Broadend Road, the existing Walsoken DNO Substation and its access road, and has some limited suitability for commuting and foraging badger. It is unlikely that badger setts would occur in this

area, but favourable habitat for sett creation exists in the adjoining grassland, treelines and field edges.

11.9.197 The range of habitats within the Survey Area adjoining the Grid Connection (but outside of the Order limits) provide suitable habitat for badger commuting, foraging and in places sett creation. These habitats consist largely of arable fields and commercial orchards, interspersed with ditches and occasional hedgerows, with other habitats including traditional orchard, occasional areas of grassland, scrub, and narrow bands of broadleaved trees and plantation woodland which parallel the A47 corridor.

Predicted effects and their significance – EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections; Grid Connection

Land take/land cover change; fragmentation of habitat; increased noise and vibration; increased light levels

11.9.198 No evidence of badger activity was recorded during baseline surveys, but a record of a dead badger adjacent to the A47 confirms the species potentially occurs within the ZoI.

11.9.199 The embedded environmental measures **2 – Minimise land take and micro-site, 5 – Maintaining habitat connectivity and 10 – Sensitive access and enabling works** would minimise loss and fragmentation of suitable habitat for badgers as far as practicable. Nevertheless, there would be a small permanent loss of suitable habitat for badgers of up to approximately 0.5ha (including foraging, commuting and potentially sett building predominantly throughout the operational phase of the CHP Connection, and a minor amount of foraging habitat within the footprint of Grid Connection at the substation compound) and temporary loss during construction of up to approximately 3.5ha (e.g., within the wider construction limits of the EfW CHP Facility Site and CHP Connection Corridor, and within the TCC and Water Connections), but typical badger territories are much larger in comparison, and extensive areas of suitable well-connected habitat for badgers would remain surrounding the majority of the Proposed Development which would not be affected.

11.9.200 Fragmentation and severance of linear habitat connectivity would be avoided along the length of the CHP Connection Corridor, as the construction footprint would be limited to a 5.5m strip measured from the eastern side of the Order limits. This would mean that continuous habitat would be retained across an average of approximately 70% of the CHP Connection Corridor.

11.9.201 No badger setts were identified within or surrounding the Order limits during the baseline surveys, and there was no evidence to indicate likely presence of a badger sett(s) within areas of impenetrable vegetation. As a precaution, the embedded environmental measures **4 – Sensitive vegetation removal**, **14 – Pre-construction update surveys** and other specific measures (see **Section 11.7**) would detect the presence of any new or previously unidentified setts during construction land take/landcover change. In the unlikely event that a badger sett(s) be identified during the construction phase which cannot be avoided in terms of damage, destruction or disturbance through the embedded environmental measures, separate specific mitigation in the form of a protected species licence

(under the Protection of Badgers Act 1992) from Natural England would be obtained (and associated mitigation implemented) in order to enable works to proceed while avoiding contravening legislation.

11.9.202 Commuting and foraging badgers may be affected by noise, vibration and lighting associated with construction of the EfW CHP Facility Site, CHP Connection and Grid Connection, and potentially during the operation of the EfW CHP Facility Site. However, there is likely to be ample opportunity for badgers to avoid such disturbance during foraging and commuting without suffering a loss of fitness due to the large quantity of alternative suitable habitat present. Further to this, the embedded environmental measures **7 – Protection of retained habitats, 12 – Sensitive lighting design, 13 – Construction traffic speed limits, 14 – Pre-construction update surveys** and other specific measures (including common techniques to avoid death or injury of individuals; see **Section 11.7**) would minimise the effect of disturbance on badgers, and protect foraging and commuting badgers from being killed/injured due to construction activities (e.g., entrapment in trenches or collision with vehicles).

11.9.203 Therefore, considering the embedded environmental measures described, the conclusion is that the magnitude of change due to land take/land cover change, fragmentation and increased noise/vibration/light during construction and operation is assessed to be Very Low, and not considered to affect the conservation status of the species, for both permanent and temporary changes. Therefore, the effect is assessed as adverse and **Not Significant** on an ecological feature of Local importance.

Decommissioning

11.9.204 The environmental effects associated with the decommissioning phase are expected to be of a similar level to those reported for the construction phase works, albeit with a lesser duration of one year. The likely significance of effects relating to the construction phase assessment reported in this chapter are therefore applicable to the decommissioning phase.

Cumulative effects

11.9.205 The potential for cumulative effects on biodiversity features as a result of inter and intra-project impacts is addressed within **Chapter 18 Cumulative Effects Assessment (Volume 6.2)**.

Summary

11.9.206 A summary of the results of the assessment of significant impacts, any relevant embedded environmental measures and feature-specific measures, and other separate specific mitigation (e.g., protected species licences) and residual effects on ecological features is provided in **Table 11.15 Summary of significance of effects.**

11.9.207 **Table 11.15 Summary of significance of effects** provides a summary of significance for the different project elements which combined form the Proposed Development, namely the EfW CHP Facility Site, Access Improvements, CHP

Connection, TCC and Water Connections and Grid Connection. The assessment has also considered the likelihood for significant effects on ecological features to arise from a combination of these project elements and it is anticipated that no additional significant effects would be likely to occur.

Table 11.15 Summary of significance of effects

Feature and summary of predicted effects	Part of Proposed Development	Importance of feature at project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
Ecological feature: Nene Washes Ramsar Site – all features **Predicted effect:** **Effects on supporting habitats within the Ramsar Site that qualifying species depend on resulting from: air pollution – vehicle emissions and chimney emissions**	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections Grid Connection	International	Negligible	**Not Significant**	There is no evidence that habitat within 500m of the Proposed Development forms FLL utilised by the Ramsar Site's qualifying features. Embedded environmental measures would render effects to a level which would not affect the feature's Favourable Conservation Status during the construction phase. The change in air pollution inputs at the Ramsar Site would be within screening limits considered insignificant during the operational phase. It is concluded that the magnitude of change would be Negligible, and although the effect is considered to be negative, it would not result in a detectable change in the integrity of the Ramsar Site. The effect is therefore assessed as **Not Significant**.
Ecological feature: Nene Washes SPA – all features **Predicted effect:** **Effects on supporting habitats within the SPA that qualifying species depend on resulting from: air pollution – vehicle emissions and chimney emissions**	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections Grid Connection	International	Negligible	**Not Significant**	There is no evidence that habitat within 500m of the Proposed Development forms FLL utilised by the SPA's qualifying features. Embedded environmental measures would render effects to a level which would not affect the feature's Favourable Conservation Status during the construction phase. The change in air pollution inputs at the SPA would be within screening limits considered insignificant during the operational phase. It is concluded

Feature and summary of predicted effects	Part of Proposed Development	Importance of feature at project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
					that the magnitude of change would be Negligible, and although the effect is considered to be adverse, it would not result in a detectable change in the integrity of the SPA. The effect is therefore assessed as **Not Significant.**
Ecological feature: Nene Washes SAC – all features **Predicted effect:** **Effects on supporting habitats within the Ramsar Site that qualifying species depend on resulting from: air pollution – vehicle emissions and chimney emissions**	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections Grid Connection	International	Negligible	**Not Significant**	Embedded environmental measures would render effects to a level which would not affect the feature's Favourable Conservation Status during the construction phase. The change in air pollution inputs at the SAC would be within screening limits considered insignificant during the operational phase. It is concluded that the magnitude of change would be Negligible, and although the effect is considered to be negative, it would not result in a detectable change in the integrity of the SAC. The effect is therefore assessed as **Not Significant.**
Ecological feature: The Ouse Washes Ramsar Site – all features **Predicted effect:** **Effects on qualifying habitats and supporting habitats within the Ramsar Site that qualifying species depend on resulting**	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections Grid Connection	International	Negligible	**Not Significant**	There is no evidence that habitat within 500m of the Proposed Development forms FLL utilised by the Ramsar Site's qualifying features. Embedded environmental measures would render effects to a level which would not affect the feature's Favourable Conservation Status during the construction phase. The change in air pollution inputs at

Feature and summary of predicted effects	Part of Proposed Development	Importance of feature at project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
from: air pollution – vehicle emissions and chimney emissions					the Ramsar Site would be within screening limits considered insignificant during the operational phase. It is concluded that the magnitude of change would be Negligible, and although the effect is considered to be adverse, it would not result in a detectable change in the integrity of the Ramsar Site. The effect is therefore assessed as **Not Significant.**
Ecological feature: The Ouse Washes SPA – all features **Predicted effect:** **Effects on supporting habitats within the SPA that qualifying species depend on resulting from: air pollution – vehicle emissions and chimney emissions**	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections Grid Connection	International	Negligible	**Not Significant**	There is no evidence that habitat within 500m of the Proposed Development forms FLL utilised by the SPA's qualifying features. Embedded environmental measures would render effects to a level which would not affect the feature's Favourable Conservation Status during the construction phase. The change in air pollution inputs at the SPA would be within screening limits considered insignificant during the operational phase. It is concluded that the magnitude of change would be Negligible, and although the effect is considered to be adverse, it would not result in a detectable change in the integrity of the SPA. The effect is therefore assessed as **Not Significant.**

Feature and summary of predicted effects	Part of Proposed Development	Importance of feature at project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
Ecological feature: The Ouse Washes SAC – all features **Predicted effect:** **Effects on supporting habitats within the SAC that qualifying species depend on resulting from: air pollution – vehicle emissions and chimney Emissions**	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections Grid Connection	International	Negligible	**Not Significant**	Embedded environmental measures would render effects to a level which would not affect the feature's Favourable Conservation Status during the construction phase. The change in air pollution inputs at the SAC would be within screening limits considered insignificant during the operational phase. It is concluded that the magnitude of change would be Negligible, and although the effect is considered to be adverse, it would not result in a detectable change in the integrity of the SAC. The effect is therefore assessed as **Not Significant.**
Ecological feature: River Nene CWS **Predicted effect:** **Effects on cited species and habitats within the CWS resulting from: air pollution – vehicle emissions and chimney Emissions**	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections Grid Connection	County	Very Low	**Not Significant**	Habitats present in the CWS within approximately 2km of the Proposed Development are unlikely to support the sites interest features, as the river at this location is canalised and tidal, and the corridor is contained within flood defence walls. Embedded environmental measures would render effects to a level which would not affect the feature's conservation status during the construction phase. The change in air pollution inputs at the CWS would be within screening limits considered insignificant during the operational phase. It is concluded that the magnitude of change would be Very Low, and although the effect is considered to

Feature and summary of predicted effects	Part of Proposed Development	Importance of feature at project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
					be adverse, it would not result in a detectable change in the integrity of the CWS. The effect is therefore assessed as **Not Significant.**
Ecological feature: Scrub **Predicted effect:** **Effects resulting from: land take/land cover change; fragmentation of habitat**	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections	Local	Low	**Not Significant**	Embedded environmental measures have minimised habitat loss. Nevertheless, a small amount of temporary and permanent loss in extent of the feature is unavoidable. However, the magnitude of change would be Low and not affect the feature's conservation status in the local context, as it is a widespread habitat type in the local area and fragmentation would be insignificant (notably, continuity of habitat would be retained along the CHP Connection Corridor and adjoining disused March to Wisbech Railway; maintaining connectivity of the linear habitat feature through an otherwise urban and industrial area). The conclusion is that this would result in an adverse effect that is **Not Significant**.
Ecological feature: Ditches (running water/standing water/dry) **Predicted effect:** **Effects resulting from: land take/land cover change; fragmentation of habitat**	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections	Local	Very Low	**Not Significant**	Embedded environmental measures have minimised habitat loss. Nevertheless, a small amount of temporary degradation and permanent loss in extent of the feature is unavoidable. However, the magnitude of change would be Very Low and not affect the feature's conservation status in the local context, as it is a widespread habitat type in

Feature and summary of predicted effects	Part of Proposed Development	Importance of feature at project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
					the local area and fragmentation would be insignificant. The conclusion is that this would result in an adverse effect that is **Not Significant.**
Ecological feature: Native species-poor hedgerow **Predicted effect:** **Effects resulting from: land take/land cover change; fragmentation of habitat**	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections	Local	Very Low	**Not Significant**	Embedded environmental measures have minimised habitat loss. Habitat creation illustrated in **Figure 3.14 (Volume 6.3)** would offset permanent loss. Nevertheless, a small amount of temporary loss in extent of the feature is unavoidable. However, the magnitude of change would be Very Low and not affect the feature's conservation status in the local context, as it is a relatively common habitat type in the local area and fragmentation would be insignificant. The conclusion is that this would result in an adverse effect that is **Not Significant.**
Ecological feature: Bats **Predicted effect:** **Effects resulting from: land take/land cover change; fragmentation of habitat; increased noise and vibration; increased light levels**	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections Grid Connection	County	Low	**Not Significant**	Embedded environmental measures and species-specific measures would render effects to a level which would not affect the feature's conservation status.

Feature and summary of predicted effects	Part of Proposed Development	Importance of feature at project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
Ecological feature: Water vole **Effects resulting from: land take/land cover change; fragmentation of habitat; increased noise and vibration; increased light levels**	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections Grid Connection	County	Low	**Not Significant**	Embedded environmental measures and species-specific measures would render effects to a level which would not affect the feature's conservation status.
Ecological feature: WCA Schedule 1 species: breeding peregrine, red kite, hobby, barn owl, kingfisher and Cetti's warbler **Predicted effect:** **Effects resulting from: increased noise and vibration; increased light levels**	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections Grid Connection	County	Negligible	**Not Significant**	Embedded environmental measures and species-specific measures would render effects to a level which would not affect the feature's conservation status.
Ecological feature: SPI/BoCC Red List breeding bird assemblage: bullfinch, corn bunting, cuckoo, dunnock, greenfinch, herring gull, house sparrow, lapwing, linnet, mistle thrush, reed bunting, skylark, song thrush, spotted flycatcher, starling, swift, turtle dove, yellow wagtail and	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections Grid Connection	Local	Very Low	**Not Significant**	Embedded environmental measures and species-specific measures would render effects to a level which would not affect the feature's conservation status.

Feature and summary of predicted effects	Part of Proposed Development	Importance of feature at project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
yellowhammer. **<u>Predicted effect:</u>** **Effects resulting from: land take/land cover change; fragmentation of habitat; increased noise and vibration; increased light levels**					
<u>Ecological feature:</u> Reptiles **<u>Predicted effect:</u>** **Effects resulting from: land take/land cover change; fragmentation of habitat**	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections Grid Connection	Local	Very Low	**Not Significant**	Embedded environmental measures and species-specific measures would render effects to a level which would not affect the feature's conservation status.
<u>Ecological feature:</u> Badger **<u>Predicted effect:</u>** **Effects resulting from: land take/land cover change; fragmentation of habitat; increased noise and vibration; increased light levels**	EfW CHP Facility Site, Access Improvements, CHP Connection, TCC and Water Connections Grid Connection	Local	Very Low	**Not Significant**	Embedded environmental measures and species-specific measures would render effects to a level which would not affect the feature's conservation status.

1. The importance of a feature is defined using the geographical frame of reference and associated criteria set out in **Section 11.6** and is defined as local, county, regional, national, international or European.
2. The magnitude of change on a feature resulting from activities relating to the development is defined using the criteria set out in **Section 11.8** above and is defined as negligible, very low, low, medium and high.
3. The significance of the environmental effects defined within this chapter is based on the combination of the importance and sensitivity of a feature, and consideration of the extent, magnitude, duration, frequency, timing and reversibility, and is expressed as 'significant' or 'not significant', subject to the evaluation methodology outlined in **Section 11.8**.

11.10 Consideration of optional additional mitigation or compensation

11.10.1 No additional mitigation measures are proposed at this stage to further reduce the biodiversity effects that are identified in this chapter of the Environmental Statement. This is because all relevant and implementable measures have been embedded into the development proposals and are assessed above in this chapter. These measures are considered to be likely to be proportional, effective and deliverable, and address the likely significant effects of the Proposed Development.

Biodiversity enhancement

11.10 2 The Proposed Development seeks to provide an overall biodiversity enhancement by delivering BNG. **Appendix 11.M Biodiversity Net Gain Assessment (Volume 6.4)**, provides the context to BNG and the Proposed Development has prepared an Outline Landscape and Ecology Strategy (see **Figure 3.14** in **Chapter 3 Description of the Proposed Development (Volume 6.2))**.

11.10 3 A proportion of BNG would be delivered in-situ by the Applicant within the EfW CHP Facility Site through the delivery of the **Outline Landscape and Ecology Strategy (Volume 6.3)**, applied to areas where a minimum of 30-years of appropriate management can be guaranteed during the operational phase. A proportion of ex-situ contributions through off-setting via collaboration with independent organisations would also be required to achieve BNG, due to the limited extent of the Applicant's landholdings.

11.10.4 The layout of the EfW CHP Facility Site has been designed so that the Proposed Development would not prevent the reopening of the March to Wisbech Railway. Reopening of the railway would necessitate a vehicle crossing in the form of a new bridge. Therefore, an area of landscaping in the southern part of the EfW CHP Facility Site, alongside New Bridge Lane, is reserved to accommodate a potential new bridge embankment. Consequently, in this area it is not possible to guarantee the minimum 30-year habitat management commitment that would be a prerequisite for delivering BNG on this land, so elements of the Outline Landscape and Ecology Strategy in this area is excluded any BNG for the Proposed Development. However, this area does provide opportunities for tangible benefits to biodiversity during the intervening period before the potential reopening of the March to Wisbech Railway, and the Outline Landscape and Ecology Strategy has been tailored to provide appropriate habitats in this respect.

11.10 5 The following information has been used to guide the objectives of the **Outline Landscape and Ecology Strategy (Figure 3.14 Volume 6.3):**

- **The Natural England National Habitat Network**[111]; Review of the Natural Habitat Network (NHN) mapping identified regularly occurring areas of HPI Traditional Orchard and a few scattered parcels of HPI Other habitat within the

[111] The Government's 25 Year Environment Plan includes provision for a Nature Recovery Network (NRN) which set out the essence of what needs to be done to enhance the resilience and coherence of England's ecological networks. Natural England have produced a series of National Habitat Network (NHN) maps to provide a baseline for the development of an NRN. The NHN maps identify areas of existing HPI and associated habitats with surrounding strategic zones where network enhancement and expansion could be achieved through targeted creation of complementary habitat.

locality surrounding the Proposed Development. Review of satellite imagery indicates the parcels of HPI Other habitat to include habitat such as grassland and broadleaved plantation woodland. The land within the Order limits falls within Network Enhancement Zone 1; denoting an area where habitat creation should be targeted to expanding and improving connectivity between existing patches of primary and associated habitats;

- **Cambridgeshire and Peterborough habitat Opportunity Mapping**[112]; Review of habitat Opportunity Mapping identifies land within the Order limits as being within buffer opportunity and stepping-stone opportunity zones for grassland and woodland within the local ecological network; where habitat creation can provide strategic benefits to the extent and connectivity of existing grassland and woodland habitat; and
- **Natural Cambridgeshire Developing with Nature Toolkit**; Natural Cambridgeshire nature partnership provides a toolkit of ten objectives to help developers and infrastructure providers demonstrate their commitment to achieving a net biodiversity gain. The objectives of the toolkit are relevant to Natural Cambridgeshire's overall ambition of 'doubling nature' across Cambridgeshire and Peterborough by 2050. The ethos of the toolkit includes that: development and landscape plans should be guided by ecological expertise, informed by an ecological audit of the site and adhere to ecological best practice; understand the surrounding landscape context and provide contributions that are relevant to strategic biodiversity conservation and green infrastructure in the local context; design green infrastructure concurrently with hard infrastructure to maximise opportunities to retain existing biodiversity features and provide additional biodiversity and green infrastructure contributions; provide sustainable drainage systems; and provide biodiversity enhancements that are sustainable (e.g., providing nest sites for species occurring in the local area, where there is appropriate habitat for year-round foraging by the intended species).

11.10 6 Considering the location of the Proposed Development, the NHN and Opportunity Mapping identified strategic opportunities for contributing to habitat and linkages relating mainly to HPI Traditional Orchard and grassland. Although there is insufficient land within the Order limits to provide a meaningful contribution to traditional orchard habitat, the **Outline Landscape and Ecology Strategy (Figure 3.14 Volume 6.3)** does include complementary habitats such as trees and shrubs that would include fruit and nut bearing native species, and neutral grassland, which collectively would provide habitat for similar species that would be associated with traditional orchard habitat and contribute to habitat connectivity.

11.10.7 Creation of neutral grassland is a central theme within the Outline Landscape and Ecology Strategy, providing approximately 0.77ha of suitable habitat for the majority of the species assemblage recorded within and around the EfW CHP Facility Site

[112] Opportunity Mapping information was obtained from the Cambridgeshire & Peterborough Environmental Records Centre. The opportunity maps identify ecological networks of existing wetland, woodland and grassland habitat, surrounded by immediately adjoining 'buffer opportunity' zones where habitat creation can buffer and extend existing habitats within the network, and 'stepping-stone opportunity' zones outside of the ecological network but immediately adjacent to it, where habitat creation could link up more distant areas of existing habitat within the network.

during baseline surveys, as well as providing a wider strategic contribution to the grassland habitat network within the local area.

11.10 8 Further to this, the **Outline Landscape and Ecology Strategy (Figure 3.14 Volume 6.3)** includes the retention and protection of valued habitat along with the habitat creation/enhancement measures as follows:

- Retention and protection of an area of mature tree line, and new planting of a mix of native and ornamental shrubs;
- Creation of 125m of native species-rich hedgerow with trees;
- Provision of a sustainable drainage system including a pond of sufficient depth to provide permanent standing water with native species-rich bankside and marginal vegetation, and an overflow basin that would support tree species characteristic of wet woodland;
- Creation of brown roofs on two buildings that would replicate urban mosaic habitat, suitable for a range of plant and invertebrate species;
- Creation of a green wall on one building, supporting nectar-rich climbing plant species; and
- Provision of a permeable cellular confinement system surface at a large maintenance laydown area (instead of hardstanding), with the intention of supporting a neutral grassland sward, while reducing surface run-off.

11.10 9 In addition to the habitat types provided, the following complementary biodiversity features are also be included in the **Outline Landscape and Ecology Strategy (Figure 3.14 Volume 6.3)** to maximise provisions for the assemblage of target species:

- Bat and bird boxes would be provided within suitable areas of new and retained habitats and at appropriate locations on buildings. To maximise longevity, these features would be long-lasting woodcrete boxes and/or features built-in to the fabric of new buildings;
- Habitat features for sheltering invertebrates including ‘bug hotels’, decaying log piles, open patches of ground and shallow banks of sand/gravel/rubble, and retained areas of un-cut grassland to provide over-wintering habitat;
- Hedgehog hibernation boxes with suitable areas of dense vegetation cover;
- Creation of refugia and hibernacula for reptiles and amphibians, constructed of materials such as logs, rocks and earth to provide shelter and temperature-stable cavities;
- New planting and sowing would maximise the use of native species, which would be of local provenance wherever possible. Where ornamental species are specified (i.e., for low maintenance amenity areas around building and carpark accesses), these would be non-invasive, and would provide sources of nectar, fruit and seeds; and

- Species mixes used throughout the habitat types would be tailored to provide sources of nectar, fruit and seeds; to maximise foraging provision for a broad assemblage of species.

11.10.10 The incorporation of the habitat types and additional features listed above are intended to provide the combination of commuting, foraging, and resting habitat required for the target species recorded during the baseline, or which potentially occur in the wider area, including bats, badger, reptiles, water vole, SPI vertebrate species (such as hedgehog, common toad and brown hare), a range of invertebrate species, and the local assemblage of urban and farmland birds and key species such as swift.

11.10.11 Site-won materials such as logs, rocks, rubble and earth would be re-used wherever possible during the creation of habitat features; to minimise the requirement to import virgin raw materials.

11.11 Implementation of environmental measures

11.11.1 **Table 11.16 Summary of indicative environmental measures to be implemented – relating to biodiversity** describes the environmental measures and feature-specific mitigation embedded within the Proposed Development and the proposed means by which they will be implemented, i.e., they will have been secured through DCO Requirements.

Table 11.16 Summary of indicative environmental measures to be implemented – relating to biodiversity

Environmental measure	Responsibility for implementation	Proposed Compliance mechanism	ES section reference
1 – Standard best practice: Development would be subject to standard ecological best practice mitigation measures employed to avoid and minimise potential effects to habitats and species.	Applicant/EPC Contractor	DCO Requirement – **Outline CEMP** with EMS appendix **(Volume 7.12)**.	**Section 11.7**
2 – Minimise land take and micro-site: minimise the land take for works and locate and micro-site them away from the more important habitat and species.	Applicant	DCO Requirement – **Outline CEMP** with EMS appendix **(Volume 7.12)**.	**Section 11.7**
3 – Construction Environmental Management Plan: use of dust suppression and	Applicant/EPC Contractor	DCO Requirement – **Outline CEMP** with EMS appendix **(Volume 7.12)**.	**Section 11.7**

Environmental measure	Responsibility for implementation	Proposed Compliance mechanism	ES section reference
pollution prevention methods.			
4 – Sensitive vegetation removal: measures to minimise the risk to nesting birds and other species during habitat clearance.	Applicant/EPC Contactor	DCO Requirement – **Outline CEMP** with EMS appendix **(Volume 7.12)**..	**Section 11.7**
5 – Maintaining habitat connectivity: to minimise the effects of habitat fragmentation.	Applicant/EPC Contactor	DCO Requirement – **Outline CEMP** with EMS appendix **(Volume 7.12)**.	**Section 11.7**
6 – Protection of veteran trees: avoidance by micro-siting and root protection zones.	Applicant/EPC Contactor	DCO Requirement – **Outline CEMP** with EMS appendix **(Volume 7.12)**.	**Section 11.7**
7 – Protection of retained habitats: e.g., exclusion fencing to avoid damage.	Applicant/EPC Contactor	DCO Requirement – **Outline CEMP** with EMS appendix **(Volume 7.12)**.	**Section 11.7**
8 – Management of invasive species: biosecurity measures to prevent spread of invasive plant species.	Applicant/EPC Contactor	DCO Requirement – **Outline CEMP** with EMS appendix **(Volume 7.12)**.	**Section 11.7**
9 – Habitat reinstatement: timely and appropriate reinstatement of temporary habitat loss.	Applicant/EPC Contactor	DCO Requirement – **Outline CEMP** with EMS appendix **(Volume 7.12)**; **LEMP**	**Section 11.7**
10 – Sensitive access and enabling works: use existing accesses, appropriate trackway design, and avoidance of important habitats and minimise habitat loss, fragmentation and effects on fauna.	Applicant/EPC Contactor	DCO Requirement – **Outline CEMP** with EMS appendix **(Volume 7.12)**.	**Section 11.7**
11 – Protection of watercourses: implementation of buffer around water courses, open-span bridges in preference to culverts, and pollution prevention measures to protect	Applicant/EPC Contactor	DCO Requirement – **Outline CEMP** with EMS appendix **(Volume 7.12)**.	**Section 11.7**

Environmental measure	Responsibility for implementation	Proposed Compliance mechanism	ES section reference
aquatic environment and associated fauna.			
12 – Sensitive lighting design: design and management of security and site lighting following best practice guidance to minimise effects on fauna.	Applicant/EPC Contactor	DCO Requirement – **Outline Lighting Strategy (Volume 6.3)** and **Outline CEMP** with EMS appendix **(Volume 7.12)**.	**Section 11.7**
13 – Construction traffic speed limits: imposed on all construction haul roads and access tracks to minimise the risk of traffic collisions with fauna.	Applicant/EPC Contactor	DCO Requirement – **Outline CEMP** with EMS appendix **(Volume 7.12)**.	**Section 11.7**
14 – Pre-construction update surveys: to provide up-to-date information to inform mitigation requirements.	Applicant/EPC Contactor	DCO Requirement – **Outline CEMP** with EMS appendix **(Volume 7.12)**.	**Section 11.7**
Provision and implementation of an Ecological Mitigation Strategy (EMS) detailing ecological good practice, and habitat- and species-specific measures in the form of non-licensable method statements and requirements for separate licensable mitigation; to protect habitats and fauna. The EMS would form an appendix of the CEMP.	Applicant/EPC Contactor	DCO Requirement – **Outline CEMP** with EMS appendix **(Volume 7.12)**.	**Section 11.7**
Provision and implementation of measures for the management of retained habitats, reinstated habitats, and for the creation of new habitat as part of the Outline Landscape and Ecology Strategy and any necessary compensatory habitat identified through the assessment in line with the EcIA mitigation hierarchy, including a schedule of aftercare	Applicant	DCO Requirement – **Outline LEMP (Volume 7.7)**	**Section 11.7**

Environmental measure	Responsibility for implementation	Proposed mechanism	Compliance	ES section reference
monitoring and maintenance. The management of habitats is included within the Landscape and Ecological Management Plan (LEMP).				

11.12 Conclusion

11.12.1 The environmental assessment presented in this chapter has concluded that during the construction and operational phase of the Proposed Development there will be no significant effects upon biodiversity features.