

**Swaffham Prior proposed Heat
Network Scheme**

Construction Environmental
Management Plan

July 2020

BLANK PAGE

Issuing office

Worton Park | Worton | Oxfordshire | OX29 4SX
 T: 01865 883833 | W: www.bsg-ecology.com | E: info@bsg-ecology.com

Client	Prospus Ltd
Project	Swaffham Prior
Version	DRAFT
Project number	P20-578

	Name	Position	Date
Originated	Claire Wiggs	Assistant Ecologist	30 June 2020
Reviewed	Roger Buisson	Associate Director	09 July 2020
Approved for issue to client	Roger Buisson	Associate Director	09 July 2020
Issued to client	Oliver Kemp	Ecologist	14 July 2020

Disclaimer

This report is issued to the client for their sole use and for the intended purpose as stated in the agreement between the client and BSG Ecology under which this work was completed, or else as set out within this report. This report may not be relied upon by any other party without the express written agreement of BSG Ecology. The use of this report by unauthorised third parties is at their own risk and BSG Ecology accepts no duty of care to any such third party.

BSG Ecology has exercised due care in preparing this report. It has not, unless specifically stated, independently verified information provided by others. No other warranty, express or implied, is made in relation to the content of this report and BSG Ecology assumes no liability for any loss resulting from errors, omissions or misrepresentation made by others.

Any recommendation, opinion or finding stated in this report is based on circumstances and facts as they existed at the time that BSG Ecology performed the work. The content of this report has been provided in accordance with the provisions of the CIEEM Code of Professional Conduct. BSG Ecology works where appropriate to the scope of our brief, to the principles and requirements of British Standard BS42020.

Nothing in this report constitutes legal opinion. If legal opinion is required the advice of a qualified legal professional should be secured. Observations relating to the state of built structures or trees have been made from an ecological point of view and, unless stated otherwise, do not constitute structural or arboricultural advice.

14/07/2020

Contents

1	Introduction.....	5
2	Relevant Legislation	7
3	Ecological Baseline Conditions	14
4	Potential Ecological Impacts and Mitigation Measures	18
5	Ecological Mitigation Measures and Supporting Method Statements.....	22
6	Method Statement 1: Protective Fencing	24
7	Method Statement 2: Vegetation Clearance	25
8	Method Statement 3: Ground Works and Construction	27
9	Method Statement 4: Lighting Scheme	28
10	Roles and Responsibilities	29
11	Action Plan	31
12	References	33

1 Introduction

Background and Scope

- 1.1 Proplus Ltd is in the process of the creation of a Heat Network Scheme which includes the installation of a PV solar array, ground source heat pump, pipe and cable work to connect to the residential properties of Swaffham Prior. An agricultural storage building within the south of site will be redeveloped into the energy centre for this scheme.
- 1.2 Lloyd Bore Ltd undertook a Preliminary Ecological Appraisal Report (Lloyd Bore Ltd, 2020) which sets out potential impacts on ecological features within and adjacent to the site as a result of the construction and operation of the proposed Heat Network Scheme. Mitigation and enhancement measures were also identified, which are relevant to the construction phase of the project.
- 1.3 BSG Ecology was commissioned in June 2020 to produce a Construction and Environmental Management Plan (CEMP) for the site based on the content of the Preliminary Ecological Appraisal Report. This document will be used to support a planning application.
- 1.4 The information from the Preliminary Ecological Appraisal Report (Lloyd Bore Ltd, 2020) and the recommendations therein of specific relevance of this application have been set out in the CEMP, as well as further detail on what measures will be implemented before and during the proposed Heat Network Scheme works to ensure legal compliance with respect to relevant legislation and avoid or mitigate impacts to other ecological features.

Proposed Development

- 1.5 The proposed development comprises creation of an open ground source heat pump (District Heating system, heat from multiple sources) within arable land adjacent to the east of Goodwin Farm. This will have associated infrastructure including photo voltaic panels and energy centre to the eastern section of the site.
- 1.6 The ground source heat pump will be connected to the properties within the village of Swaffham Prior. Development within the settlement to the north of the heat pump involves pipe laying to connect the various properties up to hot water, which will largely be confined to existing roads.
- 1.7 Access to the pipelines to the properties will be based on the location of the existing systems and easiest point of access. In general, the pipeline will be laid underground following the route of the existing roads, towards the crossroads within the centre of the village before fanning out north east and south west throughout Swaffham Prior.
- 1.8 The soils removed during the excavation of the cable route will be stored alongside the excavated trench. Following the installation these soils will be replaced and hardstanding replaced with a new surface of the same form.
- 1.9 Earth removal will be required within the solar array field. Following the installation, the soils will be reinstated and some supplementary planting undertaken.
- 1.10 The works schedule has not been confirmed but likely to undertaken during 2020 and 2021.

Site Description

- 1.11 The Site supports a range of habitats including residential and commercial properties, woodland, arable land and gardens (grassland, scattered trees and scrub) which covers the settlement of Swaffham Prior in Cambridgeshire and an area of arable land to the south east of the settlement.

- 1.12 The cable route is predominantly hard standing paths and roads and partially extends into the gardens of residential properties. The gardens are comprised of a mix of improved grassland, scattered trees, paving and gravel.

Construction Phasing

- 1.13 The following is the indicative construction phasing:
- Pre-commencement habitat manipulation
 - Installation of protective fencing
 - Vegetation clearance
 - Site preparation
 - Construction phase
 - Operational phase
- 1.14 This CEMP is intended to cover mitigation measures for all phases, including habitat reinstatement, management and monitoring during the final phase.

2 Relevant Legislation

2.1 This section briefly summarises the legislation, policy and related issues that are relevant to the ecological features identified within or in the vicinity of the Site. The following text does not constitute legal or planning advice.

National Planning Policy Framework (England)

2.2 The Government revised the National Planning Policy Framework (NPPF) on 19 February 2019. Text excerpts from the NPPF are shown where they may be relevant to planning applications and biodiversity including protected sites, habitats and species.

2.3 The Government sets out the three objectives for sustainable development (economy, social and environmental) at paragraphs 8-10 to be delivered through the plan preparation and implementation level and 'are not criteria against which every decision can or should be judged.' At paragraph 8c) the planning system's environmental objective refers to 'protecting and enhancing our natural, built and historic environment' and to 'helping to improve biodiversity'

2.4 In conserving and enhancing the natural environment, the NPPF (Paragraph 170) states that 'planning policies and decisions should 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 including trees and woodland.
- Minimising impacts on and providing net gains in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.
- Preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability.

2.5 Paragraph 175 advises that, when determining planning applications, '...local planning authorities should apply the following principles:

- a. if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- b. 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. The only exception is where the benefits 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 of Sites of Special Scientific Interest;
- c. development resulting in the loss or deterioration of irreplaceable habitats, (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- d. development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.'

2.6 In paragraph 178, the NPPF refers to planning policies and decisions taking account of ground conditions and risks arising from land instability and contamination at sites. In relation to risks

associated with land remediation account is to be taken of 'potential impacts on the natural environment' that arise from land remediation.

- 2.7 In paragraph 180 the NPPF states that planning policies and decisions should ensure that development is appropriate to the location and take into account likely effects (including cumulative) on the natural environment and , in doing so, they 'should limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.'

Government Circular ODPM 06/2005 Biodiversity and Geological Conservation (England only)

- 2.8 Paragraph 98 of Government Circular 06/2005 advises that "the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat. Local authorities should consult Natural England before granting planning permission. They should consider attaching appropriate planning conditions or entering into planning obligations under which the developer would take steps to secure the long-term protection of the species. They should also advise developers that they must comply with any statutory species' protection provisions affecting the site concerned..."
- 2.9 Paragraph 99 of Government Circular 06/2005¹ advises that "it is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission has been granted".

Standing Advice (GOV.UK - England only)

- 2.10 The GOV.UK website provides information regarding protected species and sites in relation to development proposals: 'Local planning authorities should take advice from Natural England or the Environment Agency about planning applications for developments that may affect protected species.' GOV.UK advises that 'some species have standing advice which you can use to help with planning decisions. For others you should contact Natural England or the Environment Agency for an individual response.'
- 2.11 The standing advice (originally from Natural England and now held and updated on GOV.UK²) provides advice to planners on deciding if there is a 'reasonable likelihood' of protected species being present. It also provides advice on survey and mitigation requirements.
- 2.12 When determining an application for development that is covered by standing advice, in accordance with guidance in Government Circular 06/2005, Local planning authorities are required to take the standing advice into account. In paragraph 82 of the aforementioned Circular, it is stated that: 'The standing advice will be a material consideration in the determination of the planning application in the same way as any advice received from a statutory consultee...it is up to the planning authority to decide the weight to be attached to the standing advice, in the same way as it would decide the weight to be attached to a response from a statutory consultee.'

Natural Environment and Rural Communities (NERC) Act 2006 – Habitats and species of principal importance (England)

- 2.13 The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act require the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list

¹ ODPM Circular 06/2005. *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impacts within the Planning System* (2005). HMSO Norwich.

² <https://www.gov.uk/protected-species-and-sites-how-to-review-planning-proposals#standing-advice-for-protected-species>

has been drawn up in consultation with Natural England as required by the Act. In accordance with the Act the Secretary of State keeps this list under review and will publish a revised list if necessary, in consultation with Natural England.

- 2.14 The S41 list is used to guide decision-makers such as public bodies, including local authorities and utilities companies, in implementing their duty under Section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions, including development control and planning. This is commonly referred to as the 'Biodiversity Duty.'
- 2.15 Guidance for public authorities on implementing the Biodiversity Duty³ has been published by Defra. One of the key messages in this document is that 'conserving biodiversity includes restoring and enhancing species populations and habitats, as well as protecting them.' In England the administration of the planning system and licensing schemes are highlighted as having a 'profound influence on biodiversity conservation.' Local authorities are required to "promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species. The guidance states that 'the duty aims to raise the profile and visibility of biodiversity, clarify existing commitments with regard to biodiversity, and to make it a natural and integral part of policy and decision making.'
- 2.16 In 2007, the UK Biodiversity Action Plan (BAP) Partnership published an updated list of priority UK species and habitats covering terrestrial, freshwater and marine biodiversity to focus conservation action for rarer species and habitats in the UK. The UK Post-2010 Biodiversity Framework⁴, which covers the period from 2011 to 2020, now succeeds the UK BAP. The UK priority list contained 1150 species and 65 habitats requiring special protection and has been used as a reference to draw up the lists of species and habitats of principal importance in England.
- 2.17 In England, there are 56 habitats of principal importance and 943 species of principal importance on the S41 list. These are all the habitats and species found in England that were identified as requiring action in the UK BAP and which continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework.

European protected species (Animals)

- 2.18 The Conservation of Habitats and Species Regulations 2017 (as amended) consolidates various amendments that have been made to the original (1994) Regulations which transposed the EC Habitats Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Council Directive 92/43/EEC) into national law.
- 2.19 "European protected species" (EPS) of animal are those which are shown on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended). They are subject to the provisions of Regulation 43 of those Regulations. All EPS are also protected under the Wildlife and Countryside Act 1981 (as amended). Taken together, these pieces of legislation make it an offence to:
- a. Intentionally or deliberately capture, injure or kill any wild animal included amongst these species
 - b. Possess or control any live or dead specimens or any part of, or anything derived from a these species
 - c. deliberately disturb wild animals of any such species
 - d. deliberately take or destroy the eggs of such an animal, or
 - e. intentionally, deliberately or recklessly damage or destroy a breeding site or resting place of such an animal, or obstruct access to such a place

³ Defra, 2007. *Guidance for Public Authorities on Implementing The Biodiversity Duty*. (<http://www.defra.gov.uk/publications/files/pb12585-pa-guid-english-070516.pdf>)

⁴ JNCC and Defra (on behalf of the Four Countries' Biodiversity Group). 2012. *UK Post-2010 Biodiversity Framework*. July 2012. (<http://jncc.defra.gov.uk/page-6189>)

- 2.20 For the purposes of paragraph (c), disturbance of animals includes in particular any disturbance which is likely—
- a. to impair their ability—
 - i. to survive, to breed or reproduce, or to rear or nurture their young, or
 - ii. in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
 - b. to affect significantly the local distribution or abundance of the species to which they belong.
- 2.21 Although the law provides strict protection to these species, it also allows this protection to be set aside (derogated) through the issuing of licences. The licences in England are currently determined by Natural England (NE) for development works and by Natural Resources Wales in Wales. In accordance with the requirements of the Regulations (2017, as amended), a licence can only be issued where the following requirements are satisfied:
- a. The proposal is necessary ‘to preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment’
 - b. ‘There is no satisfactory alternative’
 - c. The proposals ‘will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.’

Definition of breeding sites and resting places

- 2.22 Guidance for all European Protected Species of animal, including bats and great crested newt, regarding the definition of breeding and of breeding and resting places is provided by The European Council (EC) which has prepared specific guidance in respect of the interpretation of various Articles of the EC Habitats Directive.⁵ Section II.3.4.b) provides definitions and examples of both breeding and resting places at paragraphs 57 and 59 respectively. This guidance states that ‘The provision in Article 12(1)(d) [of the EC Habitats Directive] should therefore be understood as aiming to safeguard the ecological functionality of breeding sites and resting places.’ Further the guidance states: ‘It thus follows from Article 12(1)(d) that such breeding sites and resting places also need to be protected when they are not being used, but where there is a reasonably high probability that the species concerned will return to these sites and places. If for example a certain cave is used every year by a number of bats for hibernation (because the species has the habit of returning to the same winter roost every year), the functionality of this cave as a hibernating site should be protected in summer as well so that the bats can re-use it in winter. On the other hand, if a certain cave is used only occasionally for breeding or resting purposes, it is very likely that the site does not qualify as a breeding site or resting place.’

Competent authorities

- 2.23 Under Regulation 7 of the Conservation of Habitats and Species Regulations 2017 (as amended) a “competent authority” includes “any Minister of the Crown..., government department, statutory undertaker, public body of any description or person holding a public office.
- 2.24 In accordance with Regulation 9, “a competent authority must exercise their functions which are relevant to nature conservation, including marine conservation, so as to secure compliance with the requirements of the [Habitats and Birds] Directives. This means for instance that when considering development proposals a competent authority should consider whether EPS or European Protected Sites are to be affected by those works and, if so, must show that they have given consideration as to whether derogation requirements can be met.

⁵ Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. (February 2007), EC.

Birds

- 2.25 All nesting birds are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to disturb them whilst they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.
- 2.26 The Conservation of Habitats and Species Regulations 2017 (as amended) places duties on competent authorities (including Local Authorities and National Park Authorities) in relation to wild bird habitat. These provisions relate back to Articles 1, 2 and 3 of the EC Directive on the conservation of wild birds (2009/147/EC, 'Birds Directive'⁶) (Regulation 10 (3)) requires that the objective is the 'preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the United Kingdom, including by means of the upkeep, management and creation of such habitat, as appropriate, having regard to the requirements of Article 2 of the new Wild Birds Directive...' Regulation 10 (7) states: 'In considering which measures may be appropriate for the purpose of security or contributing to the objective in [Regulation 10 (3)] Paragraph 3, appropriate account must be taken of economic and recreational requirements'.
- 2.27 In relation to the duties placed on competent authorities under the 2017 Regulations, Regulation 10 (8) states: 'So far as lies within their powers, a competent authority in exercising any function [including in relation to town and country planning] in or in relation to the United Kingdom must use all reasonable endeavours to avoid any pollution or deterioration of habitats of wild birds (except habitats beyond the outer limits of the area to which the new Wild Birds Directive applies).'

Badger

- 2.28 Badger is protected under the Protection of Badgers Act 1992. It is not permitted to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. A badger sett is defined in the legislation as "a structure or place, which displays signs indicating current use by a badger".
- 2.29 ODPM Circular 06/2005⁷ provides further guidance on statutory obligations towards badger within the planning system. Of particular note is paragraph 124, which states that "The likelihood of disturbing a badger sett, or adversely affecting badgers' foraging territory, or links between them, or significantly increasing the likelihood of road or rail casualties amongst badger populations, are capable of being material considerations in planning decisions."
- 2.30 Natural England provides Standing Advice⁸, which is capable of being a material consideration in planning decisions. Natural England recommends mitigation to avoid impacts on badger setts, which includes maintaining or creating new foraging areas and maintaining or creating access (commuting routes) between setts and foraging/watering areas.

Reptiles

- 2.31 All native reptile species receive legal protection in Great Britain under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Viviparous lizard, slow-worm, grass snake and adder are protected against killing, injuring and unlicensed trade only. Sand lizard and smooth snake receive additional protection as "European Protected species" under the provisions of the Conservation of Habitats and Species Regulations 2017 (as amended) and are fully protected under the Wildlife and Countryside Act 1981 (as amended).

⁶ 2009/147/EC Birds Directive (30 November 2009. European Parliament and the Council of the European Union.

⁷ ODPM Circular 06/2005. *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impacts within the Planning System* (2005). HMSO Norwich.

⁸ <http://www.naturalengland.org.uk/ourwork/planningdevelopment/spatialplanning/standingadvice/specieslinks.aspx>

- 2.32 All six native species of reptile are included as 'species of principal importance' for the purpose of conserving biodiversity under Section 41 (England) of the NERC Act 2006 and Section 7 of the Environment (Wales) Act 2016.
- 2.33 Current Natural England Guidelines for Developers⁹ states that 'where it is predictable that reptiles are likely to be killed or injured by activities such as site clearance, this could legally constitute intentional killing or injuring.' Further the guidance states: 'Normally prohibited activities may not be illegal if 'the act was the incidental result of a lawful operation and could not reasonably have been avoided'. Natural England 'would expect reasonable avoidance to include measures such as altering development layouts to avoid key areas, as well as capture and exclusion of reptiles.'
- 2.34 The Natural England Guidelines for Developers state that 'planning must incorporate two aims where reptiles are present:
- To protect reptiles from any harm that might arise during development work;
 - To ensure that sufficient quality, quantity and connectivity of habitat is provided to accommodate the reptile population, either on-site or at an alternative site, with no net loss of local reptile conservation status.'

Water vole

- 2.35 Water vole is protected under the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to kill, injure or take any water vole, damage, destroy or obstruct access to any place of shelter or protection that the animals are using, or disturb voles while they are using such a place. Water vole is listed as a Species of Principal Importance under the provisions of the NERC Act 2006 in England and under the provisions of the Environment (Wales) Act 2016.

Wild mammals in general

- 2.36 The Wild Mammals (Protection) Act 1996 (as amended) makes provision for the protection of wild mammals from certain cruel acts, making it an offence for any person to intentionally cause suffering to any wild mammal. In the context of development sites, for example, this may apply to rabbits in their burrows.

Hedgerows

- 2.37 Article 10 of the Habitats Directive¹⁰ requires that 'Member States shall endeavour...to encourage the management of features of the landscape which are of major importance for wild fauna and flora. Such features are those which, by virtue of their linear and continuous structure...or their function as stepping stones...are essential for the migration, dispersal and genetic exchange of wild species'. Examples given in the Directive include traditional field boundary systems (such as hedgerows).
- 2.38 The aim of the Hedgerow Regulations 1997¹¹, according to guidance produced by the Department of the Environment¹², is "to protect important hedgerows in the countryside by controlling their removal through a system of notification. In summary, the guidance states that the system is concerned with the removal of hedgerows, either in whole or in part, and covers any act which results in the destruction of a hedgerow. The procedure in the Regulations is triggered only when land managers or utility operators want to remove a hedgerow. The system is in favour of protecting and retaining 'important' hedgerows.

⁹ English Nature, 2004. *Reptiles: guidelines for developers*. English Nature, Peterborough. <https://webarchive.nationalarchives.gov.uk/20150303064706/http://publications.naturalengland.org.uk/publication/76006>

¹⁰ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

¹¹ Statutory Instrument 1997 No. 1160 – The Hedgerow Regulations 1997. HMSO: London

¹² The Hedgerow Regulations 1997: a guide to the law and good practice, HMSO: London

- 2.39 The Hedgerow Regulations set out criteria that must be used by the local planning authority in determining which hedgerows are 'important'. The criteria relate to the value of hedgerows from an archaeological, historical, wildlife and landscape perspective.

3 Ecological Baseline Conditions

- 3.1 A Phase 1 habitat survey of the Site was conducted on 17 March 2020 by Lloyd Bore. A subsequent walkover was undertaken by BSG Ecology on 27 June 2020 to validate the results of the Preliminary Ecological Appraisal (Lloyd Bore, 2020).
- 3.2 A summary of the baseline data relating to habitats and protected species on the Site is provided below. Further detailed baseline information is contained within the source materials on which this section is based.

Designated sites

Internationally designated

- 3.3 There are two internationally statutorily designated Sites within 5 km of the Site
- 3.4 Devil's Dyke Special Area of Conservation (SAC) is located 2.1 km south of the Site. Devil's Dyke SAC is the largest remaining expanse of chalk grassland in Cambridgeshire and provides a link between the Brecklands and Chilterns. The site contains nationally rare and nationally uncommon flora species as well as a number of rare and uncommon invertebrate species.
- 3.5 Wicken Fen Ramsar is located 4.7 km north of the Site. The development is outside of the Impact Risk Zone for the Ramsar.

Nationally designated

- 3.6 There is one nationally designated Site with 2 km of the Site
- 3.7 Devil's Dyke Special Site of Scientific Interest (SSSI) is located 475 m east of the Site at the closest point. Devil's Dyke is notified for extensive unimproved chalk grassland in good condition with a number of Nationally Rare plant species present.

Non-statutorily designated

- 3.8 There are seven non-statutorily designated sites within 2 km of Site.
- 3.9 These include six County Wildlife Sites (CWS); Burwell Disused Railway CWS, Cow Bridge Pollard Willows CWS, Driest Droveaway CWS, Pauline's Swap CWS, Spring Close CWS, Swaffham Prior Meadows CWS and one Protected Road Verge (Swaffham Bulbeck).
- 3.10 The closest non-statutorily designated site to the Site is Swaffham Prior Meadows CWS located adjacent to the north west boundary of the application Site. Swaffham Prior Meadows contains a wild angelica mire community with neutral grassland.

Habitats

- 3.11 Hardstanding forms a large proportion of the Site in the form of roads including; Heath Road, Mill Hill, Green Head Road, Fairview Grove, Orchard Close, Cage Hill, Adams Road, Tothill Road, High Street, Lower End, High Street and Rogers Road. The majority of the heat source cable route will follow these existing roads and hardstanding paths.
- 3.12 The cable route extends into residential gardens within the settlement of Swaffham Prior. The gardens primarily consist of a mixture of improved species poor grassland dominated by perennial rye grass *Lolium perenne*, ruderal vegetation, ornamental shrub planting, paving and gravel drives. Broadleaved trees including cherry *Prunus avium* and sycamore *Acer pseudoplatanus* were occasionally present within gardens and scattered throughout the settlement.

- 3.13 The majority of the solar array field and cable route to the south consists of arable farm land. This is largely in intensive agricultural management. At the time of the walkover the land was temporary grassland leys. Herbaceous species within the sward comprised common field speedwell *Veronica persica*, vetch *Vicia* sp, ribwort plantain *Plantago lanceolata*, hogweed *Heracleum sphondylium*, bristly ox-tongue *Helminthotheca echioides*, ground elder *Aegopodium podagraria*, white clover *Trifolium repens*, yarrow *Achillea millefolium*, groundsel *Senecio vulgaris*, shepherd's purse *Capsella bursa-pastoris*.
- 3.14 Located around the solar array field to the east and west are large hedgerows (over 2 m in height and width), with low numbers of mature trees present. Species present include hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, oak *Quercus robur*, elder *Sambucus nigra*, cherry and bramble *Rubus fruticosus* agg. A similar range of species are present to those in the species-rich sections (listed above), though in lower densities or as single species hedgerows.
- 3.15 Adjacent north of the arable farm land is an area of heavily cropped horse grazed pasture which is sparsely vegetated due to heavy grazing. An area of recently ploughed field is located to the north of the Site is edged by areas of dense scrub which includes a mixture of blackthorn and bramble with some cherry trees.
- 3.16 There are various other hedgerows around the Site with mixed levels of species diversity and structure. The majority of the hedgerows on Site are comprised of native species.
- 3.17 A small part of the south of the Site is currently in use as allotments.

Species

Badger

- 3.18 There are 9 records of badger within 1 km of the Site, all from the B1102-A14 section of Devil's Dyke. The gardens and fields provide a mixture of both foraging habitat and area to build setts. However no evidence of badger was found on the Site during the Preliminary Ecological Appraisal (Lyod Bore, 2020) or the Site walkover in June and there are no setts close enough to the footprint of the proposed works to result in potential disturbance to badgers occupying their setts.

Brown hare and hedgehog

- 3.19 The Site includes habitats suitable for brown hare *Lepus europaeus* including the hedgerow bases and the arable fields in the southern portion of the Site. The Site is considered moderate suitability habitat for this species
- 3.20 The mixture of gardens, grassland and adjacent parkland and woodland provide good foraging habitats and sheltering opportunities for hedgehog *Erinaceus europaeus*. There are 3 records of this species within 2 km of the Site.
- 3.21 The majority of the permanent development would occur on arable land and that the access tracks would also either follow existing roads and paths or be created through arable land, the impacts to hedgehog and are likely to be minimal and temporary. However, temporary trenches or pits required for laying pipe work have the potential to have direct and indirect impacts on hedgehogs.

Otter and water vole

- 3.22 Areas to the north of the Site are highly suitable for otter and water vole, with the networks of connected ditches being highly suitable for the species. There are 2 records of otter and 14 records of water vole within 2 km of the Site boundary.
- 3.23 Few of the ditches were within the Site boundaries; small sections in the south west corner along the B1102 have poor connectivity to the network of ditches to the north of the settlement. Presence of otter in these sections is likely to be occasional. Otters could venture further south into

the Site boundary, but are unlikely to regularly forage on or disperse across the site and no holts are likely to be present.

- 3.24 The scope of the works on Site (laying pipe to houses) would not involve the loss of aquatic habitat that are located on the boundaries of the Site and not in areas where they are likely to be directly or indirectly affected by the works. Otter and water vole are unlikely to be impacted by works and will not be considered further in this report.

Dormouse

- 3.25 The Site contains small areas with suitable shelter, foraging and breeding habitat for dormice. These are restricted to wood pastures to the north western corner of the Site and small areas within the gardens and settlement. These area have no connectivity to each other or surrounding habitat likely to support hazel dormouse.

- 3.26 There are no records of hazel dormouse within 5 km of the Site and records within Cambridgeshire are highly localised. Areas of suitable habitats are sparsely distributed within the surrounding landscape with almost no connectivity to significant areas to woodland or sufficiently scrubby habitat. The blocks of suitable habitat have poor connectivity and have no wider landscape connection. This species is likely absent from the Site and significant loss of habitat is not anticipated due to the nature of the works.

Bats

- 3.27 The Site has a high suitability to support roosting bats in the forms of numerous suitable houses and trees within the red line boundary. The village forms a pocket of wooded foraging habitat with high suitability which is connected to open field and ditch systems which provide foraging opportunities along these features.

- 3.28 The works do not require any of the buildings or trees within the village to be modified in a way that would destroy or damage any bat roosts. The proposed works are within the same broad activity types as standard highways maintenance works and the normal maintenance of properties and existing infrastructure and so are unlikely to results in any legally significant disturbance of roosting bats.

- 3.29 The pipeline taking hot water to the properties will follow existing roads and so would not result in a significant loss or disturbance of habitats present and potentially utilised by bats in the surrounding gardens or grounds which are unlikely to be materially affected.

- 3.30 The agricultural building to the south of the Site will be modified into an energy centre which is likely to materially affect the conditions within the building and has the potential to cause disturbance and possible destruction of bat roosts within. The building was assed to have low potential to support roosting bats during the walkover survey. A further emergence survey in July 2020 did not identify any bats emerging from the buildings and only a low level of activity in the area by common species of bat was recorded during the survey. The results of the bat survey were reported by BSG Ecology (BSG Ecology, 2020).

Amphibians and reptiles

- 3.31 The Site includes good quality habitats suitable for amphibians and reptiles including mature gardens, road verges, field boundaries, ditches and ponds to the north of the site. There are two water bodies within 250 m of the Site, the closest of which is 140 m north of the Site.

- 3.32 The arable field to the south of the Site where the majority of the larger works will take place is a significant distance from known waterbodies (785 m north), with a significant amount of intervening development between field and ponds, reducing the likelihood of amphibian and reptile movement to the Site. As the works within the village will centre around laying pipelines for the heat network, the footprint of these works is small and temporary, and away from known waterbodies with only a small area to the north of the Site being within 250 m of a pond making the works unlikely to encounter amphibians or reptiles.

Birds

- 3.33 The settlement to the north, which supports a mixture of trees, shrubs houses and gardens provides a range of suitable nesting habitats which have a high level of suitability for use by breeding birds.
- 3.34 The field supporting grassland ley in the southern section of the application site is suitable for ground nesting birds. Skylark was recorded within this field during the Site visit and the arable field provides suitable nesting habitat for this species. The hedgerows around the field to the south of the Site contain habitat suitable for breeding birds. It is possible that small portions of hedgerow may need to be removed to facilitate works.
- 3.35 Works within the field to the south of the site is unlikely to require the removal of hedgerows. Once the open bore holes have been created, the field will remain in a similar state to how it currently presents and would be suitable for ground nesting birds.
- 3.36 The energy centre which will be to the south of the site would not result in the significant loss of foraging or nesting habitat.
- 3.37 Habitats within the settlement, which contains the majority of suitable breeding bird habitat, are not being materially changed or impacted. As the works to connect the houses up to the new pipeline are restricted mostly to areas already developed, these works will avoid suitable nesting habitat.

Invertebrates

- 3.38 There are 57 records of mostly Lepidoptera and Coleopteran associated with the chalk grassland of Devil's Dyke SSSI within 2 km of the Site. The habitats within the proposed development Site are relatively common and widespread; therefore no important invertebrate assemblages are likely to be present or impacted by works.

4 Potential Ecological Impacts and Mitigation Measures

- 4.1 Table 1 overleaf provides a summary of the construction related activities with potential to impact on the ecological features present within the Site. Note that the potential ecological effects listed in the table are those considered possible in the absence of mitigation. This table also indicates the potential offences arising in relation to such effects. The remaining ecological features summarised above are not likely to be affected by the development or do not require further mitigation measures.
- 4.2 The proposals for the Site have been put forward based on the assessment provided and the mitigation set out within the Preliminary Ecological Appraisal (Lloyd Bore, 2020).
- 4.3 It is the responsibility of the Contractor to consult and discuss any additional construction-related activities and/or variations in activities set out in Table 1 with the Ecologist (see Section 10 on Roles and Responsibilities).

Table 1: Summary of likely impacts from construction-related activities at the Site

Action	Ecological Feature	Potential Impact (e.g. loss of habitat, damage to badger setts)	Potential Offences
Vegetation clearance.	Habitats	Loss of hardstanding, arable and habitats associated with gardens,	No legal offence
	Hedgehog	The mixture of gardens, grassland and adjacent parkland and woodland provide good foraging habitats and sheltering opportunities for this species. Risk of crushing, asphyxiation, killing and/or injury of hedgehogs during Site clearance.	Killing or injury of hedgehogs by using particular listed methods is an offence in the United Kingdom under the Wildlife and Countryside Act 1981 (as amended).
	Reptiles and amphibians	Allotments, road verges, gardens and field boundaries all provide suitable habitat for reptiles and amphibians including great crested newt (GCN). The majority of suitable habitats will not be impacted by clearance works. Low risk of killing, injury and/or disturbance to GCN, minor loss of habitat limited to temporary loss of small areas of habitat	Killing or injury of all native reptile species is an offence in the United Kingdom under the Wildlife and Countryside Act 1981 (as amended). Intentionally or deliberately capture, injure or kill, disturb, deliberately or recklessly damage or destroy a breeding site or resting place of such, or obstruct access to such a place of great crested newt is an offence in the United Kingdom under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended).
	Breeding birds	The Site includes trees and hedgerows which have potential to support nesting birds during the breeding season (March-August inclusive). Vegetation clearance during this period could result in the killing or injury of nesting birds, or destruction of their nests.	Killing or injury of birds, damage or destruction of a nest/ while nest is in use or being built is an offence under the Wildlife and Countryside Act 1981 (as amended).

Action	Ecological Feature	Potential Impact (e.g. loss of habitat, damage to badger setts)	Potential Offences
Construction of Cable route	Badger	Badgers have been recorded within 1 km of the proposed cable route and may use gardens and fields on Site to forage or build setts. During the construction phase there is the risk of accidentally trapping badgers in open excavations.	Damaging or obstructing access to an active badger sett or disturbing badgers occupying a sett is an offence under the Protection of Badgers Act 1992.
	Bats	Indirect impacts on commuting and foraging bats may arise from an increase in lighting during the construction period.	No roosts are known in the immediate area, however lighting of this feature may have an adverse effect on several species.
	Reptiles	The trenching required for the cable route does have the potential to impact the arable margins suitable for reptiles. Low risk of killing, injury and/or disturbance to reptiles, minor loss of habitat limited to temporary loss of small areas of habitat.	Killing or injury of all native reptile species is an offence in the United Kingdom under the Wildlife and Countryside Act 1981 (as amended).
Construction of Energy Centre	Breeding Birds	Potential to impact breeding birds if hedgerows require widening or removal to facilitate the energy centre construction.	Killing or injury of birds, damage or destruction of a nest/s while nest is in use or being built is an offence under the Wildlife and Countryside Act 1981 (as amended).
	Badger	During the construction phase there is the risk of accidentally trapping badgers in open excavations.	Damaging or obstructing access to an active badger sett or disturbing badgers occupying a sett is an offence under the Protection of Badgers Act 1992.
	Reptiles	Margins of the field to the south of the solar array provide suitable habitat to support reptiles. The works required for the energy centre does have the potential to impact field boundaries and impact reptiles.	Killing or injury of all native reptile species is an offence in the United Kingdom under the Wildlife and Countryside Act 1981 (as amended).
Construction of Solar Farm	Badger	During the construction phase there is the risk of accidentally trapping badgers in open excavations.	Damaging or obstructing access to an active badger sett or disturbing badgers occupying a sett is an offence under the Protection of Badgers Act 1992.

Action	Ecological Feature	Potential Impact (e.g. loss of habitat, damage to badger setts)	Potential Offences
	Reptiles	Margins of the field to the south of the solar array provide suitable habitat to support reptiles. Works within the solar array field does have the potential to impact the arable margins and impact reptiles.	Killing or injury of all native reptile species is an offence in the United Kingdom under the Wildlife and Countryside Act 1981 (as amended).
	Breeding birds	The Site includes trees and hedgerows which have potential to support nesting birds during the breeding season (March-August inclusive). Vegetation clearance during this period could result in the killing or injury of nesting birds, or destruction of their nests.	Killing or injury of birds, damage or destruction of a nest/s while nest is in use or being built is an offence under the Wildlife and Countryside Act 1981 (as amended).

5 Ecological Mitigation Measures and Supporting Method Statements

Key principles for mitigation and compensation

5.1 Whilst all of the species considered by this section are listed as protected species the level of protection varies from one species to another. Where offences apply equally to all species these are considered together as often the approach to mitigation is the same.

Summary of proposed mitigation and compensation measures

5.2 The ecological mitigation measures listed in Table 2 below are based on the Ecological baseline conditions' (Section 3) and the likely impacts identified in Table 1. Table 2 should be read in conjunction with the associated Method Statements.

Table 2: Ecological Measures and Supporting Method Statements

Ecological feature	Impact on baseline conditions	Specific mitigation proposed	Development phase	Supporting Method Statement(s)
Retained habitats (trees)	Risk of damage to root zone (and associated flora and fauna) in absence of mitigation	Maintain Root Protection Zone. Use of protective fencing	Site preparation and construction	1
Badger	Disturbance to outlier setts	Fence off works areas to ensure no accidental encroachment	Site preparation and construction	1, 3
	Risk of injury to badger during construction	Covering of excavations overnight, or placement of ramps to allow badger to exit.	Site preparation and construction	3
Bats	Indirect impacts on commuting and foraging bats	Lighting scheme designed to avoid or minimise potential impacts on bats and other light sensitive species	Site preparation and construction	4
Breeding birds	Damage or destruction of active nests	Sensitivity to nesting bird constraint during Site clearance. Where possible, avoidance of vegetation clearance during nesting season (March – August inclusive). If not possible seek advice from ecologist.	Site preparation and construction	2
	Loss of nesting habitat	Provision of new habitat once works complete through habitat reinstatement.	Site preparation, construction and operation	3
Reptiles	Killing and injury	Displacement from Site via habitat manipulation Management of cleared areas to retain unsuitability for reptiles during construction period	Site preparation	2

5.3 The following Method Statements are set out in the subsequent sections:

- Method Statement 1: Protective Fencing.
- Method Statement 2: Vegetation Clearance.
- Method Statement 3: Ground Works and Construction.
- Method Statement 4: Lighting Scheme.

6 Method Statement 1: Protective Fencing

Rationale

- 6.1 There are a number of sensitive ecological features that require protection during Site preparation and construction, namely:
- Root protection zone of retained hedgerows and trees along the cable route
 - Retained trees outside the works area.
- 6.2 Existing features of ecological value must be protected by using a robust barrier during Site preparation and construction, to prevent incursion and disturbance to sensitive habitats from outside these areas. This barrier will be temporary in nature, and will be removed once the Site is operational.

Equipment / machinery

- 6.3 Heras fencing (or similar) and signage.

Timing

- 6.4 Pre-commencement (i.e. before Site preparation)

Working method

- 6.5 Ecologist to give a 'Toolbox Talk' to contractors before the works commence.
- 6.6 Fencing will be installed so as to protect all sensitive ecological features (see above). Signage will be provided at periodic intervals to inform contractors of the purpose of the fencing.
- 6.7 The continuous fencing or an enclosed work area will be located so as to completely segregate all retained habitats from the working zone. This includes all areas to be retained not subject to Site preparation and construction works.
- 6.8 The fencing will remain in place throughout the construction phase. It must be removed once the works in this area are complete.
- 6.9 Any work outside this fencing must be supervised by a suitably experienced ecologist.

Measurement of outcome

- 6.10 All protective fencing will be signed off and monitored by the Ecologist throughout Site preparation and construction. Any damage to the retained habitats behind the protective fences or fence line itself will also be recorded and corrective action taken by the Principal Contractor.

7 Method Statement 2: Vegetation Clearance

Rationale

- 7.1 The arable and hedgerows on Site have the potential to support nesting birds.
- 7.2 Much of the vegetation on the Site, including that bounding arable and hardstanding, provides low suitability habitat for reptiles and great crested newts. The field margins and areas of semi improved grassland are suitable for reptiles and great crested newts.
- 7.3 The vegetation to be removed will be limited to the vegetation on the cable route, arable land and small sections of hedgerow required for access.

Equipment / machinery

- 7.4 Hand tools only e.g. strimmer, hedge trimmer, brush cutter and chainsaw.

Timing

- 7.5 Clearance of above-ground vegetation should take place between September and February, inclusive, in order to avoid harm to nesting birds, reptiles and great crested newts (in the unlikely event these species are present). If this is not possible due to a delay in the start of the on-site works, a nesting bird check and hand search of the vegetation will be carried out by an appropriately experienced ecologist, though this should be avoided, due to the risk of delays should active nests be located.
- 7.6 Vegetation below 150 mm will be cleared later (between April and September inclusive) so as to avoid killing of or injury to reptiles and great crested newts. Ideally, vegetation clearance will be carried out in early September 2020 so that the two stage process can be implemented this year.

Working method

- 7.7 Ecologist to give a 'Toolbox Talk' to contractors before works commence, including briefing on any areas of the Site that are sensitive with respect to protected species.
- 7.8 Principal Contractor will carefully mark any areas of vegetation identified for removal with appropriate means, e.g. fencing and signage.
- 7.9 Contractors must follow their method statements and risk assessments for vegetation clearance works. The Ecologist will recommend any adjustments to their working methods to minimise or avoid impacts on protected species.
- 7.10 Once cleared, the development footprint must be maintained in an unsuitable condition in order to reduce suitability for nesting birds, reptiles and great crested newts. Guidance from the Ecologist should be sought as needed.

Nesting birds, reptiles and great crested newts

- 7.11 Vegetation will be cut down to a height of no less than 150 mm above ground with the base and surrounding soils left undisturbed. This will be carried out between September and February so as to reduce the likelihood of birds nesting, reptiles and great crested newts in the vegetation later in the year. Should the clearance need to be delayed until March or later, hand searches will be carried out for active nests (nesting birds).
- 7.12 Any active birds nests found will be left in-situ with an appropriate buffer (the size of which is species-dependent) and retained until the young have fledged or the nest is confirmed as being inactive.

- 7.13 Immediately following a check by a suitably experienced ecologist for reptiles and great crested newts, a second stage of vegetation removal will be carried out between April and September to make the Site unsuitable for reptiles and great crested newts. The removal of features considered to provide potential shelter for reptiles (e.g. the removal of scrub/log piles) will also be conducted in the presence of an ecologist at this time.

Measurement of outcome

- 7.14 No protected species to be harmed during the vegetation clearance works.

8 Method Statement 3: Ground Works and Construction

Rationale

Habitats

- 8.1 Confirmed breeding of skylark (one pair) was observed within the arable habitats to the north of the solar array during the Phase 1 habitat survey. The construction of the cable route and the solar array could impact this species and other breeding birds within the site.
- 8.2 The arable field margins and mature gardens are suitable for reptiles and great crested newts. The cable route has the potential to impact these habitats,

Equipment / machinery

- 8.3 As needed for the construction, including mechanical excavators.

Timing

Cable route and ground source heat pump solar array

- 8.4 Ground works and construction of the cable route should be undertaken during the active season for reptiles and great crested newts. This period is considered between March and October.

Working method

- 8.5 The Ecologist to give a 'Toolbox Talk' to contractors before works commence.

Habitats

- 8.6 Once the cable has been installed, the soil spoil will be replaced appropriately with topsoil repositioned on the surface. Bee / beetle banks will be created using the spoil from the bore holes and will be established following the works.

Badger and hedgehog

- 8.7 All excavations will be covered overnight or an escape ramp included (graded at one end of any excavations to a 1:1 gradient). No trenches will be left open overnight.

Nesting birds, reptiles and great crested newts

- 8.8 An ecologist will be present onsite to oversee the removal of vegetation suitable for nesting birds, reptiles and great crested newts.
- 8.9 Once the vegetation has been cleared along the route (suitable for reptiles and great crested newts) or within the solar array field the initial ground penetration works should be completed under supervision from an ecologist. This should involve supervised excavation of the top soil in the form of a destructive search.

Measurement of outcome

- 8.10 Full compliance with legislation pertaining to protected species and all soils returned appropriately ready for habitat reinstatement.

9 Method Statement 4: Lighting Scheme

9.1 A lighting scheme for the Site will be developed through collaboration between the lighting specialist for the project and the Ecologist. The lighting scheme will be implemented throughout site preparation, construction and operational phases of the development, to ensure that light-sensitive species, such as bats, are not adversely affected.

Approach

9.2 The lighting scheme will be designed with reference to current good practice guidance and research.

9.3 The scheme has been designed to retain the key foraging and commuting habitat for bats, e.g. the edge of the retained hedgerows.

9.4 Lighting levels adjacent to the trees surrounding the development will be as low as is permissible to avoid potential impacts on bats, such as altering their foraging behaviour or their commuting routes. The details of the lighting scheme have not yet been designed. However the following considerations should be made to avoid and reduce impacts on bats:

- Light spill onto retained habitats should be avoided as far as is feasible given other constraints such as safety.
- Sodium (rather than mercury or metal halide) lamps should be used where lighting is necessary around the edges of the Site as these will attract fewer insects away from the boundary features.
- The Solar array will be unlit, with the exception of security lighting which will be associated with sensors.
- Light spill towards retained boundary features should be reduced to a minimum (using cowls and adjusting column height as necessary).
- Variable Lighting Regimes will be considered to minimise impacts of lighting.
- Wherever practicable, the lowest density, height and intensity of lighting shall be used within the Site to minimise impacts.

10 Roles and Responsibilities

10.1 The Ecologist will be the central point for all ecological issues, liaising as appropriate with the Principal Contractor and statutory consultees in order to ensure that the ecology mitigation is delivered. Roles and responsibilities of key personnel are given in the following accounts.

Principal Contractor

10.2 Is responsible for:

- Compliance with consents, licenses and legal requirements relating to nature conservation.
- Compliance with planning conditions relating to nature conservation.
- Inspecting, managing and co-ordinating the environmental aspects of the scheme, including the CEMP.
- Appointing, liaising with and providing support to the Ecologist.

Ecologist

10.3 The Principal Contractor will be responsible for appointing the Ecologist during the Site preparation and construction phases of the development. The Ecologist will be a professionally qualified ecologist and will be responsible for providing expertise when requested. The Ecologist will be experienced in the role of being present on sites to assist in implementing method statements and have experience of wider ecology surveys and mitigation projects, in particular badgers and habitat creation.

10.4 The Ecologist will be the first point of contact for the Site Manager in the event of any ecological issues during the construction phase.

10.5 Is responsible for:

- Monitoring compliance with the CEMP.
- Liaison with consultees on ecological matters.
- Liaison and incident reporting to the Principal Contractor.
- Site inspections, monitoring and reporting.
- Provide training and information about the importance of ecologically sensitive receptors to construction personnel on site through delivery of 'Toolbox Talks'.

10.6 The Ecologist will be present at the start of the works as set out in the relevant Method Statements above to ensure the delivery of the works in accordance with the Method Statements, and towards the completion of works in order to sign off the ecological aspects of the work set out in the CEMP. It may be necessary for the Ecologist to be present at other times in the interim period, although this will be defined by the complexity of the task and the potential for disturbance to existing sensitive features. Only once the Ecologist is satisfied with the outcome of each item will they be considered as a completed action.

Biodiversity Champion (Appointed by Principal Contractor)

10.7 The Biodiversity Champion will be a contractor who has experience of dealing with ecological constraints and mitigation implementation under the guidance of ecologists. They should be regularly present on Site.

10.8 Is responsible for:

- Ensuring the CEMP is adhered to on Site.

- Ensuring the implementation of environmentally sensitive working practices and keeping a log of these activities.
- Site inductions that include ecological considerations.
- Responding to environmental incidents, and ensuring all reporting carried out correctly.
- Reviewing any incidents with the Environmental Team to prevent repeat occurrence.
- Liaising with environmental stakeholders as required.

All Site Staff Competence, training and awareness

- 10.9 Training constitutes a fundamental element in ensuring ecological performance improvement; indeed the effectiveness of any system to improved performance is dependent on the adequacy of information held and the application of that information by personnel.
- 10.10 The Principal Contractor will be responsible for ensuring that all personnel working on the Site for or on behalf of land owner or the Principal Contractor have the appropriate awareness and competence to meet the requirements of the CEMP.
- 10.11 Training delivered should meet the following objectives:
- Personnel are fully aware of the potential ecological impact of their work and associated ecological issues.
 - Individually and collectively, personnel are committed to the provision of a sound ecological performance.
 - Activities of personnel do not open Land owner up to criticism or legal/financial liability.
 - Effective communication in respect of ecological issues exists within the project team.

11 Action Plan

E = Ecologist, PC = Principal Contractor

Mitigation	Responsibility	Timing constraints	Pre-commencement	Site preparation	Construction
Method statement 1: Protective fencing and buffer zones					
Identification and marking of sensitive ecological features and buffer zones	PC, E	Prior to the installation of protective fencing	●	●	
Toolbox talk	E	Prior to the installation of protective fencing	●	●	
Heras fencing (with signage) to be installed along Site, sensitive ecological features with suitable buffers as recommended by the Ecologist	PC		●	●	
Monitoring of fence condition	E	Throughout the construction period			●
Method Statement 2: Vegetation Clearance					
Pre-clearance check of above-ground vegetation for nesting birds, dormouse, reptiles and great crested newt.	E	Should start of works be delayed until period from March-August inclusive		●	
Toolbox Talk	E	Prior to any vegetation clearance		●	
Vegetation for removal identified	PC			●	
Above-ground vegetation cut to a height of no less than 150 mm above ground level. Surrounding soils will be left undisturbed.	PC	September to February		●	
Removal of any features suitable for reptiles and great crested newt	E , PC	April to September		●	

Method statement 3: Grounds Works and Construction					
Installation of protective fencing and signage	PC	After clearance of vegetation but prior to any Site clearance		●	
Excavation and construction of cable and solar array under method statement.	PC / E	During appropriate period – March to October inclusive.			●
Installation of pollution prevention measures as appropriate	PC	Prior to the commencement of clearance works Monitored and maintained thereafter	●	●	●

12 References

BSG Ecology (2020). *Swaffham Prior proposed Heat Network Scheme: Bat Survey Report*. BSG Ecology, Oxford.

Lloyd Bore Ltd (2020). *Preliminary Ecological Appraisal*. Lloyd Bore Ltd, Canterbury.