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Bluestone

Preliminary Ecological Appraisal Report

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Contents

1 Introduction

Background to commission

1.1 BSG Ecology was commissioned in April 2021 by Infinite Renewables to undertake a Preliminary Ecological Appraisal (PEA) to inform a proposal for a solar farm development on land at Cross Hands, Narbeth Pembrokeshire.

Description of project

1.2 The proposed development is a solar farm and associated grid connection. The proposed solar farm will occupy approximately 4.4 ha. The proposed cable route for the grid connection will be approximately 1 km in length and connect to the substation at Bluestone Resort. **Figure 1** illustrates the proposed solar panel layout. The extent of the proposed solar farm, access track and cable route (red line boundary) are illustrated on **Figure 2**.

Site description

1.3 The Site (including the proposed solar farm, access track and cable route) is located south of Canaston Wood, Pembrokeshire. The centroid Ordnance Survey Grid Reference for the Site is SN 07510 12380. The land within the Site is currently used for sheep and pony grazing, and bounded by hedgerows, tree lines and woodland.

1.4 The proposed access to the solar farm will be through an existing field access off the A4075, following a route through existing field gates.

1.5 The proposed cable route passes through a narrow section of woodland and through an area of improved grassland before joining an existing gravel track. The track passes between arable fields to the north of the main Site and joins the A4075. The proposed cable route crosses the A4075 onto the entrance road of the Bluestone Resort where it terminates at the existing grid substation.

1.6 A grazed field and small residential cul-de-sac (Mountain View) off the A4115 are immediately to the south of the Site. Hedgerows, treelines and woodland blocks surrounding the Site are well connected to network of woodland blocks in the wider landscape.

Aims of study

1.7 The aim of this PEA is to identify ecological constraints and to make initial mitigation recommendations. Therefore, this report includes:

- A review of biological records, statutory and non-statutory designated sites within the local area,
- A description and evaluation of habitats and features present within the Site, and assessment of their potential to support protected species.
- An outline of legislative and / or policy protection afforded to habitats and species associated with the Site.
- Identification of potential impacts of the scheme on biodiversity and the requirement for further survey.

1.8 In addition, this report makes initial recommendations on how to achieve biodiversity enhancements within the scheme in line with the requirements of the Environment (Wales) Act 2016 and Planning Policy Wales (PPW) 11.

2 Methods

Desk Study

2.1 The presence of European and national statutory designated sites of nature conservation interest within 2 km of the Site boundary was established using the Magic website[1]. This search was extended to 10 km for sites designated for their populations of bats.

2.2 The West Wales Biodiversity Records Centre (WWBIC) was asked to provide records of non-statutory designated sites and records of protected/notable[2] species within 2 km of the Site boundary on 04 May 2021.

Field Survey

2.3 A Phase 1 Habitat survey of the Site was completed on 09 June 2021. The survey method was based on industry standard guidance (JNCC, 2010). Habitats present at the Site were identified and mapped, with any features of ecological interest recorded as 'Target Notes'.

2.4 The survey was extended, in accordance with IEA (1995), to include an assessment of the suitability of the habitats present to support protected (and non-native invasive) species.

2.5 The survey also included a ground level assessment of trees, undertaken with regard to industry standard guidance (Collins, 2016 and Bat Tree Habitat Key, 2018), which categorises the suitability of trees to support roosting bats. The categories used are as follows:

- High: Trees with multiple highly suitable features capable of supporting larger roosts.
- Moderate: Trees with multiple suitable features capable of supporting fewer bats than high potential trees.
- Low: Trees with few suitable features capable of supporting very low numbers of bats.
- Negligible: Trees with no suitable features

Limitations to methods

2.6 No limitations were noted. The survey was completed at an appropriate time of year for Phase 1 habitat surveys (April to October inclusive; JNCC, 2010).

Personnel

2.7 Gareth Lang ACIEEM (Principal Ecologist) has worked as a professional ecologist since 2013, and has experience in numerous ecological assessments including extended Phase 1 habitat surveys for small and large scale projects. Gareth was responsible for carrying out the field work for this project and is the author of this report.

2.8 This report as been reviewed by Rachel Taylor ACIEEM (Principal Ecologist). Rachel has worked in the ecological sector for over 10 years. She completes and reviews ecological assessments for a range of simple and complex sites on a regular basis.

[1] http://magic.defra.gov.uk/, accessed 22 July 2021.

[2] 'Notable species' covers species that are not legally protected but are of material consideration for the assessment of planning applications. This includes species listed as Priority Species under Section 7 of the Environment (Wales) Act 2016, declining species either nationally or locally and / or those that are rare within the county or local area. Such species may be included under local Biodiversity Action Plans or lists such as the Birds of Conservation Concern (BoCC) (Eaton et al, 2015).

2.9 Further information about the personnel involved can be found at https://www.bsg-ecology.com/people/.

3 Results and Evaluation

Statutory Designated Sites

3.1 There are no statutory designated sites within 2 km of the Site. The nearest statutory designated site is the Pembrokeshire Marine Special Area of Conservation (SAC) and Milford Haven Waterway Site of Special Scientific Interest (SSSI), located approximately 2.2 km north-west of the Site.

3.2 The Pembrokeshire Marine SAC is designated for its estuaries, mudflats and sand banks, inlets and bays, coastal lagoons, sea caves, Atlantic salt meadows. It is also designated for its populations of allis shad *Alosa alosa*, twaite shad *Alosa fallax*, river lamprey *Lampetra fluviatilis*, sea lamprey *Petromyzon marinus*, grey seal *Halichoerus grypus*, otter *Lutra lutra*, and shore dock *Rumex rupestris*.

3.3 The Milford Haven Waterway SSSI is notified for its geology, ancient woodland, marine biology, saltmarsh, swamp, saline lagoons, rare and scarce plants and invertebrates, nationally important numbers of migratory waterfowl, otter, and greater and lesser horseshoe bats *Rhinolophus ferrumequinum* and *R. hipposideros*.

3.4 Bosherton Lakes SAC and Slebech Stable Yard, Loft, Cellars and Tunnels SSSI are 4.4 km north-west of the Site.

3.5 The Bosherton Lakes SAC is part of the wider Pembrokeshire Bat Sites SAC and is designated for its maternity colony of greater horseshoe bat and hibernating lesser horseshoe bat. The Core Management Plan for the SAC (CCW, 2008) sets out the following principles for development on land between 3-7 km distant from the SAC:

"*Areas with thick hedgerows around grazed pasture and pronounced habitat links should be maintained, not all areas will be used. A significant proportion of the most pronounced areas of extensive hedgerows (particularly higher overgrown ones), scrub and wet woodland - especially surrounding pasture and or wet ground will be important to the bats.*"

3.6 In addition, the following measures should be implemented at sites up to 16 km from the SAC:

"*Sheltered glades, of up to 10-15m across, should also be incorporated along which the bats can feed. Removal of habitat features or increase in night lighting may stop bats from using some routes. Cattle are the most suitable grazers for these grasslands as they produce the best dung for dung beetles, which are among the invertebrates on which the bats feed.*"

3.7 Other factors affecting the qualifying features of the SAC are the availability of suitable roosts and disturbance to roosts (e.g. resulting from air, light or noise pollution).

3.8 The Slebech Stable Yard, Loft, Cellars and Tunnels SSSI is within the boundary of the Bosherton Lakes SAC and is also notified for its maternity colony of greater horseshoe bat and hibernating lesser horseshoe bat.

Non – Statutory Designated Sites

3.9 WWBIC provided records of 56 non-statutory designated sites within a 2 km radius of the Site. These are all Ancient Woodland Sites (AWS) within Canaston Wood (approximately 1.7 km north of the Site) and Minwear Wood (approximately 1.1 km north-west of the Site), apart from three blocks of restored ancient woodland to the south-west (between 850 m and 1.6 km) of the Site.

Habitats

3.10 The results of the Phase 1 habitat survey are provided below and shown on **Figure 2**. The locations of Target Notes (TN) referenced in the text are also presented on **Figure 2**, and associated photographs are presented in **Section 8**.

The Site

Species-poor semi-improved neutral grassland

3.11 The grassland within the Site (TN 1 on Figure 2; Photograph 1) is species-poor semi-improved neutral grassland grazed by sheep and ponies. Grasses within the sward include sweet vernal grass *Anthoxanthum odoratum*, perennial ryegrass *Lolium perenne*, cock's foot *Dactylis glomerata*, creeping bent *Agrostis stolonifera*, and annual meadow grass *Poa annua*. Broad-leaved herbs present include frequent dandelion *Taraxacum* ag., creeping buttercup *Ranunculus repens*, sheep sorrel *Rumex acetosella*, ribwort plantain *Plantago lanceolata*, white clover *Trifolium repens*, and red clover *T. pratense*. Some areas show marshier characteristics with soft rush *Juncus effusus* dominating (but less than 25 % juncus overall). Bluebells are present in areas adjacent to woodland and hedgerows. Patches of bare ground are present at the gateway in the south-west corner of the field.

Pond and stream

3.12 A shallow, dry depression was present in the south-east part of the Site at the time of survey (TN 2; Photograph 2). It is likely that this holds water during wetter months, and historic aerial imagery[3] indicates the presence of a pond. However, no marginal or aquatic vegetation was noted, indicating that it is likely to be dry for extended periods.

3.13 A small stream is present in the woodland immediately north of the Site at TN 3 (Photograph 3). A slight flow was present at the time of survey, although the water level was low (<10 cm depth). The proposed cable route bisects this stream.

Tall ruderal and scrub

3.14 An earth bund is present within the northern part of the Site, adjacent to the northern boundary hedgerow (Photograph 4). The bund has become colonised by common nettle *Urtica dioica* and bramble *Rubus fruticosus*.

3.15 The eastern boundary of the Site is a scrubby, out-grown hedge, with some maturing trees present. Gorse *Ulex europaeus*, bramble, hazel *Corylus avellana*, blackthorn *Prunus spinosa* and grey willow *Salix cinerea* are present. Blackthorn and bracken *Pteridium aquilinum* are encroaching into the Site (Photograph 5).

Hedgerows

3.16 The Site is bounded to the south and west by species-poor intact hedges dominated by hawthorn *Crataegus monogyna* and gorse with frequent blackthorn and occasional hazel. The hedges are intensively maintained and are approximately 1.8 m in height and 1.5 m in width. The southern hedgerow includes several standard oak *Quercus robur* and hawthorn trees (Photograph 6). A heavily managed gorse dominant hedge (approximately 1 m in height and 1 m in width) is present along the north-western boundary of the main Site and continues to the west to surround the woodland copse immediately north-west of the Site (Photograph 7).

Trees and woodland

3.17 A block of semi-natural broad-leaved woodland is present immediately north of the Site and extends approximately 1 km to the north alongside the arable fields. This includes mature oak, grey willow, ash *Fraxinus excelsior*, and hazel, with frequent blackthorn and hawthorn present in the

[3] Obtained from Google Earth.

understorey. Trees adjacent to the Site are generally 10 m in height, with larger, more mature trees away from the woodland edge.

3.18 The woodland extends along the eastern boundary of the Site, where it becomes less mature, dense and scrubby (Photograph 5) to meet the broadleaved plantation alongside the A4115 to the south of the Site. It also extends along the northern boundary of the Site as a narrow woodland strip. Here the understorey is sparse and includes small willow and blackthorn shrubs, shaded by mature ash and oak that form the canopy (Photograph 8). The proposed cable route will pass through this section of the Site.

3.19 Standard trees are present in the hedgerow to the south of the Site, and include several semi-mature oaks, up to 7 m in height and 40 cm diameter at breast height (DBH). One of the oaks at TN 4 (Photograph 9) has a split in the main stem at 1 m in height that appears to provide a low suitability feature for roosting bats[4].

3.20 An oak tree at TN 5 (Photograph 10) was noted to have a knot hole with internal decay at 2.5 m high on the south aspect of the main stem. This feature is considered to have a moderate to high suitability[5] for roosting bats.

3.21 A large oak with a height of approximately 20 m and DBH of approximately 1 m is present at TN 6 near the point at which the proposed cable route leaves the proposed solar farm. No features suitable to support roosting bats were noted in this tree.

Bare ground

3.22 The proposed cable route will run along existing gravel-surfaced farm tracks (Photograph 11). The track verges are disturbed, and colonised by ruderal vegetation where bounded by hedgerows. Small areas of bare ground are also present at field entrances (where ground disturbance is greatest).

Surrounding Land

Species-poor semi-improved neutral grassland

3.23 The fields to the west, south-west and south of the Site have a similar sward to the grassland within the Site. The gates between fields were open at the time of survey, and it is evident that livestock graze throughout. Some areas within the fields to the south and south-east of the Site (TN 7 and 8; Photograph 12) are likely to be marshier in wet conditions, and this is evidenced by the dominance of soft rush, with occasional marshy indicators such as cuckoo flower *Cardamine pratensis* and marsh thistle *Cirsium palustre*.

3.24 An enclosed area with a pond is present immediately south-west of the Site (TN 9, Photograph 13) and contains a less heavily grazed sward (despite not being stock proof). This area demonstrates a greater herb diversity, and species such as yellow rattle *Rhinanthus minor*, eyebright *Euphrasia officinalis*, red bartsia *Odontites vernus* and birds-foot trefoil *Lotus coniculatus* were recorded.

3.25 Semi-improved neutral grassland is also present around a pond to the north of the Site (TN 10; Photograph 14), within open glades at TN 11 (Photograph 15), and in less shaded areas of plantation woodland at TN 12 (Photograph 16). Species present here include perennial ryegrass, timothy, false-oat grass *Arrhenatherum elatius,* soft rush, creeping thistle *Cirsium arvense*, ribwort plantain, white clover, bird's foot trefoil and silverweed. Hogweed *Heracleum sphondylium*, meadowsweet *Filipendula ulmaria*, broad-leaved dock *Rumex obtusifolius* and common nettle *Urtica dioica* are common at the woodland boundaries.

[4] In accordance with the definitions of bat roost suitability set out in Table 4.1 of the Bat Conservation Trust's survey guidelines (Collins, 2016).
[5] A climbed inspection would be needed to fully assess the suitability of the feature for bats.

3.26 The area at TN 13 (Photograph 17) appears to be regularly disturbed, with silverweed *Potentilla anserina*, scentless mayweed *Tripleurospermum inodorum*, and pineappleweed *Matricaria discoidea* dominating.

Arable

3.27 The proposed cable route runs alongside arable fields to the north of the Site. These include silage (perennial rye grass monoculture; at TN 14 and 15; Photograph 18), barley (at TN 16 and 17; Photograph 19), and root vegetables (at TN 18; Photograph 20). Crops extend to the field margins, except in the area south of TN 17, which is characteristic of an improved pasture, and at the margins of TN 16 and TN 18 which appears regularly disturbed and is predominantly bare ground.

Ponds

3.28 A pond is present immediately north of the Site at TN 10 (Photograph 21). This was noted to support breeding mallard (a family was present during the survey). The pond has very little marginal or aquatic vegetation, with a c. 5 % cover of duckweed, and grey willow spreading onto the north-western bank.

3.29 A further pond is located 20 m south-west of the Site at TN 9; Photograph 13. This was choked with spike rush *Eleocharis palustris*, soft rush, and yellow iris *Iris pseudacorus* with no areas of open water.

Tall ruderal and scrub

3.30 A bund is present in the field to the south-west of the Site, along the eastern edge of the pond at TN 9, with established common nettle, bramble and gorse (Photograph 22).

3.31 Suckering blackthorn is present in patches around the woodland at TN 19, immediately beyond the northern boundary of the main Site (Photograph 7).

3.32 Small areas of scrub are developing in open parts of the plantation woodland along the A4075 and A4115, and include young alder *Alnus glutinosa*, ash, oak, gorse, blackthorn and bramble (Photograph 23).

3.33 An area of grey willow, elder *Sambucus nigra*, blackthorn and bramble is located on the boundary of a silage field at TN 20, and tall ruderal vegetation and bramble scrub has developed on a bund surrounding a manure and hay pile at TN 21.

Hedgerows

3.34 Hedges in the wider area and bounding the arable fields to the north are species poor and dominated by hawthorn and gorse.

Trees and woodland

3.35 A woodland copse surrounds the pond, immediately north-west of the Site at TN 10. This area also includes frequent mature and semi-mature oak and willow sp.

3.36 Broadleaved plantation woodland extends along the A4075 and A4115 to the west and south of the Site (Photographs 16 and 23). These areas are generally alder dominated, with frequent gorse, grey willow and holly *Ilex aquifolium*, and occasional oak, ash, wild cherry *Prunus avium* and rowan *Sorbus aucuparia*. A small stand of sitka spruce *Picea sitchensis* is present at TN 21, Bramble and common nettle occupy the ground flora, and areas of neutral grassland are also present where canopy cover is sparse.

Bare ground, and other habitats

3.37 Small areas of bare ground are present at field entrances (where ground disturbance is greatest). A minor track leading from the A4075 to a field gate (at TN 22) is heavily disturbed ground, with rank grassland and tall ruderal vegetation, including great willowherb *Epilobium hirsutum*, common nettle and hogweed, establishing around it (Photograph 24).

3.38 A large stack of felled conifer logs occupying approximately 0.15 ha is present at TN 23 (Photograph 25).

3.39 A small cul-de-sac residential area (Mountain View) is present approximately 180 m south of the Site, adjacent to the A4115. The farmyard and buildings (associated with the land within and surrounding the Site) are located approximately 1 km to the north of the Site.

Species

Bats

3.40 WWBIC provided 14 recent[6] records of bats within 2 km of the Site. These are:

- Greater horseshoe bat.
    - One record of a bat in flight at Canaston Wood, approximately 1.5 km north of the Site, in May 2012.
    - One record of a non-roosting bat at Blackpool Mill, approximately 2 km north-west of the Site, in July 2016.
- Common pipistrelle *Pipistrellus pipistrellus*
    - One record of a bat in flight at Canaston Wood, approximately 1.5 km north of the Site, in May 2012.
- Soprano pipistrelle *Pipistrellus pygmaeus*
    - Two records of bats in flight near Canaston Wood, approximately 1.5 km north of the Site, one of four bats in 2017 and one of 3 bats in 2018.
    - Three records of roosting bats at Eagle Lodge, Canaston, approximately 1.6 km north of the Site. Two were counts of 100 bats, the third an observation of dead juveniles and droppings. All were recorded between 2011 and 2012.
    - One record of 16 roosting bats at the Grove Hotel, approximately 1.7 km east of the Site in 2015.
- Unidentified pipistrelle sp.
    - One record of a bat in flight at Canaston Wood, approximately 1.5 km north of the Site, in October 2018.
- Brown long-eared bat *Plecotus auritus*
    - One record of a foraging bat at the Grove Hotel, approximately 1.7 km east of the Site in July 2018
- Noctule bat *Nyctalus noctula*
    - One record of a bat in flight at Canaston Wood, approximately 1.5 km north of the Site, in May 2012.
- Unidentified bats
    - Two records, both at Canaston Wood, approximately 1.5 km north of the Site, dated 2012 and 2018 respectively.

[6] Reported within the last 10 years.

3.41 All species of bat are fully protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and under Schedules 5 & 6 of the Wildlife and Countryside Act 1981 (as amended).

3.42 The hedgerows, trees, woodland, and ponds along the boundary and within the Site provide suitable foraging and commuting habitat for bats. Boundary habitat features include wide and tall hedgerows with mature trees and are well connected within the wider landscape.

3.43 Bats are likely to commute and forage within the Site. Trees on the boundary of the Site and in adjacent blocks of woodland, have the potential to support roosting bats. Bats may also roost in the residential buildings at Mountain View (200 m south of the Site), at Mounton Farm (400 m east of the Site), and at other buildings in the wider area.

Birds

3.44 WWBIC provided 217 recent records of birds recorded within 2 km of the Site. No records were provided from within the Site itself. The majority of records originate from Canaston Wood and Minwear Wood, and include: hobby *Falco subbuteo* (1 record from 2012), red kite *Milvus milvus* (3 records between 2014 and 2018), barn owl *Tyto alba* (2 records from 2017), cuckoo *Cuculus canorus* (one record from 2011), lesser spotted woodpecker *Dryobates minor* (1 record from 2011), common crossbill *Loxia curvirostra* (3 records from 2012 to 2013), firecrest *Regulus ignicapilla* (1 record from 2014), wood warbler *Phylloscopus sibilatrix* (12 records between 2011 and 2017), and spotted flycatcher *Muscicapa striata* (3 records from 2017). Other records are of ubiquitous and widespread species that are common to farmland and woodland mosaic.

3.45 All nesting birds are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). Greater protection is afforded to species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

3.46 Birds recorded within the Site and adjacent land during the Phase 1 survey were: mallard *Anas platyrhynchos*, skylark *Alauda arvensis*, swallow *Hirundo rustica*, reed bunting *Emberiza schoeniclus*, great tit *Parus major*, great spotted woodpecker *Dendrocopos major*, chaffinch *Fringilla coelebs*, linnet *Linaria cannabina*, goldfinch *Carduelis carduelis*, bullfinch *Pyrrhula pyrrhula*, blackcap *Sylvia atricapilla*, whitethroat *Sylvia communis*, chiffchaff *Phylloscopus collybita*, wren *Troglodytes troglodytes*, wood pigeon *Columba palumbus*, dunnock *Prunella modularis*, song thrush *Turdus philomelos*, mistle thrush *Turdus viscivorus*, and blackbird *Turdus merula*.

3.47 Of these, linnet and bullfinch are red listed; and mallard, skylark, swallow, reed bunting and song thrush are amber listed in the third revision of the Welsh Birds of Conservation Concern (BoCC) list (The Welsh Ornithological Society, 2016). Reed bunting, linnet, dunnock, and song thrush are also Section 7 Environment (Wales) Act 2016 species. No species recorded using the Site and surrounding area are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

3.48 The mallard and reed bunting were associated with the pond in the woodland copse, immediately north of the Site. One skylark was recorded singing over the Site, and another in the fields south of the Site. All other species were either associated with hedgerows, trees and woodland bounding the Site, or noted overflying.

Reptiles and amphibians

3.49 WWBIC provided records of common lizard *Zootoca vivipara* (6 records), grass snake *Natrix natrix* (1 record), slow worm *Anguis fragilis* (1 record), common frog *Rana temporaria* (2 records), and common toad *Bufo bufo* (4 records) within 2 km of the Site. None of the records originate from within the Site. No records of great crested newt *Triturus cristatus* were held by WWBIC for the search area. The Site is beyond the known distribution of this species in Wales (ARG, 2010).

3.50 All reptiles and common amphibians are afforded protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

3.51 The suitability of the site to support a population of reptiles is considered to be low. Small numbers may be present along field margins where stock fencing limits grazing pressure, and within the woodlands and boundary hedgerows. Common species of amphibian are likely to be present within the ponds surrounding the Site and may disperse through boundary features.

Protected mammals

3.52 WWBIC provided records of badger *Meles meles* (28 records), otter *Lutra lutra* (2 records), hedgehog *Erinaceus europaeus* (2 records), and polecat *Mustela putorius* (1 record) within 2 km of the Site. None of the records originate from within the Site.

3.53 Badgers are protected under the Protection of Badgers Act (1992) and Schedule 6 of the Wildlife and Countryside Act 1981 (as amended). Otter is protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and under Schedules 5 & 6 of the Wildlife and Countryside Act 1981 (as amended). Hedgehog and polecat are listed in Section 7 of Environment (Wales) Act 2016.

3.54 The nearest records of badger are located at the A4075 adjacent to the western boundary of the Site. Most of the badger and hedgehog records are of road kill; however, one record of badger relates to identified badger tracks in a field immediately north of the Site, recorded in 2013.

3.55 No evidence of badger use was found during the Phase 1 survey of the Site or wider survey area. However, badger are highly mobile, and may use outlier setts, or disperse into new areas at different times of the year.

3.56 The records of otter are located approximately 1.7 km north-east of the Site at Minwear Wood (in 2019), and 2 km north-east of the Site at Canaston Wood (in 2020) respectively. There is no suitable watercourse or commuting corridor for otter within or near to the Site. The small stream within the woodland immediately north of the Site is unlikely to support otter, and does not .

3.57 Hedgehog are likely to be present in the area, and may commute through hedgerows and forage in the open fields within the Site.

3.58 The record of polecat is located at Bluestone Resort, and reported to be laying up beneath a raised building during the Covid-19 lockdown (whilst the resort was vacant). Polecat may be present in low number within areas of woodland surrounding the Site and may move through the Site on occasion.

3.59 WWBIC did not hold any records of dormouse *Muscardinus avellanarius* within 2 km of the Site. Data held by the National Biodiversity Network (NBN) atlas indicate the presence of a record (dated 2010) at a location within a 10 km radius of the Site. No further details of this record are available.

3.60 Dormouse is protected under the Conservation of Habitats and Species Amendment) (EU Exit) Regulations 2019 and under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

3.61 The hedgerows and woodland bounding the Site provide suitable foraging, commuting and nesting habitat for dormouse. The Site is also well connected to similar habitats in the wider area. However, the absence of any records of dormouse within 2 km of the Site, and age of the record within 10 km of the Site (more than 10 years old) suggests that dormouse are unlikely to occur locally.

Invasive species

3.62 Stands of Himalayan balsam *Impatiens glandulifera* are present along hedgerows in the field immediately south of the Site at TNs 24 (Photograph 26) and 25. While no evidence of this species was noted to occur within the Site during the survey, it can spread rapidly, particularly where livestock pass between affected areas.

3.63 Himalayan balsam is listed under Schedule 9 Part 2 of the Wildlife and Countryside Act 1981 (as amended), prohibiting the reckless or intentional spread of this plant in the wild.

4 Potential Impacts and Recommendations

Statutory Designated Sites

4.1 The proposed development will not result in direct impacts (e.g. land-take or modification) or indirect impacts (e.g. noise or visual disturbance or pollution effects) on the Pembrokeshire Marine SAC due to distance, lack of a hydrological connection and the absence of any habitats that would support SAC qualifying features within the proposed development Site.

4.2 Greater and lesser horseshoe bats are qualifying features of the Bosherton Lakes SAC, and notified features of the Slebech Stable Yard, Loft, Cellars and Tunnels SSSI and The Milford Haven Waterway SSSI.

4.3 The grassland within the Site is unlikely to provide an important foraging resource for SAC populations of bats, given the current land management (sheep grazing) and availability of similar habitats in the wider area. However, the integrity of statutory sites may be adversely affected by the proposed development if severance of commuting corridors that may be used by horseshoe bats occur.

4.4 The principles set out in the Bosherton Lakes SAC Core Management Plan (CCW, 2008) should be followed in order to limit impacts on horseshoe bats. The main points are as follows:

- All hedgerows and 'pronounced habitat links' (such as scrub and woodland) should be preserved.
- Sheltered glades adjacent to woodland and hedgerows should be retained to preserve commuting corridors.
- Lighting of boundary features should not occur.

4.5 In order to comply with these principles, permanent lighting during construction and operation of the solar farm will be avoided. If lighting is required during construction or maintenance work in the winter months, this should be designed sympathetically to avoid light spillage onto hedgerows and woodland. Operational phase lighting should be limited to motion-activated security lighting and designed to avoid light spillage onto hedgerows and woodland. Detailed considerations of lighting at the Site in relation to bats should be outlined in a Construction and Environmental Management Plan (CEMP).

4.6 The current draft proposals (**Figure 1**) do not require removal of hedgerows or woodland. Impacts on woodland as a result of the underground cable installation for the grid connection will be temporary and very minor in extent. The cable trench will be installed by directional drilling and routed to avoid affecting the roots of mature trees: the woodland canopy will remain unaffected.

4.7 If any sections of hedgerow or woodland are to be removed or heavily pruned, or if the use of lighting (other than motion-activated security lighting) is required as part of the proposed development, activity surveys[7] for bats should be completed. The purpose of these surveys would be to characterise use of the Site by commuting and foraging bats, to inform an impact assessment and to allow the determining authority to undertake a Habitats Regulations Assessment (HRA) in respect of impacts on the Bosherton Lakes SAC.

Non – Statutory Designated Sites

4.8 There are no non-statutory designated sites within, or adjacent to the proposed development. Impacts on local areas of Ancient Woodland are unlikely to occur.

[7] The likelihood of whole hedgerows sections being removed is low and the requirement for bat activity surveys is therefore unlikely.

Habitats

4.9 Habitats within the Site including hedgerows and boundary woodland are of ecological interest due to their potential to support a range of protected species. Hedgerows and lowland mixed deciduous woodland are listed as a 'Priority Habitat' under Section 7 of the Environment (Wales) Act 2016, which requires the Welsh Government to take all reasonable steps to maintain and enhance them, and to encourage others to take such steps.

4.10 The current draft proposals (**Figure 1**) indicate that all priority habitats at the Site including hedgerow and woodland are to be retained. It is anticipated that access to the Site will be use existing field gates, and this will avoid any reductions in local ecological connectivity. The proposed cable route passes through a narrow section of woodland with a sparce understory. Any impacts arising during installation of the cable will be temporary and very limited in extent.

4.11 In order to protect important habitats, a buffer around retained hedgerows and woodland (between 5 - 15 m wide as appropriate) will be incorporated within the Site design and set out within a CEMP. Buffers will be demarked and maintained during the construction phase using temporary (e.g. Heras) fencing. The protected area will remain unlit throughout construction. The purpose of maintaining a buffer is to reduce the risk of harm to any animals using these habitat features during all phases of the development and to protect the retained features themselves from accidental damage.

Protected Species

4.12 In general, by avoiding impacts on hedgerows and woodland, the requirement for further targeted species should be unnecessary. However, the following mitigation measures should be followed, and further surveys (as described below) may be required depending on the likely scope of works.

Bats

4.13 Recommendations in relation to greater and lesser horseshoe bats are presented under the Statutory Designated Sites section above.

4.14 The grassland within the Site and surrounding areas may be used by foraging bats; albeit the current management of the grassland is unlikely to generate a rich diversity of insect prey.

4.15 Trees within areas of woodland surrounding the Site may support roosting bats. In the event that trees are to be lost, close inspection (i.e. via endoscope or tree climbing) or roost emergence / re-entry survey (as appropriate) to identify any trees with roosting potential and inform any subsequent licensing and /or mitigation requirements will be needed.

4.16 A Natural Resources Wales (NRW) licence to permit otherwise unlawful works may be required (if a roost is present and likely to be adversely affected).

Birds

4.17 There is potential for skylark to nest within areas of grassland within the Site, although the short-sward is sub-optimal to support a high density of ground-nesting passerines. A range of breeding birds are likely to occur within hedgerows and woodland bounding the Site. If areas of hedgerow or woodland are to be removed, then a breeding bird survey (three visits between April and June inclusive) of the Site and surrounding habitats should be undertaken to characterise the breeding bird community.

4.18 If any site investigation / preparation / construction work takes place during the nesting bird season (which is typically taken as March to August inclusive), then checks for breeding birds (by a suitably experienced ecologist) will be undertaken immediately prior to any vegetation removal or tracking of vehicles over grassland. The ecologist will identify any active nests, and if nests are found, work in their immediate vicinity (that could result in the damage / destruction of the nest and / or young or abandonment) will be suspended until the nest is no longer active.

4.19 A method statement should be produced detailing measures to avoid impacts on nesting birds (as outlined above) and included in a CEMP.

Reptiles and Amphibians

4.20 Buffers should be maintained along hedgerows. If buffers are retained, it is likely that a Precautionary Working Method Statement for the removal of any longer vegetation (if required) will be sufficient and the requirement for further targeted survey for reptiles is unlikely to be required. The method statement should be included within a CEMP.

Protected Mammals

4.21 A pre-works check for badger should be carried out by a suitably experienced ecologist if hedgerows or woodland areas are to be removed. This check would involve a walkover survey of affected areas to identify the presence of any badger setts or evidence of use by badgers. Appropriate measures to protect badgers will be put in place if required (i.e. if a sett is identified during the survey). These mitigation measures should be included in a method statement within a CEMP.

4.22 In the absence of mitigation, open excavations during construction could present a hazard to hedgehog, badger and polecat. Further, poor consideration of boundary treatments, such as inappropriate security fencing, could result in the Site becoming unavailable to these species during operation. To reduce the potential impacts of fragmentation due to the installation of security fencing, small gaps will be created to allow continued movement by hedgehog and badger (if present).

4.23 Sensitive working practices should be adopted during the construction phase (i.e. no uncovered excavations, appropriately store chemicals and capping exposed piping). These mitigation measures should be included in a method statement within a CEMP.

4.24 Whilst there are no recent local records for dormouse, the habitats surrounding the Site are considered suitable to support the species. Minor widening of existing field gates (if required) can be undertaken under a precautionary method statement (as this work is unlikely to result in a significant reduction of optimal dormouse habitat, or risk isolating and fragmenting populations). If large sections of hedgerows or woodland are to be removed as part of the proposed development, surveys for dormouse may be required. The purpose of these surveys would be to identify the presence or likely absence of dormouse within the Site. If presence is confirmed, and impacts on dormouse habitat cannot be avoided, an EPSM licence may be required from Natural Resources Wales in order to proceed with the works.

Invasive Species

4.25 Measures to prevent the spread of Himalayan balsam onto the Site should be set out in the CEMP. This would include pre-works checks for any stands of the plant within the works area during construction, and a prescription for removal and remediation if found. Checks for the plant should also be undertaken at appropriate intervals during operation of the solar farm.

Enhancement

4.26 Section 6 of the Environment (Wales) Act 2016 places a duty on public authorities to '*seek to maintain and enhance biodiversity*' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to '*promote the resilience of ecosystems*'. It is now widely accepted that building resilience of ecosystems can be achieved by increasing diversity, extent, condition, connectivity and adaptability (NRW, 2016), which is taken into consideration within the enhancement measures outlined below.

4.27 Enhancement measures to benefit habitats and protected species may include:

- Relaxation of hedgerow management along the northern and (as far as possible without shading of panels) western boundaries of the Site to strengthen commuting routes for bats

and enhance breeding bird habitat. New planting of additional hedgerow plants of local provenance at these boundaries would also benefit biodiversity and improve the foraging resource for bats and birds.

- Increase the species diversity of retained grassland along field boundaries within the Site. This may be achieved through reducing grazing pressure and adapting cutting regimes to allow grasses and other plants to pollinate and set seed. This would benefit invertebrate diversity, provide an enhanced foraging resource for bats, and cover for reptiles and mammals.
- Provision of bat and / or bird boxes in trees and woodland edge within the Site as follows:
    - Suitable trees for boxes should be identified by a suitably experience ecologist ahead of installation.
    - The bat boxes should target Pipistrelle and long-eared sp. bats. These species have been recorded locally and are known to use bat boxes.
    - The provision of bird boxes should include those suitable for starling. This species is red listed with declining populations in Wales (The Welsh Ornithological Society, 2016 & 2021).

5 References

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6 Appendices

Appendix 1: Figures

(overleaf)

Notes

Transformer Station

Inverter Housing

Energy Storage System (20ft Container)

Access Track

Perimeter Fence and Gates

Cable Route

Temporary Construction Compound

N

W E

S

Notes

1. Do not scale to ascertain dimensions.
2. All dimensions to be checked and verified on site prior to commencement of work.
3. The building and site were surveyed for the stated scale and any subsequent enlargements should be verified on site.
4. All levels are in metres and relate to the stated Bench Mark.
5. Copyright for all designs and drawings in whole or in part shall remain with Infinite Renewables Limited in accordance with The Copyright Act.

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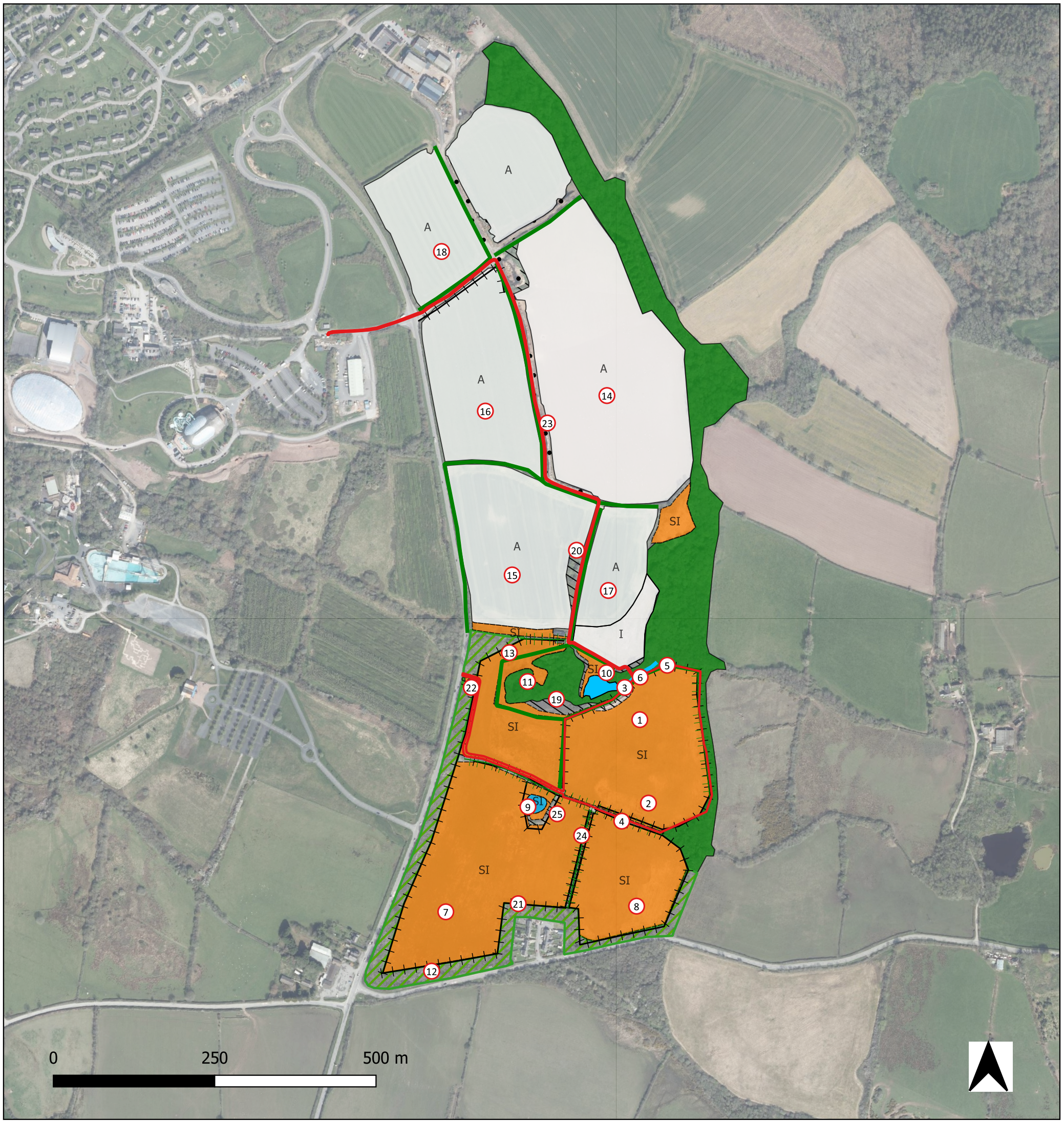
CLIENT: Infinite Renewables	SCALE: 1:1250@A2
PROJECT: Land at Bluestone Narberth, Pembrokeshire	DATE: 08/11/2021
	DRAWN: RS
DRAWING: Proposed Site Layout	CHECKED: GJ
DRAWING No: Bluestone 101	REVISION: E



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JOB REF: P20-986

PROJECT TITLE

Bluestone Solar
PEA Report

DRAWING TITLE

Figure 2: Phase 1 Habitat Survey

DATE: 15.08.2021 CHECKED: OG SCALE: 1:6,000
DRAWN: GL APPROVED: OG VERSION: 1.0

Sources: BSG Ecology survey data

LEGEND

Site Boundary

Target Note

Habitats

- Species-poor semi-improved grassland (SI)
- Improved grassland (I)
- Arable (A)
- Broadleaved woodland - semi-natural
- Broadleaved woodland - plantation
- Scrub - dense/continuous
- Scrub - scattered
- Tall ruderal
- Standing water
- Bare ground
- Running water
- Intact hedge - species-poor
- Hedge with trees - species-poor
- Fence

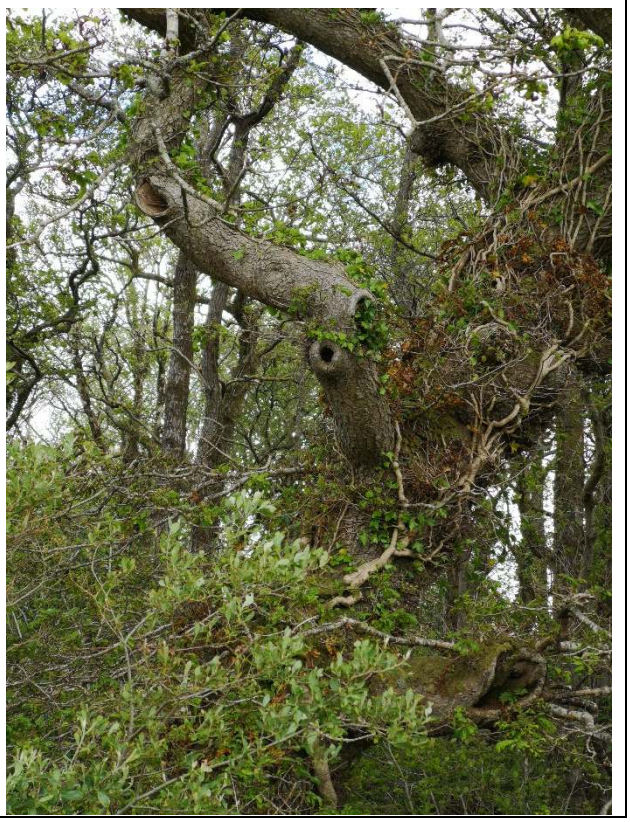
Appendix 2: Photographs

Photograph 1: View south over the Site.	**Photograph 2**: Dry depression / ephemeral pond in the southern part of the Site.
	

Photograph 3: Small stream within woodland to the north of the Site.	**Photograph 4**: Vegetated earth bund in the northern part of the Site.
	

Photograph 5: Eastern boundary of the main Site.	**Photograph 6**: Southern boundary of the main Site.
	

Photograph 7: Maintained hawthorn hedge and blackthorn scrub beyond the northern boundary of the Site.	**Photograph 8**: Woodland with sparse understorey. The proposed cable route passes through this section of woodland.
	

Photograph 9: Oak on the southern boundary of the Site with potential to support roosting bats.	**Photograph 10**: Oak on the northern boundary of the Site with potential to support roosting bats
	

Photograph 11: Existing farm track from the A4075.	**Photograph 12**: Patches of soft rush in surrounding fields.
	

Photograph 13: Enclosed area of grassland with pond to the south-east of the Site.	**Photograph 14**:Semi-improved grassland near a pond to the north of the Site.
	

Photograph 15: Semi-improved grassland surrounded by woodland to the north-west of the Site.	**Photograph 16**: Open areas within boundary plantation woodland to the south of the Site.
	

Photograph 17: Disturbed ground dominated by silverweed to the north-west of the Site.	**Photograph 18**: Perennial ryegrass monoculture to the north of the Site.
	

Photograph 19: Improved grassland with very few broadleaved herb species bounding a barley crop to the north of the Site.	**Photograph 20**: Disturbed ground leading to a root vegetable crop to the north of the Site.
	

Photograph 21: Pond to the north of the Site.	**Photograph 22**: Vegetated earth bund adjacent to the pond to the south of the Site.
	

Photograph 23: Broadleaved plantation and scrub along the A4075.	**Photograph 24**: Access to the west of the Site from the A4075.
	

Photograph 25: Large stack of felled conifer on the edge of a silage field adjacent to the proposed cable route.	**Photograph 26**: Stand of Himalayan balsam to the south of the Site.
	

Appendix 3: Summaries of Relevant Policy, Legislation and Other Instruments

6.1 This section briefly summarises the legislation, policy and related issues that are relevant to the main text of the report. The following text does not constitute legal or planning advice.

Planning Policy Wales 11

6.2 PPW 11 seeks to sustain and create places in which…

- the role which landscapes, the historic environment, habitats and biodiversity, the characteristics of coastal, rural or urban environments play in contributing to Distinctive and Natural places are identified, understood, valued, protected and enhanced;
- further fragmentation of habitats is avoided, wherever possible, and green networks, corridors and connecting habitat within developed areas is protected, and enhanced;
- sites designated for their landscape or nature conservation importance are fully considered and their special characteristics and features protected and enhanced, whilst the network of sites should be recognised as being at the heart of improving the resilience of ecosystems;

6.3 Paragraph 6.4.4 states that

"It is important that biodiversity and resilience considerations are taken into account at an early stage in both development plan preparation and when proposing or considering development proposals. [……] All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on the environment cannot be avoided or mitigated, it will be necessary to refuse planning permission."

6.4 Paragraph 6.4.5 states that

"Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity. In doing so planning authorities must also take account of and promote the resilience of ecosystems……

TAN 5 Nature Conservation and Planning (Wales only)

6.5 Technical Advice Note (TAN) 5 supplements Planning Policy Wales and provides advice about how the land use planning system in Wales 'should contribute to protecting and enhancing biodiversity and geological conservation.'

6.6 The TAN provides guidance to local planning authorities on: 'the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and, development affecting protected and priority habitats and species.'

6.7 In section 2.4 when deciding planning applications that may affect nature conservation, 'local authorities should:

- contribute to the protection and improvement of the environment…seeking to avoid irreversible harmful effects on the natural environment;
- ensure that appropriate weight is attached to designated sites of international, national and local importance;

- protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;
- ensure that all material considerations are taken into account and decisions are informed by adequate information about the potential effects of a development on nature conservation;
- ensure that the range and population of protected species is sustained;
- adopt a stepwise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered.'

6.8 At section 3.3.2 regarding Local Development Plans policies the guidance states that a policy should be included in respect of the application of the precautionary principle.

6.9 Section 4 includes specific and detailed guidance, expanding on the principles set out in 2.4, in respect of the development control process including pre-application discussions, preparing planning applications, requests for further information and ecology in respect of Environmental Impact Assessment (EIA). The broad principles of development control requirements are set out as follows:

- 'adopting the five-point approach to decision-making – information, avoidance, mitigation, compensation and new benefits;
- ensuring that planning applications are submitted with adequate information, using early negotiation, checklists, requiring ecological surveys and appropriate consultation;
- securing necessary measures to protect, enhance, mitigate and compensate through planning conditions and obligation;
- carrying out effective panning enforcement; and
- identifying ways to build nature conservation into the design of new development.'

Environment (Wales) Act 2016

6.10 The Environment (Wales) Act 2016 passed into law in March 2016. Part 1 of the Act sets out Wales' approach to planning and managing natural resources at a national and local level with a general purpose linked to statutory 'principles of sustainable management of natural resources' defined within the Act.

6.11 Section 6 of the Act places a duty on public authorities to '*seek to maintain and enhance biodiversity*' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to '*promote the resilience of ecosystems*'. The duty replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 in relation to Wales, and applies to those authorities that fell within the previous duty.

6.12 Public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience. This is expanded on in sub-section (2):

6.13 In complying with subsection (1), a public authority must take account of the resilience of ecosystems, in particular the following aspects—

- diversity between and within ecosystems;
- the connections between and within ecosystems;
- the scale of ecosystems;
- the condition of ecosystems (including their structure and functioning);
- the adaptability of ecosystems.

6.14 Section 7 concerns biodiversity lists and the duty to take steps to maintain and enhance biodiversity. It replaces the duty in section 42 of the NERC Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales.

6.15 The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps.

European protected species (Animals)

6.16 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.

6.17 "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

6.18 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.

6.19 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 Wales are currently determined by Natural Resources 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

6.20 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.[8] 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.'

Birds

6.21 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.

6.22 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'[9]) (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'.

6.23 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

6.24 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".

6.25 ODPM Circular 06/2005[10] provides further guidance on statutory obligations towards badger within the planning system. Of particular note is paragraph 124, which states that "The likelihood of

[8] Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. (February 2007), EC.
[9] 2009/147/EC Birds Directive (30 November 2009. European Parliament and the Council of the European Union.
[10] *ODPM Circular 06/2005. Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impacts within the Planning System* (2005). HMSO Norwich.

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."

6.26 Natural England provides Standing Advice[11], 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

6.27 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).

6.28 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.

6.29 Current Natural England Guidelines for Developers[12] (which is also adopted in Wales) 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.'

6.30 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.'

Invasive non-native species

6.31 An invasive non-native species is any non-native animal or plant that has the ability to spread causing damage to the environment.

6.32 Under the Wildlife and Countryside Act 1981 (as amended) it is an offence to release, or to allow to escape into the wild, any animal which is not ordinarily resident in and is not a regular visitor to Great Britain in a wild state or is listed under Schedule 9 of the Act.

6.33 It is an offence to plant or otherwise cause to grow in the wild invasive non-native plants listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

[11] http://www.naturalengland.org.uk/ourwork/planningdevelopment/spatialplanning/standingadvice/specieslinks.aspx

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