

Ysgol Y Deri Primary School (YYD2) Preliminary Ecological Appraisal (PEA) Report

Vale of Glamorgan Council

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1. Executive Summary

AECOM was instructed by Vale of Glamorgan Council to carry out a Preliminary Ecological Appraisal (PEA) of the site Ysgol Y Deri Primary School (YYD2), hereafter referred to as 'the Site'. The Site is approximately 22,000 (m²) and located within the semi-rural location of Cosmeston to the south of Lower Penarth, Vale of Glamorgan (see Figure 1 – Proposed Site Boundary).

The Site is a disused pastoral field comprising neutral semi-improved grassland, not currently subject to management. Semi-natural habitats are present on the perimeter of the Site comprising broadleaved semi-natural woodland, intact native species-rich hedgerow and rows of trees, with areas of both dense and scattered scrub throughout.

The proposed development is for the construction of a two-storey primary school building. The proposed development will include a new access track with associated drop-off/ pick-up zones and staff parking. The staff-parking area will be constructed using Sustainable Drainage Systems. Pedestrian footpaths and areas of hardstanding for informal and social use will connect the school to both the parking and drop-off/ pick up zones. Three areas for outdoor amenity use are included within the proposed development: an area of 1,103 m² hardstanding is proposed for a multi-use game area (MUGA); a 502 m² artificial grass area and a 5,596 m² grass football pitch. Soft landscaping is proposed throughout the proposed development. There will be new external lighting associated with the building. Detailed designs are not yet available.

The proposed development will require the partial removal of approximately 20 m of native species-rich hedgerow along Fort Road to facilitate access. An additional area of hedgerow; approximately 20 m each side of the access track, will require management to achieve a safe visibility splay. The proposed development will also require the removal of semi-improved grassland and areas of scrub. All other semi-natural habitats will be retained.

It is understood that construction is programmed to commence from July 2022, with a construction period of 60 weeks.

Within the Site boundary there is potential for invertebrates, reptiles, common amphibians, breeding birds, foraging, commuting and roosting bats, dormouse, badger and hedgehog.

Without mitigation the potential impacts are: pollution of retained and adjacent habitats, disturbance, injury and/or killing of species caused by vegetation clearance and ground-breaking works, disturbance of species from lighting, and entrapment of species in excavations (if left open overnight).

Additional survey work to cover the potential presence of Important hedgerows and surveys for dormouse, reptile, bat activity, bat roosting and badger have been recommended.

Recommendations have been made with regards to mitigation including pollution control measures, Precautionary Methods of Working (PMW) for vegetation removal, lighting design, protection of retained habitats and covering excavations overnight or providing a ramp. Further recommendations for mitigation may be made following the surveys and may include the need for European Protected Species Mitigation Licences (EPSML).

Recommendations for enhancements have been provided which must be considered during the detailed design process.

The Executive Summary is not a substitute for the full report. Refer to the full text for further detail.

2. Introduction

2.1 Introduction

AECOM was instructed by Vale of Glamorgan Council to carry out a Preliminary Ecological Appraisal (PEA) of the Ysgol Y Deri Primary School (YYD2), hereafter referred to as 'the Site'. The central grid reference for the Site is ST 17865 68843 and the boundary of the Site is shown on Figure 1.

This PEA was commissioned to identify whether there are known or potential ecological receptors (nature conservation designations and protected and notable habitats and species) that may constrain or influence the design and implementation of the proposed development. The approach applied when undertaking this PEA pays due regard to the *Guidelines for Preliminary Ecological Appraisal* published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017). The PEA addresses relevant wildlife legislation and planning policy as summarised in this report.

In order to deliver the PEA, a desk study and an extended Phase 1 Habitat Survey were undertaken by an appropriately experienced ecologist, to identify ecological features within the proposed development site and the wider potential zone of influence of the proposed development. The potential zone of influence was defined with reference to the project description provided by Vale of Glamorgan Council and considered to be the habitats within and immediately adjacent to the Site.

2.2 Site Location and Description

The Site is approximately 22,000 (m²) and located within the semi-rural location of Cosmeston to the south of Lower Penarth, Vale of Glamorgan (see Figure 1 – Proposed Site Boundary).

The Site is a dis-used pastoral field mainly comprising of neutral semi-improved grassland, not currently subjected to management. Semi-natural habitats are located around the perimeter of the Site including broadleaved semi-natural woodland, intact native species-rich hedgerow and rows of trees, with areas of both dense and scattered scrub throughout.

2.3 Proposed Development

The proposed development is for a new two-storey primary school building located in an area of neutral semi-improved grassland. The proposed development will include a new access track with associated drop-off/ pick-up zones and staff parking. The staff-parking area will be constructed using Sustainable Drainage Systems. Pedestrian footpaths and areas of hardstanding for informal and social use will connect the school to both the parking and drop-off/ pick up zones. Three areas for outdoor amenity use are included within the proposal: an area of 1,103 m² hardstanding is proposed for a multi-use game area (MUGA); a 502 m² artificial grass area and a 5,596 m² grass football pitch. Soft landscaping is proposed throughout the proposed development. There will be new external lighting associated with the building. Detailed designs are not yet available.

The proposed development will require the partial removal of approximately 20 m of native species-rich hedgerow along Fort Road to facilitate access. An additional area of hedgerow; approximately 20 m each side of the access track, will require management to achieve a safe visibility splay. The proposed development will also require the removal of semi-improved grassland and areas of scrub. Tree planting is proposed on the north boundary to mitigate the loss of hedgerow habitat. Areas of semi-natural habitats on the perimeter of the Site will be retained.

It is understood that construction is programmed to commence from July 2022, with a construction period of 60 weeks.

2.4 Objectives

The purpose of the PEA was to:

- Identify any designated nature conservation sites on or within proximity to the Site;
- Identify any known records of Protected or Priority Species within proximity to the Site;
- Identify and categorise the main habitats and features of ecological interest present within the Site;

- Appraise the potential for Protected or Priority Species of fauna and flora;
- Provide advice on any potential ecological constraints and opportunities on or within proximity to the Site;
- Identify the requirement for further habitat and/or Protected Species surveys;
- Make recommendations to avoid and mitigate ecological impacts as well as opportunities for biodiversity enhancements; and,
- Provide a map showing the Phase 1 habitats on Site and any features of ecological interest.

The purpose of this report is to inform the design of the proposed development to support the submission of a planning application. The report identifies the scope of further work (where necessary) that would be required to support a planning application. High level recommendations are made on potential options for the avoidance, mitigation or compensation of the potential impacts of the proposed development (where known) on the identified ecological receptors, and of potential enhancements to the biodiversity and ecosystem services.

2.5 Wildlife Legislation and Planning Policy

2.5.1 Wildlife Legislation

There are several different acts of legislation and regulations which refer to the protection of wildlife. These are summarised in Appendix A. In particular, the legislation relating to possible protected species on site is outlined. This is a brief summary of the legislation and is not to be regarded as a definitive legal opinion. When dealing with individual cases, the client is advised to consult the full texts of the relevant legislation and obtain further legal advice.

The following wildlife legislation is potentially relevant to the proposed development:

- The Wildlife and Countryside Act (WCA) 1981 (as amended);
- The Countryside and Rights of Way (CRoW) Act 2000;
- The Conservation of Habitats and Species and Planning 2017 (as amended);
- The Natural Environment and Rural Communities (NERC) Act 2006;
- Environment (Wales) Act 2016;
- The Hedgerow Regulations 1997; and,
- The Protection of Badgers Act 1992.

The above legislation has been considered when planning and undertaking this PEA, when identifying potential constraints to the proposed development, and when making recommendations for further survey, design options and mitigation. Compliance with legislation may require the attainment of relevant protected species licences prior to the implementation of the proposed development.

2.5.2 National Planning Policy

2.5.2.1 Planning Policy Wales (11th Ed. February 2021)

Planning Policy Wales (PPW) sets out the land use planning policies of Welsh Government.

It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales.

Chapter 6. Distinctive and Natural Places, outlines Welsh Government's objectives for the environmental and cultural components of placemaking. These components are complementary to those of the Active and Social and Productive and Enterprising themes and collectively the three themes come together to contribute towards the national sustainable placemaking outcomes.

Section 6.4 addresses Biodiversity and Ecological Networks. The policy includes the duties and requirements set out in Section 6 the Environment Wales Act (2016) and pays due regard to the State of Natural Resources Report (NRW, 2016) by taking all reasonable steps to maintain and enhance biodiversity. There is a focus on ecosystem services and the benefits of protecting and enhancing biodiversity.

The relevant measures in place to conserve landscape and biodiversity include:

- Statutory designations;
- Non-statutory designations;
- Maintaining and enhancing biodiversity;
- Ecosystem resilience and connectivity of ecological networks;
- Trees, hedgerows and woodlands; and,
- Protected and Priority species.

Sections relevant to this PEA are detailed below.

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.

Paragraph 6.4.15 states that Statutorily Designated Sites must be protected from damage and deterioration, with their important features conserved and enhanced by appropriate management.

Paragraph 6.4.19 states that sites which have been formally proposed as Special Protection Areas (SPAs), Special Areas of Conservation (SACs) but which are not yet subject to legal protection under the Habitats Regulations, should be treated within the planning system in the same way as if they were legally designated. The same considerations should, as a matter of policy, be applied to proposed Ramsar sites.

Paragraph 6.4.20 states that Non-statutory Designated Sites should be given adequate protection. Before authorising development likely to damage a local wildlife designation, planning authorities should give notice of the proposed operation to the County Ecologist and third sector environmental organisations.

Paragraph 6.4.21 states that Planning Authorities must follow a stepwise approach to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, then minimized, mitigated, and as a last resort compensated for; enhancement must be secured wherever possible.

Paragraph 6.4.22 states that the presence of a species protected under European or UK legislation, or under Section 7 of the Environment (Wales) Act 2016 is a material consideration when a planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat and to ensure that the range and population of the species is sustained.

Paragraph 6.4.25 states that Planning authorities should protect trees, hedgerows, groups of trees and areas of woodland where they have ecological value, contribute to the character or amenity of a particular locality, or perform a beneficial and identified green infrastructure function.

Paragraph 6.4.26 states that Ancient woodland and semi-natural woodlands and individual ancient, veteran and heritage trees should be afforded protection from development which would result in their loss or deterioration unless there are significant and clearly defined public benefits.

Paragraph 6.4.27 states that the protection and planting of trees and hedgerows should be delivered, where appropriate, through locally specific strategies and policies, through imposing conditions when granting planning permission, and/or by making Tree Preservation Orders (TPOs).

2.5.2.2 Technical Advice Note 5 (TAN5) Nature Conservation and Planning (September 2009)

The Planning Policy Wales (PPW) is supplemented by a series of Technical Advice Notes. TAN 5 provides guidance on how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. It provides advice on areas including the key principles of positive planning for nature conservation, nature conservation in Local Development Plans and development management procedures. It also provides advice on development affecting designated sites and habitats, in addition to protected or priority habitats and species.

Key Principles include that the town and country planning system in Wales should integrate nature conservation into all planning decisions; that the town and country planning system should look for development to provide a net

benefit for biodiversity conservation with no significant loss of habitats or populations of species, locally or nationally and that they should ensure that the UK's international and national obligations for site, species and habitat protection are fully met in all planning decisions.

2.5.3 Local Planning Policy

Local Development Plans (LDPs) must be produced by every Local Planning Authority in Wales. Any development proposal will be tested against the policies within the LDP. The LDPs follow the planning guidance provide in PPW, including biodiversity and natural heritage policies. These include protecting designated sites and other areas of importance for biodiversity conservation; safeguarding protected species and priority species, including those listed in local biodiversity action plans and retaining, creating and enhancing features of importance for biodiversity conservation where appropriate.

Relevant local planning policies for Vale of Glamorgan Council are detailed in the following document:

- Vale of Glamorgan Local Development Plan 2011-2026, Local Development Plan Written Statement. June 2017.

Appendix A provides a summary of relevant local planning policies. For the precise wording of each specific policy please refer back to the source document. This planning policy has been considered when assessing potential ecological constraints and opportunities identified by the desk study and field surveys; and, when assessing requirements for further survey, design options and ecological mitigation.

2.6 Quality Assurance

This survey and subsequent report were undertaken in line with AECOM's Integrated Management System (IMS). Our IMS places great emphasis on professionalism, technical excellence, quality, environmental and Health and Safety management. All staff members are committed to maintaining our certification to the international standards BS EN ISO 9001:2015 and ISO 14001:2015 and BS ISO 45001 2018. In addition, our IMS requires careful selection and monitoring of the performance of all sub consultants and contractors.

All AECOM Ecologists who worked on this project are members or eligible for membership (at the appropriate level) of the Chartered Institute of Ecology and Environmental Management (CIEEM), and follow their code of professional conduct (CIEEM, 2019) when undertaking ecological work.

3. Methodology

3.1 Desk Study

A desk study was undertaken in October 2020. The objectives of the desk study are to review the existing information available in the public domain concerning species and habitats to identify the following:

- Internationally, nationally and locally designated sites, up to 2 km from the Site using the Multi Agency Geographic Information for the Countryside (MAGIC) website (www.magic.gov.uk);
- Locally designated sites, up to 2 km from the Site boundary using the South East Wales Biodiversity Records Centre (SEWBReC);
- Protected and Priority species records and records of locally designated sites up to 2 km from the Site boundary, using SEWBReC;
- Special Areas of Conservation (SAC) and Sites of Special Scientific Interest (SSSI) designated for bats within a 10 km radius of the Site boundary in accordance with Bat Conservation Trust (Collins, 2016) recommendations;
- Section 7 list of Species and Habitats of Principal Importance for Conservation in Wales;
- Ancient Semi-Natural Woodland (ASNW), Plantation on Ancient Woodland Site (PAWS), Restored Ancient Woodland Site (RAWS) or Ancient Woodland Site of Unknown category (AWSU) within or adjacent to the Site boundary using Forestry Commission Wales 2011 Ancient Woodland Inventory data set downloaded from the Lle website (NRW, 2011);
- Vale of Glamorgan Council interactive map tool was used to identify Trees with a Tree Protection Orders (TPO) within or adjacent to the Site boundary.
- The County Ecologist, Glamorgan bat group and South and West Wales Amphibian and Reptile Group (SWWARG) were contacted for local records or knowledge about the project area; and,
- Aerial photographs and Ordnance Survey (OS) maps were reviewed to identify features of ecological interest surrounding the Site including ponds within 500 m, nearby areas of ecological interest and features connecting these habitats (hedgerows, watercourses, railway lines).

3.2 Extended Phase 1 Habitat Survey

A Phase 1 Habitat Survey (JNCC, 2010) of the Site was undertaken by an experienced AECOM ecologist (BSc, Qualifying CIEEM) and assistant on 11 May 2021.

The survey involved a site walkover and preliminary assessment of habitats, land use and ecological features. The main habitats present were recorded using standard Phase 1 Habitat Survey methodology as described in the Handbook for Phase 1 Habitat Survey: A technique for Environmental Audit (JNCC, 2010). The plant species defining the habitat types on Site were recorded. Evidence of any Invasive Non-Native Species (INNS) of plant subject to legal controls was recorded.

The Phase 1 Habitat Survey was 'Extended' by including a desk study, as described above, and an assessment of the potential for the Site to support Protected or Priority Species in order to identify potential ecological constraints and to guide recommendations for further surveys.

Habitat outside of but adjacent to the Site boundary was noted to aid in the determination of the Zone of Influence.

3.3 Assessment of Bat Habitat Suitability

During the Phase 1 Habitat Survey, where access allowed, trees and buildings throughout the Site were classified into categories dependent on the presence of features suitable as bat roost habitat. This was conducted via an external appraisal from the ground using binoculars where necessary. Table 3.1 provides descriptions of the categories for buildings and trees.

Habitats on Site were classified into categories dependent on the presence of features suitable for bats to commute and forage. Table 3.2 provides descriptions for commuting and foraging habitats.

Table 3.1 Building and Tree Bat Roost Suitability Categories

Roost Suitability	Descriptions for Buildings	Descriptions for Trees
Known or Confirmed	Confirmed signs of bat presence/ occupation (droppings, oily staining around entry points, insect remains, odour, scratching) and actual bat presence.	Confirmed signs of bat presence/ occupation (droppings, oily staining around entry points, insect remains, odour, scratching) and actual bat presence.
High	<p>A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potential for longer periods of time due to their size, shelter, protection, conditions (e.g. temperature, humidity, height above ground level, light levels or levels of disturbance) and surrounding habitat.</p> <p>Can include structures with points of access to the interior of the building and poorly maintained fabric providing ready access points for bats into structures, but at the same time not draughty. Structures of traditional stone, brick or timber construction. Structures with large (>20cm) roof timbers with mortice joints, cracks and holes. Structures of pre or early 20th century construction. Structures with large complicated and/or uncluttered roof spaces providing unobstructed flying spaces. Structures with weather boarding and/or hanging tiles with gaps. Structures with accessible south facing roofs. Structures with proximity to good foraging habitat such as woodland, wetland, water and /or good hedgerows.</p>	<p>A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potential for longer periods of time due to their size, shelter, protection, conditions (e.g. temperature, humidity, height above ground level, light levels or levels of disturbance) and surrounding habitat.</p>
Moderate	<p>A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions (e.g. temperature, humidity, height above ground level, light levels or levels of disturbance) and surrounding habitat but unlikely to support a roost of high conservation status.</p> <p>Can include structures with some potential to support roosting bats, but fewer features than a high risk building. Features may include areas suitable for crevice dwelling and/or access points into structures. Some proximity to foraging habitat.</p>	<p>A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.</p>
Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically.</p> <p>However these potential roost sites do not provide enough space, shelter protection, appropriate conditions and/or suitable habitat to be used on a regular basis or by large numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).</p>	<p>Tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen have only very limited roosting potential.</p>
Negligible	<p>No features suitable for roosting bats.</p> <p>Can include structures constructed from unsuitable materials e.g. prefabricated with steel and sheet material. Structure is draughty, light and cool buildings with no roosting opportunities. High levels of regular disturbance including external and/or internal lighting. Building is isolated from areas of foraging habitat.</p>	<p>Trees with no potential to support bats.</p>

Source: Category descriptions drawn from Collins, 2016 and Mitchell-Jones, 2004 to be applied using professional judgement

Table 3.2 Commuting and Foraging Habitat Suitability Categories

Commuting and Foraging Suitability Descriptions

High	<p>Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.</p> <p>Site is close to and connected to known roosts.</p>
Moderate	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</p>
Low	<p>Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.</p> <p>Suitable, but isolated habitat that could be used by small number of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.</p>
Negligible	<p>Negligible habitat features on site likely to be used by commuting or foraging bats.</p>

Source: Category descriptions drawn from Collins, 2016 to be applied using professional judgement

3.4 Limitations

Biological records can be received from a wide variety of sources and may or may not be comprehensive and accurate. However, if assessed in conjunction with a Phase 1 Habitat survey, they can contribute to a robust ecological assessment of a site.

Where any conclusions and recommendations contained in this Report are based upon information provided by others, it has been assumed that all relevant information provided by those parties is accurate. Any such information obtained by AECOM has not been independently verified by AECOM, unless otherwise stated in the Report. AECOM accepts no liability for any inaccurate conclusions, assumptions or actions taken resulting from any inaccurate information supplied to AECOM from others.

The methodology adopted and the sources of information used by AECOM in providing its services are outlined in this Report. The work described in this Report was conducted between May 2021 and June 2021 and is based on the conditions encountered and the information available during the said period of time. The scope of this Report and the services are accordingly factually limited by these circumstances. AECOM disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to AECOM's attention after the date of the Report.

Although the desk study was completed in October 2020, it is considered to still provide an accurate overview of species within the vicinity of the Site as desk study data is valid for 12 months.

There are deemed to be no significant limitations to this PEA.

4. Baseline Conditions

4.1 Desk Study Results

The designated habitats, sites and features within proximity to the site are listed in Table 4.1 below.

Table 4.1 Desk Study Results

Designation / Feature	Description
Internationally and Nationally Designated Sites Within 2 km	<p><u>Cosmeston Lakes SSSI</u> Distance and Direction: 0.1 km north Description: Llynnoedd Cosmeston/Cosmeston Lakes are situated 2km south of Penarth. It includes two lakes, created from flooded limestone quarries, which are connected by a narrow channel. These are deep (up to 10 m), eutrophic water bodies, which support a range of submerged plants. One of the lakes is of special interest as the only known site in Wales for the presence of starry stonewort <i>Nitellopsis obtusa</i>. The site also includes areas of swamp, ponds and grassland that form part of the water catchment area for the lake (CCW, 2009).</p> <p><u>Severn Estuary SPA</u> Distance and Direction: 0.8 km east Description: Site supports overwintering populations of Bewicks swan <i>Cygnus columbianus bewickii</i> representing 3.9 % of the Great British population (5-year peak 1991/2-1995/6). Site supports an international important assemblage of overwintering birds. Supports 84317 waterfowl including gadwall <i>Anas strepera</i> (0.9% of 5 year population), white fronted goose <i>Anser albifrons albifrons</i> (0.4% of 5 year population), dunlin <i>Calidris alpina alpina</i> (3.3% of 5 year population), shelduck <i>Tadorna tadorna</i> (1.1% of 5 year population), redshank <i>Tringa totanus</i> (1.3% of 5 year population) (JNCC, 2016).</p> <p><u>Severn Estuary Ramsar</u> Distance and Direction: 0.8 km east Description: Site supports Annex I Habitats estuaries, mudflats and sandflats not covered by seawater at low tide and Atlantic salt meadows, unusual estuarine communities, reduced diversity and high productivity. The Site also is an important site for the run of migratory fish between sea and river via estuary. Species include Atlantic salmon <i>Salmo salar</i>, sea trout <i>Salmo trutta</i>, sea lamprey <i>Petromyzon marinus</i>, river lamprey <i>Lampetra fluviatilis</i>, allis shad <i>Alosa alosa</i>, twaite shad <i>Alosa fallax</i>, and eel <i>Anguilla anguilla</i>. It is also of particular importance for migratory birds during spring and autumn. Site supports an assemblage of wildfowl of international importance - 70919 waterfowl (5-year peak mean 1998/99-2002/2003). Site supports internationally important populations of Berwick's swan, white fronted goose, shelduck, gadwall, dunlin and redshank, and a diverse assemblage of fish including Atlantic salmon, sea trout, sea lamprey, river lamprey, allis shad, twaite shad and eel (JNCC 1995).</p> <p><u>Severn Estuary SAC</u> Distance and Direction: 0.8 km east Description: Annex I habitats: Estuaries, mudflats and sandflats not covered by seawater at low tide, Atlantic salt meadows are the primary reason for site selection. Sandbanks which are slightly covered by sea water all the time and reefs are present as qualifying features but not a primary reason for site selection.</p>

Designation / Feature	Description
	<p>Annex II species: Sea lamprey, river lamprey, twaite shad are a primary reason for site selection (JNCC, 2015c).</p> <p><u>Severn Estuary SSSI</u> Distance and Direction: 0.8 km east Description: The Severn Estuary lies on the south west coast of Britain at the mouth of four major rivers (the Severn, Wye, Usk and Avon) and many lesser rivers. The immense tidal range (the second highest in the world) and classic funnel shape make the Severn Estuary unique in Britain and very rare worldwide. The intertidal zone of mudflats, sand banks, rocky platforms and saltmarsh is one of the largest and most important in Britain. The estuarine fauna includes: internationally important populations of waterfowl; invertebrate populations of considerable interest; and large populations of migratory fish, including the nationally rare and endangered allis shad. The SSSI forms the major part of a larger area of estuarine habitat, which includes the Upper Severn Estuary, the Taff/Ely Estuary and Bridgwater Bay (CCW, 1989).</p> <p><u>Penarth Coast SSSI</u> Distance and Direction: 0.8 km east Description: Primarily designated for geological interest. The site also includes some species rich calcareous grassland and cliff-top scrub which supports a number of plant species of limited occurrence and distribution in the former counties of Mid and South Glamorgan, including Dyer's greenweed <i>Genista tinctoria</i>, butterfly orchid <i>Plantanthera chlorantha</i>, bee orchid <i>Ophrys apifera</i> and adder's tongue <i>Ophioglossum vulgatum</i>. Lavernock Point is a well-known observation point for migratory birds (CCW, 1984).</p> <p><u>Sully Island SSSI</u> Distance and Direction: 1.7 km south west Description: Primarily designated for geological interest. Sully Island additionally provides the main roost site for waders feeding in winter in the Taff/Ely Estuary. The roost holds up to 100%, of the dunlin, grey plover and ringed plover of the Taff/Ely and over 50%, of the redshank and knot <i>Calidris canutus</i>. The Taff-Sully system is a nationally important site for dunlin and redshank supporting over 17 of the British wintering populations of these species. The Taff-Sully system also constitutes an important part of the wider Severn Estuary which is an internationally important wintering area for redshank, knot and dunlin (CCW, 1986).</p> <p><u>Cog Moors SSSI</u> Distance and Direction: 1.7km west Description: Cog Moors supports an extensive area of relatively unimproved species rich grassland, which was traditionally managed for hay. Grassland of particular interest is characterised by common knapweed <i>Centaurea nigra</i>, crested dog's-tail <i>Cynosurus cristatus</i>, common bird's-foot-trefoil <i>Lotus corniculatus</i> and meadow vetchling <i>Lathyrus pratensis</i>. Other distinctive species found at Cog Moors include pepper-saxifrage <i>Silau silaus</i>, meadow barley <i>Hordeum secalinum</i>, amphibious bistort <i>Persicaria amphibia</i>, meadowsweet <i>Filipendula ulmaria</i>, lesser pond-sedge <i>Carex acutiformis</i>, slender tufted-sedge <i>Carex acuta</i>, greater pond-sedge <i>Carex riparia</i> and lesser pond-sedge, foxtail <i>Alopecurus bulbosus</i>, brown sedge <i>Carex disticha</i>, adder's-tongue <i>Ophioglossum vulgatum</i> and green-winged orchid <i>Orchis morio</i> (CCW, 2000).</p>
Locally Designated Sites Within 2 km	<p><u>Ty-r-Orsaf SINC</u> Distance and Direction: 50 m south</p>

<u>Designation / Feature</u>	<u>Description</u>
	<p>Description: Old railway line supporting scrub and rough grassland with areas of species rich grassland.</p> <p><u>Cosmeston Lakes SINC and Local Nature Reserve</u> Distance and Direction: 100 m north – separated by Lavernock Road Description: Extensive country park supporting mosaic of habitats including species rich calcareous and neutral grassland, scrub, hedgerows, woodland, streams and pond which support an assemblage of species.</p> <p><u>Lavernock Point East SINC</u> Distance and Direction: 0.4 km south Description: Site supports mosaic of coastal species. Moderate to rich limestone grassland with scrub.</p> <p><u>Downs Wood SINC</u> Distance and Direction: 0.8 km north Description: Ancient semi-natural woodland.</p> <p><u>Cogan Pond SINC</u> Distance and Direction: 1.1 km north Description: Large pond supporting reed bed.</p> <p><u>Cog Moors SINC</u> Distance and Direction: 1.4 km west Description: Series of species-rich rush pastures with neutral grassland and associated wet ditches.</p> <p><u>Pop Hill SINC</u> Distance and Direction: 1.8 km west Description: Ancient semi-natural woodland.</p> <p><u>North of Cog Moors SINC</u> Distance and Direction: 1.9 km west Description: Ancient semi-natural woodland.</p>

All SINC descriptions taken from Soltys Brewster (2010).

Designated Sites Within 10 Km Designated for Bats	There are no SSSIs or SACs within 10 km designated for bats.
Protected and Priority Species Records from the last 10 years within 2 km	<p>Invasive Species: Japanese knotweed <i>Fallopia japonica</i> (0.9 km south east and 1.2 km north, no connectivity), Himalayan cotoneaster <i>Cotoneaster simonsii</i> and small-leaved cotoneaster <i>Cotoneaster microphyllus</i> (1.9 km south east, no connectivity).</p> <p>Plants: Tubular water-dropwort <i>Oenanthe fistulosa</i>.</p> <p>Invertebrates: August thorn <i>Ennomos quercinaria</i>, brown banded carder bee <i>Bombus humilis</i>, centre-barred sallow <i>Atethmia centrago</i>, dark-barred twin spot carpet <i>Xanthorhoe ferrugata</i>, dingy skipper <i>Erynnis tages</i>, dot moth <i>Melanchnra persicariae</i>, dusky thorn <i>Ennomos fuscantaria</i>, gallium carpet <i>Epirrhoe galiata</i>, greenweed flat-body <i>Agonopterix atomella</i>, grey dagger <i>Acronicta psi</i>, knot grass <i>Acronicta rumicis</i>, lackey <i>Malacosoma Neustria</i>, large wainscot <i>Rhizedra lutosa</i>, latticed heath <i>Chiasmia clathrate</i>, narrow bordered bee hawk moth <i>Hemaris tityus</i>, shrill carder bee <i>Bombus sylvarum</i>, small blue <i>Cupido minimus</i>, small pearl bordered</p>

Designation / Feature	Description
	<p>fritillary <i>Boloria selene</i>, small phoenix <i>Ecliptopera silaceata</i>, two tone reed beetle <i>Donacia bicolora</i>, white ermine <i>Spilosoma lubricipeda</i>.</p> <p>Amphibians: Common toad <i>Bufo bufo</i>, great crested newt <i>Triturus cristatus</i> (1.4 km west, separated from Site by Lavernock Road).</p> <p>Reptiles: Slow worm <i>Anguis fragilis</i> (records 150 m north, separated from Site by Lavernock Road).</p> <p>Birds : Avocet <i>Recurvirostra avosetta</i>, bearded tit <i>Panurus biarmicus</i>, bittern <i>Botaurus stellaris</i>, black redstart <i>Phoenicurus ochruros</i>, black headed gull <i>Chroicocephalus ridibundus</i>, brambling <i>Fringilla montifringilla</i>, bullfinch <i>Pyrrhula pyrrhula</i>, Cetti's warbler <i>Cettia cetti</i>, common crossbill <i>Loxia curvirostra</i>, common rosefinch <i>Erythrura erythrina</i>, common scoter <i>Melanitta nigra</i>, cuckoo <i>Cuculus canorus</i>, curlew <i>Numenius arquata</i>, dunnock <i>Prunella modularis</i>, fieldfare <i>Turdus pilaris</i>, firecrest <i>Regulus ignicapilla</i>, golden plover <i>Pluvialis apricaria</i>, goshawk <i>Accipiter gentilis</i>, grasshopper warbler <i>Locustella naevia</i>, green sandpiper <i>Tringa ochropus</i>, hawfinch <i>Coccothraustes coccothraustes</i>, herring gull <i>Larus argentatus</i>, hobby <i>Falco Subbuteo</i>, house sparrow <i>Passer domesticus</i>, diver sp., kestrel <i>Falco tinnunculus</i>, kingfisher <i>Alcedo atthis</i>, lapwing <i>Vanellus vanellus</i>, lesser redpoll <i>Acanthis cabaret</i>, linnet <i>Linaria cannabina</i>, little gull <i>Hydrocoloeus minutus</i>, long tailed duck <i>Clangula hyemalis</i>, marsh harrier <i>Circus aeruginosus</i>, marsh tit <i>Poecile palustris</i>, Mediterranean gull <i>Larus melanocephalus</i>, merlin <i>Falco columbarius</i>, nightjar <i>Caprimulgus europaeus</i>, osprey <i>Pandion haliaetus</i>, peregrine <i>Falco peregrinus</i>, pied flycatcher <i>Ficedula hypoleuca</i>, purple sandpiper <i>Calidris maritima</i>, red kite <i>Milvus milvus</i>, red throated diver <i>Gavia stellate</i>, redwing <i>Turdus iliacus</i> reed bunting <i>Emberiza schoeniclus</i>, ring ouzel <i>Turdus torquatus</i>, roseate tern <i>Sterna dougallii</i>, scaup <i>Aythya marila</i>, skylark <i>Alauda arvensis</i>, snow bunting <i>Plectrophenax nivalis</i>, song thrush <i>Turdus philomelos</i>, spoonbill <i>Platalea leucorodia</i>, spotted flycatcher <i>Muscicapa striata</i>, starling <i>Sturnus vulgaris</i>, tree pipit <i>Anthus trivialis</i>, whimbrel <i>Numenius phaeopus</i>, whooper swan <i>Cygnus cygnus</i>, wood warbler <i>Phylloscopus sibilatrix</i>, woodlark <i>Lullula arborea</i>, wryneck <i>Jynx torquilla</i>, yellow wagtail <i>Motacilla flava</i>.</p> <p>Bats: Common pipistrelle <i>Pipistrellus pipistrellus</i> (roost located 1.7 km north west, foraging records 0.5 km north), lesser horseshoe <i>Rhinolophus hipposideros</i> (foraging 1.6 km north, no roost within 2 km), Nathusius pipistrelle <i>Pipistrellus nathusii</i> (foraging 0.5 km north, no roost within 2 km), serotine <i>Eptesicus serotinus</i> (foraging 1.6 km west, no roost within 2 km), soprano pipistrelle <i>Pipistrellus pygmaeus</i> (foraging 0.5 km north, no roost within 2 km), whiskered bat <i>Myotis mystacinus</i> (roost located 1.7 km north west, foraging records 0.5 km north).</p> <p>Other Mammals: Hazel dormouse <i>Muscardinus avellanarius</i> (closest record 0.6 km east connected to Site via hedgerows), hedgehog <i>Erinaceus europaeus</i> (record adjacent to Site boundary), otter <i>Lutra lutra</i> (adjacent to northern Site boundary), water vole <i>Arvicola amphibious</i> (closest record 0.3 km north).</p> <p>Anecdotal evidence of dormouse recorded on the wider Cosmeston Farm site was stated within the statutory pre-application consultation provided by Vale of Glamorgan Council and Natural Resources Wales (Received 02 February 2021).</p>
Priority Habitats and Species – Section 7 List	The full list of Section 7 Habitats and Species of Principle Importance in Wales has been reviewed. Those priority habitats present on site and priority species with potential to be on site are listed in Table 4.2 and Table 4.3 respectively.
Surrounding Land Use	<p>The Site is located along the B4267 Lavernock Road between Cosmeston and Sully in an agricultural area dominated by fields with hedgerows and some scattered woodland blocks. Appendix C, Photograph 6</p> <p>Cosmeston Country Park and Medieval Village is located 20 m north of the Site.</p> <p>A disused railway line runs adjacent to the southern boundary of the Site. The Penarth coastline is located 0.8 km south.</p>
Ancient Woodland	There are no ASNW, PAWS, RAWs or AWSU areas within or adjacent to the site boundary.

Designation / Feature	Description
Trees with a Tree Protection Order (TPO)	There are no TPOs within or adjacent to the Site.
Ponds within 500 m	<ul style="list-style-type: none">• Cosmeston Lakes is located 220 m north. The lakes cover an area of approximately 13.1 ha. Separated from the Site by B4267 Lavernock Road.• Pond 1 – 0.1 ha pond located 170 m north within area of marshy grassland adjacent to a woodland. Separated from the Site by B4267 Lavernock Road.• Pond 2 – 0.1 ha pond located 215 m north east within an area of marshy grassland. Separated from the Site by B4267 Lavernock Road.• Pond 3 – 0.1 ha pond located 260 m north east within an area of marshy grassland. Separated from the Site by B4267 Lavernock Road.• Pond 4 – 0.1 ha pond located 350 m north east within an area of marshy grassland. Separated from the Site by B4267 Lavernock Road.• Pond 5 – 0.1 ha pond located 40 m south within woodland adjacent to the disused railway line. Connected to the Site by the disused railway line and hedgerows.
Council Ecologist and Local Specialist Recorders	County Council: Vale of Glamorgan The County Ecologist and local recording groups for bats and mammals were contacted. No response has been received at the time of writing.

4.2 Extended Phase 1 Survey

4.2.1 Habitats

The habitats present within the site boundary and their descriptions are shown in Table 4.2. A plan of the site showing the location and distribution of these habitats is shown in Figure 1.

Table 4.2 Phase 1 Habitats and Descriptions

Habitat	Description	Section 7 Habitat
Broadleaved Natural Woodland	Semi- developed An area along the southern boundary with scrubby understorey and ground flora. Species include oak <i>Quercus robur</i> , hawthorn <i>Crataegus monogyna</i> , sycamore <i>Acer pseudoplatanus</i> and ash <i>Fraxinus excelsior</i> . Ground flora species include: lords and ladies <i>Arum alpinum</i> , common ivy <i>Hedera helix</i> , hart's tongue fern <i>Asplenium scolopendrium</i> , herb-robert <i>Geranium robertianum</i> , dog's mercury <i>Mercurialis perennis</i> and dog rose <i>Rosa canina</i> . Extending north east the vegetation becomes less dense and develops into scrub. The woodland extends south west beyond the Site boundary. Appendix C, Photograph 1.	Yes
Broadleaved Scattered Trees	Parkland/ A line of trees is present on the north east boundary connected to the woodland in the south and an area of dense scrub in the north. Species include hawthorn, ash, blackthorn <i>Prunus spinosa</i> , ground ivy <i>Glechoma hederacea</i> , bramble <i>Rubus fruticosus</i> agg. and tormentil <i>Potentilla erecta</i> . Appendix C, Photograph 2.	No
Scrub Continuous	- Dense/ An area of dense scrub comprising bramble, is located in the north corner of Site. Appendix C, Photograph 3. Appendix B, Target Note 1.	No
Scrub - Scattered	An area of scattered scrub is located in the south of the Site connected to the hedgerow and broadleaved semi-natural woodland.	No
Neutral Semi-improved	Grassland - The dominant habitat on Site. There is no evidence of recent management. Species include curled leaved dock <i>Rumex crispus</i> , hogweed <i>Heracleum sphondylium</i> , creeping thistle <i>Cirsium arvense</i> , Yorkshire fog <i>Holcus lanatus</i> , cocks' foot <i>Dactylis glomerata</i> , ribwort plantain <i>Plantago lanceolata</i> , meadow buttercup <i>Ranunculus acris</i> , meadow foxtail <i>Alopecurus pratensis</i> and silver weed <i>Potentilla anserina</i> . Appendix C, Photograph 5.	No
Intact Species Rich	Hedge - Native Two species-rich intact hedgerows are present along the north and west boundaries. The north hedgerow species include hawthorn, honeysuckle <i>Lonicera periclymenum</i> , blackthorn, elder <i>Sambucus nigra</i> , dogrose, field rose <i>Rosa arvensis</i> , elm <i>Ulmus</i> sp., black bryony <i>Tamus communis</i> , sycamore, ivy and bramble. The south hedgerow species include elm, hawthorn, dogwood <i>Cornus sanguinea</i> , blackthorn, black bryony, bramble, sycamore, elder, dog rose, field rose, field maple <i>Acer campestre</i> , ash and clematis <i>Clematis vitalba</i> . Appendix C, Photograph 7.	Yes

4.3 Protected and Priority Species

Details of Protected and Priority Species recorded on Site are listed in Table 4.3.

A plan of the Site showing the location and distribution of features with potential for Protected or Priority Species is shown in Figure 1. Target notes of Protected Species evidence or features that have potential to support Protected Species are shown in Figure 1 and Appendix B.

Table 4.3 Protected and Priority Species Potential

Species/ Species Group	Associated habitat	Description	Section 7 Species
Priority Invertebrates	Semi-improved neutral grassland, continuous scrub, dense scrub	The LERC returned records of Priority Species of invertebrates from within 2 km of the Site. The habitats on Site are suitable to support a range of terrestrial invertebrate species.	Yes
Amphibians	Semi-improved neutral grassland, scattered scrub, dense scrub	The LERC returned records of great crested newt 1.4 km west, No separated from Site by Lavernock Road, and common toad from within 2 km. There is a ditch shown on OS mapping located to the south of the Site boundary. At the time of the survey this was dry and filled in with scrub and therefore unlikely to hold water for any length of time. There are five ponds and Cosmeston Lake within 500 m of the Site. One pond is located 40 m south with connectivity to the Site via woodland. All other ponds and Cosmeston Lake are within 500 m from Site and are separated from the Site by the B4267 Lavernock Road. The Site includes habitats suitable to support amphibians during the terrestrial stage of their life cycle. This includes woodland and scrub along the south and south east boundary. Great crested newt is unlikely to be present on the Site due to a lack of breeding habitat and connectivity to a single pond with potential to support breeding amphibians. The Site has potential to support common amphibians only. The Site is not suitable for supporting breeding amphibians.	No
Reptiles	Semi-improved neutral grassland, continuous scrub, dense scrub	The LERC returned one record of slow worm from 150 m north, Yes separated from Site by Lavernock Road). The interfaces of the semi-improved neutral grassland edges, scattered scrub and dense scrub are suitable to support reptiles such as common lizard and slow-worm, due to a lack of suitable habitats it is unlikely that the Site supports adder <i>Vipera berus</i> or grass snake <i>Natrix helvetica</i> .	Yes
Breeding Birds	Semi-natural broadleaved woodland, scattered trees, dense scrub and species rich hedgerows.	The LERC returned records of common passerine and No Schedule 1 birds from within 2 km of the Site. Woodland, scrub, hedgerows and rows of trees are suitable to support a range of breeding, sheltering and foraging passerine species. Grassland areas offer foraging opportunities for birds. The grassland is unlikely to be suitable for ground nesting species. There is no habitat suitable on or adjacent to the Site for supporting breeding Schedule 1 birds.	No
Bats	Semi-natural broadleaved woodland, rows of trees, scattered trees, semi-improved	The LERC returned records of bats including activity and Yes roosting records within 2 km of the Site. Closest roost is located 1.6 km north and foraging records are located 0.5 km north of the Site boundary.	Yes

Species/ Species Group	Associated habitat	Description	Section 7 Species
	neutral grassland, scattered scrub, dense scrub.	<p>The range of habitats across the Site provide opportunities for foraging and commuting. Habitats have been assessed as having High suitability for foraging and commuting. Rows of trees, woodland and hedgerows provide connectivity across the Site and with the surrounding landscape. No artificial lighting is present on Site.</p> <p>There are no features within the Site boundary with suitability to support roosting bats. A farm building of constructed of sheet, corrugated steel and asbestos roofing adjacent to the north east boundary was identified as having Negligible potential for roosting bats. (Appendix C, Photograph 3 & 4. Appendix B, Target Note 3).</p> <p>Semi-natural broadleaved woodland directly adjacent to the south boundary has trees of sufficient size and age to contain potential roost features. Three trees within this woodland habitat were identified as having Low and Moderate bat roost suitability. (Appendix B, Target Note 2).</p>	
Dormouse	Semi-natural broadleaved woodland, dense scrub and species rich hedgerows.	<p>The LERC returned one record of dormouse located 0.6 km east, connected to Site via hedgerows. Anecdotal evidence of dormouse recorded on the wider Cosmeston Farm site was stated within the statutory pre-application consultation provided by Vale of Glamorgan Council and Natural Resources Wales (Received 02 February 2021). Broadleaved semi-natural woodland, hedgerows and scrub are suitable to support dormouse. (Appendix B, Target Note 1) The habitats have the structure and diversity to provide dormouse with foraging, nesting and commuting habitat. The hedgerows connect the Site to the surrounding landscape including woodland blocks.</p>	Yes
Badger	Semi-natural broadleaved woodland, dense scrub, scattered scrub, semi-improved grassland and species rich hedgerows.	<p>No records of badger were returned from the LERC within 2 km of the Site boundary.</p> <p>The scrub, woodland, species-rich hedgerows, and neutral semi-improved grassland throughout the Site are suitable to support foraging and commuting badgers. Woodland in the south of the provides suitable habitat to support setts. No evidence of badger activity was identified on Site during the survey.</p> <p>The Site is connected to habitats in the wider landscape suitable to support badgers including suitable habitat to support setts.</p>	Yes
Otter and Water Vole	N/A	<p>The LERC returned records of otter from adjacent to the north of the Site and water vole 0.3 km from the Site.</p> <p>There is no habitat suitable for supporting water vole on Site. Water vole are considered absent from the Site.</p> <p>There is no aquatic habitat on Site. Although the woodland could offer suitable sheltering habitat for otter, there are no watercourses linking the record (from Cosmeston Lakes, a likely food source for otter locally) to the habitat on Site, and as such otter are considered likely absent from the Site and the Zol.</p>	Yes

Species/ Species Group	Associated habitat	Description	Section 7 Species
Hedgehog	Semi-natural broadleaved woodland, dense scrub, scattered scrub, semi-improved grassland and species rich hedgerows.	The LERC returned records of hedgehog from adjacent to the north Site boundary. Scrub, woodland, species-rich hedgerows, and neutral semi-improved grassland throughout the Site are suitable to support foraging and commuting hedgehog. Woodland and hedgerows are suitable to support sheltering and nesting hedgehogs. The Site is connected to habitats suitable to support hedgehog to the south, east and west.	Yes

4.4 Invasive Non-Native Species Subject to Legal Controls

There were no INNS plant species identified during the Site visit.

4.5 Bat Roost Assessment

There were no features suitable for supporting roosting bats identified within the Site boundary during the Site visit. The farm buildings to the north east of the Site were identified as having Negligible Suitability for supporting roosting bats. Semi-natural broadleaved woodland directly adjacent to the south boundary has trees of sufficient size and age to contain potential roost features. Three trees within this woodland habitat were assessed as having Low and Moderate bat roost suitability during the Site visit and are listed in Table 4.5. The locations of tree with suitability to support roosting bats are shown on Figure 1.

Table 4.4 Features Assessed as Having Suitability to Support Roosting Bats

Bat Tree No.	Description	Bat Roost Suitability Category
1	Sessile oak <i>Quercus petraea</i> , DBH = 0.8 m (Figure 1: Bat Roost Tree 1, Appendix B: Photographs 8 to 12) with six potential roost features. Feature 1 – Split, Low bat roost suitability. Horizontal split in branch, 5m above ground, orientated to the east and west Entrance is approx. 4 cm wide. The cavity extends laterally through the entire branch. Feature 2 – Lifted bark, Low bat roost suitability. Lifted bark plate, peeling away from branch 2 m above ground, orientated west. Cavity behind lifted bark is approx. 2 cm deep. Feature 3 – Knothole, Low bat roost suitability. Knothole on branch 4 m above ground, orientated south. Cavity entrance is approx. 5 cm Depth of feature not visible from ground. Feature 4 – Knothole, Low bat roost suitability. Feature 4 is close to Feature 3. Knothole on branch 4 m above ground, orientated south. Cavity entrance is approx. 5 cm. Depth of feature not visible from ground. Feature 5 –Tear out, Moderate bat roost suitability. Large wound on main stem created from historic tear out 2 m above ground, orientated south.Cavity entrance is approx. 10 cm wide and facing downwards. Feature 6 – Rot hole, Low bat roost suitability. Rot hole toward end of branch with historic limb failure, 4 m above ground, orientated south. Depth of feature not visible from ground, cavity may extend further into branch.	Moderate
2	Dead ash, DBH = 0.4 m (Figure 1: Bat Roost Tree 2, Appendix B: Photograph 13), with one potential roost feature.	Low

Bat Tree No.	Description	Bat Roost Suitability Category
	Feature 1 – Dense ivy cover, Low bat roost suitability. Dead ash tree with dense ivy covering entire trunk which could be used by roosting bats. Main stem not visible due to dense ivy cover, further roost features could be concealed.	
3	Oak sp., DBH = 0.3 m (Figure 1: Bat Roost Tree 3, Appendix B: Photographs 14) with one potential roost feature. Feature 1 – Knot hole, Low bat roost suitability. Knot hole toward the end of a branch, 2 m above ground, orientated east. Cavity entrance is approx. 4 cm wide.	Low

5. Ecological Constraints, Potential Impacts Further Surveys and Recommendations

Relevant ecological receptors that may represent constraints to the proposed development, or that provide opportunities to deliver ecological enhancement in accordance with planning policy, are identified in Section 4 of this report and shown on Figure 1.

The results of further surveys may change the likely potential impacts.

The mitigation hierarchy has been considered and should be implemented when designing the proposed development. A summary is provided below.

Mitigation Hierarchy:

1. Avoidance – Seek options that avoid harm to ecological features (for example, by locating on an alternative site or use of technology, or timing to eliminate impact);
2. Mitigation – Negative effects should be avoided or minimised through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation;
3. Compensation – Used as last resort to offset impacts; and,
4. Enhancement – Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

The National Planning Policy Framework (February, 2019) and The Environment (Wales) Act 2016, requires that developments enhance biodiversity, as well as just mitigating impacts.

Recommendations have been made to make the most of proposed landscape planting on Site to benefit biodiversity.

5.1 Proposed Development

The proposed development is for a new two storey primary school building located in an area of neutral semi-improved grassland. The proposed development will include a new access track with associated drop-off/ pick-up zones and staff parking. The staff-parking area will be constructed using Sustainable Drainage Systems. Pedestrian footpaths and areas of hardstanding for informal and social use will connect the school to both the parking and drop-off/ pick up zones. Three areas for outdoor amenity use are included within the proposed development: an area of 1,103 m² hardstanding is proposed for a multi-use game area (MUGA); a 502 m² artificial grass area and a 5,596 m² grass football pitch. Soft landscaping is proposed throughout the proposed development. There will be new external lighting associated with the building. Detailed designs are not yet available.

The development will require the partial removal of approximately 20 m of intact, native species-rich hedgerow along Fort Road to facilitate access. An additional area of hedgerow; approximately 20 m each side of the access track, will require management to achieve safe visibility splay. The proposed development will also require the removal of semi-improved grassland and areas of scrub. Tree planting is proposed on the north boundary to mitigate the loss of hedgerow habitat. Areas of semi-natural habitats on the perimeter of the Site will be retained.

It is understood that construction is programmed to commence from July 2022, with a construction period of 60 weeks.

5.2 Designated Nature Conservation Sites

5.2.1 International Nature Conservation Sites

Severn Estuary SPA, SAC and Ramsar Site

Severn Estuary SPA, SAC and Ramsar Site is located 0.8 km east. Due to the distance from the Site, localised nature of the works and absence of pollution pathways there will be no impacts on the SPA, SAC or Ramsar site features.

5.2.2 National Nature Conservation Sites

There are five SSSIs within 2 km of the Site. Due to the distances from the Site, localised nature of the works and absence of pollution pathways there will be no impacts on any of the SSSIs within 2 km.

5.2.3 Local Nature Conservation Sites

There are eight SINCs and one LNR within 2 km of the Site. Due to the distance from the Site, localised nature of the works and absence of pollution pathways there will be no impacts on the SINCs as a result of the proposed development.

5.3 Habitats

A long-term management plan should be created and implemented to maintain and enhance retained and newly created habitats on Site for the benefit of Site users and local biodiversity.

5.3.1 Semi-Natural Broadleaved Woodland

Semi-natural broadleaved woodland is a Section 7 Priority Habitat.

The proposed development will not require clearance of any semi-natural broadleaved woodland habitat.

Tracking of vehicles and machinery and storage of materials on natural habitats and within root protection zones of woody habitats has potential to damage or destroy retained natural habitats.

Where possible, woodland should be retained. If woodland habitat (include trees, shrub layer and ground flora) is required to be removed in order to facilitate the proposed development (including access, Site compounds etc.) or tracking of vehicles over retained habitat/within root protection zones is anticipated, an ecologist must be consulted and mitigation will be required. Any loss of Priority habitat will require compensatory replacement habitat to be created.

Any new woodland created should utilise native species and be managed for the benefit of wildlife.

5.3.2 Scattered Trees / Broadleaved Parkland

The proposed development will not require clearance of the line of trees.

Tracking of vehicles and machinery and storage of materials on natural habitats and within root protection zones of woody habitats has potential to damage or destroy retained natural habitats.

Where possible, trees should be retained. If trees are required to be removed in order to facilitate the proposed development (including access, Site compounds etc.) or tracking of vehicles over retained habitats/within root protection zones is anticipated, an ecologist must be consulted and mitigation will be required. Loss of trees may require compensatory replacement habitat to be created.

Any new trees planted should utilise native species and be managed for the benefit of wildlife.

5.3.3 Dense/ Continuous and Scattered Scrub

The proposed development will require the removal of areas of dense/ continuous scrub habitat.

Where possible, dense/ continuous scrub habitat should be retained.

Tracking of vehicles and machinery and storage of materials on natural habitats and within root protection zones of woody habitats has potential to damage or destroy retained natural habitats.

If tracking of vehicles over retained habitats/within root protection zones is anticipated, an ecologist must be consulted and mitigation will be required.

Any new scrub created should utilise native species and be managed for the benefit of wildlife.

To enhance the Site for local wildlife such as invertebrates, birds, bats, amphibians, reptiles, and mammals landscaping should include sympathetic management of scrub habitat areas.

5.3.4 Semi-Improved Neutral Grassland

The proposed development will require the removal of large areas or all of the semi-improved neutral.

Where possible, semi-improved neutral grassland should be retained.

Tracking of vehicles and machinery and storage of materials on natural habitats has potential to damage or destroy retained natural habitats. If tracking of vehicles over retained habitats is anticipated, an ecologist must be consulted, and mitigation will be required.

To enhance the Site for local wildlife such as invertebrates, birds, bats, amphibians, reptiles and mammals landscaping should include native grassland with a diverse seed mix and sympathetic management. The introduction of a sympathetic management regime for the grassland will increase floristic diversity by mowing the grassland three times a year. Following flowering in May and June, the main cut is taken in July. Further cuts may be required in the autumn and winter, and any build-up of thatch can be pulled out with grass harrows or a rake. Following the last cut the grassland is left untouched until the main midsummer cut is taken again. If persistent weeds such as thistles or docks are a problem, then digging up by the roots is effective in small areas.

The use of fertiliser should be avoided and if necessary, use only non-residual herbicides.

5.3.5 Native Intact Species-Rich Hedgerow

The proposed development will require the partial removal of approximately 20 m of native intact species rich hedgerow along Fort Road to facilitate access. An additional area of hedgerow; approximately 20 m each side of the access track, will require management to achieve safe visibility splay. Native intact species-rich hedgerow is a Section 7 Priority Habitat.

The Hedgerow Regulations 1997 protect Important hedgerows by controlling their removal through a system of notification. Under the Regulations, it is unlawful to remove or destroy most countryside hedgerows without the written permission of the local planning authority.

A hedgerow survey is recommended to be undertaken to ascertain whether or not the hedgerow would be classified as Important under the Hedgerow Regulations 1997. The hedgerow survey must be undertaken between April to September, the optimum survey period is between May and July. The survey must be undertaken by a suitably trained/ competent individual.

The following guidance was given in the statutory pre-application consultation provided by Vale of Glamorgan Council (Received 02 February 2021):

Where hedgerow removal is proposed, particularly of species rich hedgerows, it is recommended that translocation of affected hedgerows is undertaken wherever possible, and the translocated material is used to bolster existing and retained hedgerows/ site boundaries.

Further recommendations may be made following the completion of the Important hedgerow survey.

Where possible, hedgerows should be retained. If hedgerows are required to be removed in order to facilitate the proposed development (including access, Site compounds etc.) or tracking of vehicles over retained habitats/within root protection zones is anticipated, an ecologist must be consulted and mitigation will be required. Loss of Important hedgerows is likely to require compensatory replacement habitat to be created.

Any new hedgerows created should be native species-rich and managed for the benefit of wildlife.

5.4 Protected or Notable Species

5.4.1 Priority Invertebrates

There will be a loss of habitat suitable for supporting invertebrates. Similar habitat is available within the wider landscape and as such the impact on local invertebrate populations is considered negligible.

To enhance the Site for invertebrates landscaping should include native grassland with a diverse seed mix and sympathetic management.

5.4.2 Amphibians

There will be a loss of habitat suitable for supporting common amphibians. Similar habitat is available within the wider landscape and as such the impact on local amphibian population is considered negligible.

In the absence of mitigation there is potential for killing/injury of common amphibians during ground breaking works or by tracking of vehicles and machinery. The recommendations in relation to phased vegetation clearance for reptiles as described below will reduce the risk of injuring or killing of amphibians.

To enhance the Site for amphibians landscaping should include habitats utilising diverse mixes of native species and sympathetic management. Wetlands areas such as ponds, swales and wet grassland could be incorporated into the landscape design, enhancing the Site for breeding and foraging amphibians.

5.4.3 Reptiles

There will be a loss of habitat suitable for supporting reptiles.

It is recommended that a survey to determine the presence/likely absence of reptiles on Site is undertaken. The results of the survey will be used to determine the location of reptiles on Site, estimate the population and inform a mitigation strategy.

The survey will include a total of seven survey visits which will be separated by at least one day. The survey will be undertaken in areas of suitable habitat across the Site. Surveys can be completed between April and September excluding the months of July and August. The survey will pay due regard to guidelines provided in Froglife Advice Sheet 10 (Froglife 1999. Advice Sheet 10 – Reptile Survey. An Introduction to planning, conducting and interpreting surveys for snake and lizard conservation) and also the Herpetofauna Workers' Manual (Gent, T and Gibson, S 1998. Herpetofauna Workers' Manual. JNCC, Peterborough).

If reptiles are present on Site, in the absence of mitigation there is potential for killing/injury of reptiles during ground breaking works or by tracking of vehicles and machinery. Injury or killing of reptiles is an offence under the Wildlife and Countryside Act 1981 (as amended) and as such mitigation will be required to limit the instances of injury or killing. To enhance the Site for reptiles landscaping should include habitats utilising diverse mixes of native species and sympathetic management. Areas of species-rich grassland, scrub and refugia could be incorporated into the landscape design, enhancing the Site for sheltering, breeding and foraging reptiles.

5.4.4 Breeding Birds

The proposed removal of hedgerow and scrub will reduce habitat suitable for supporting breeding birds, the removal of grassland will reduce the opportunities for foraging birds. Similar habitat is available within the wider landscape and as such the impact on local bird populations is considered negligible.

In the absence of mitigation, the removal of the vegetation suitable for supporting nesting birds (trees, scrub and hedgerow) should be undertaken outside of nesting bird season. (i.e. clearance will be undertaken September to February inclusive). If this is not possible, a suitably qualified and experienced ecologist will undertake a search for active nests immediately before the clearance. If an active nest is encountered, a species-appropriate protective buffer (usually around 5 m) will be erected around the nest and will remain in place until all young have fully fledged. This can be up to eight weeks.

To enhance the Site for birds landscaping should include habitats utilising diverse mixes of native species and sympathetic management. Areas of species-rich grassland, scrub and trees could be incorporated into the landscape design, enhancing the Site for sheltering and foraging birds. Trees, scrub, hedgerows, bird boxes will enhance the Site for nesting birds.

A range of boxes for passerine species would be suitable to use on trees including small boxes, large boxes, boxes with holes entrances or open fronted boxes. Advice on box design and locating boxes is provided by the British Trust of Ornithology <https://www.bto.org/about-birds/nbnw/make-a-nest-box>. Bird boxes should be appropriately located at least 4 m above ground level, and out of reach of predators. Bird boxes should not be positioned to face south in order to avoid hot sun. In addition, it is possible to install bird box cameras with links to computers within

the school. This allows pupils to track the development of chicks from egg to fledgling without disturbing the resident birds.

5.4.5 Bats – Foraging and Commuting

There will be loss of suitable foraging habitat through the removal of grassland, scrub and hedgerows. Hedgerow removal has potential to result in severance or loss of commuting corridors. It is recommended that bat activity surveys (including walked transects and automated/static activity surveys) are undertaken. Surveys will be completed following the Bat Survey Guidelines (Collins, 2016) to ascertain the presence and/or level of bat activity on Site.

5.4.5.1 Transect Surveys

The Bat Survey Guidelines (Collins, 2016) recommends for a 'High' suitability Site two walked transect visits per month April – October inclusive, separated by at least one week. At least one of the surveys must comprise a dusk and pre-dawn survey within one 24-hour period. AECOM recommend consulting with the county ecologist on a reduced survey effort whereby one walked transect visit is undertaken each month. Due to the small size of the Site it is considered unlikely that an increased survey effort will provide additional data on the number and species of bats on Site and how they use the Site above that obtained using the reduced survey effort.

Transects will incorporate all areas of suitable habitat. Two surveyors per transect visit will be required for Health and Safety. All bat passes will be recorded, and best effort will be made to record direction of flight and activity.

5.4.5.2 Automated/Static Activity Surveys

The Bat Survey Guidelines (Collins, 2016) recommends for a 'High' suitability Site three remote detector locations per transect with data to be collected on five consecutive nights per month April – October inclusive. AECOM recommend consulting with the county ecologist on a reduced survey effort whereby two static detectors locations per transect are deployed each month. Due to the small size of the Site it is considered unlikely that an increased survey effort will provide additional data on the number and species of bats on Site and how they use the Site above that obtained using the reduced survey effort.

The devices will be placed out before and retrieved after each session. Recordings are then analysed in the office.

5.4.5.3 Mitigation and Enhancement

To enhance the Site for foraging and commuting bats, landscaping should include habitats utilising diverse mixes of native species and sympathetic management. Areas of species-rich grassland, scrub, hedgerows and trees could be incorporated into the landscape design, enhancing the Site for commuting and foraging bats.

Further recommendations for mitigation will follow the completion of the surveys.

5.4.6 Bats –Roosting

Suitable roost features were identified adjacent to the proposed development during the Site survey. The three trees with suitability to support roosting bats will be retained as part of the proposed development.

The following are offences under the Wildlife and Countryside Act 1981 (as amended):

- deliberately capture, injure or kill bats;
- damage or destroy a bat resting place or breeding site;
- deliberately or recklessly disturb a bat while it's in a structure or place of shelter or protection;
- block access to structures or places of shelter or protection; and,
- possess, sell, control or transport live or dead bats, or parts of bats.

In the absence of mitigation during construction there is potential for damage or destruction of a resting place or breeding site, to disturb a bat, block access to structure or places of shelter, and killing/injury of a bat during vegetation clearance works or by tracking of vehicles and machinery.

In the absence of mitigation during construction and operation there is potential to cause disturbance to bats due to lighting and/or works undertaken on /in the vicinity of the trees (such as limb removal).

As per The Bat Survey Guidelines (Collins, 2016) it is recommended that an aerial inspection survey is undertaken on Trees 1, 2 and 3 to assess in more detail their likely suitability for bats and to look for evidence of bats such as live or dead bats, droppings, staining or odour. An aerial inspection can be undertaken during the day and at any time of year, although to allow for any follow-up emergence/re-entry surveys it is recommended that the aerial inspections are undertaken as soon as possible.

Lighting plans have not yet been provided. If there is light spill onto trees with suitability to support roosting bats during construction or operation there is potential for disturbance of roosting bats.

Mature trees will enhance the Site for roosting bats. Bat boxes of various designs could be used on trees and buildings. Encouraging these species onto a site also provides an interesting educational opportunity. If bats are present, local bat groups or local ecological companies may be willing to lead talks and walks in the school grounds, involving staff, student and the wider community.

All new roost provision should be situated away from light spill, with clear flight paths towards corridors and foraging suitable to be used by bats. Advice from a suitable qualified ecologist should be sought when drawing up the specifications for bat roosts and locations. Bat boxes should be positioned at least 4 m above ground level to protect any resident bats from disturbance or predation by domestic pets. Each box can be positioned with a different orientation between south east and south west to provide a range of microclimate options.

Further recommendations for further surveys and/or mitigation will follow the completion of the surveys (aerial and emergence/re-entry) but could include further dusk emergence/dawn re-entry surveys. If bats are confirmed as present a European Protected Species Mitigation Licence (EPSML) to allow construction to proceed lawfully or if bats are absent a Precautionary Working Method (PWM) to inform safe working practices under ecological supervision. Further survey and/ or mitigation measures will be informed by the surveys.

5.4.7 Bats and Lighting

Lighting plans have not yet been provided. Light spill onto commuting corridors (the woodland and vegetated boundaries of the Site) and suitable roost features during construction or operation has the potential to cause disturbance of roosting, commuting and foraging bats, and severance of commuting corridors.

The following recommendations in line with the Institute of Lighting Professionals (ILP, 2018) and Bat Conservation Trust (BCT) (BCT, 2009, BCT 2014, and Gunnell et. al., 2012) best practice guidance should be incorporated into the new lighting scheme at the Site.

Light spill onto sensitive areas such as the Site boundaries which have the potential to be used by commuting and foraging bats and the trees within the woodland should be limited to either 3 lux or 0.5 lux, or less, the final recommended lux level will be dependent on the results of the bat activity surveys.

Suggestions for mitigating external lighting and achieving the lighting recommendations above are outlined in the ILP Guidance Note (ILP, 2018) and best practice guidance (BCT, 2009, BCT 2014 and Gunnell et. al., 2012). These include:

- Only light areas which need to be lit, and use the minimal level of lighting required to comply with guidance such as Institute of Lighting Engineers Guidance Notes for the Reduction of Obtrusive Light (2005);
- LED luminaires should be used where possible due to their sharp cut off, low intensity, good colour rendition and dimming capability.
- A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.
- Eliminate bare lamps and any upward pointing light;
- The spread of light should be at or near the horizontal. Flat cut off lanterns are best;
- Use narrow spectrum lamps. Using lamps with the lowest UV output possible, avoid white and blue spectrums of light;
- Lights should peak higher than 550 nm or use glass lanterns to filter UV light;
- Reduce the height of lighting columns;

- Direct lighting to where needed and avoid spillage e.g. direct lighting towards the building front/road/car park/foot path and design the luminaire appropriately, including the use of shields to avoid spillage behind the lamps onto adjacent habitats. Roadways, footways and car parks could, for example, be lit using bollards to keep the light below the tree canopy. Or use embedded lights within the surface to illuminate the roadway and only light high risk stretches and junctions with columns;
- Street lights can be located so that rear shields face the adjacent habitats or optics selected that stop back light thereby directing light into the task area, avoiding spill onto adjacent habitats.
- Where new lighting is proposed, use lighting modelling programs to indicate where the light spill will occur;
- Any external security lighting should be set to motion sensors and short (1 min) timers;
- Limit the times that the lights are on, to provide some dark periods;
- Avoid using reflective surfaces under lights; and
- Do not use a lamp greater than 150W for security lighting.

This will increase the value of the Site for a number of other nocturnal species, as well as for bats.

5.4.8 Dormouse

The proposed removal of hedgerow on the west boundary will reduce and sever habitat suitable for supporting dormouse, works in the vicinity of the woodland have potential to cause disturbance to dormouse.

The following are offences under the Wildlife and Countryside Act 1981 (as amended):

- deliberately capture, injure or kill dormouse;
- damage or destroy a dormouse resting place or breeding site;
- deliberately or recklessly disturb a dormouse while it's in a structure or place of shelter or protection;
- block access to structures or places of shelter or protection; and,
- possess, sell, control or transport live or dead hazel dormice, or parts of hazel dormice.

In the absence of mitigation during construction there is potential for damage or destruction of a resting place or breeding site, to disturb a dormouse, block access to structure or places of shelter, and killing/injury of a dormouse during vegetation clearance works or by tracking of vehicles and machinery.

Surveys will be required to determine presence/likely absence, and estimate population size if present on Site. Recommendations will follow the completion of the surveys but could include a European Protected Species Mitigation Licence (EPSML) to allow construction to proceed lawfully or a PWM to inform safe working practices. Mitigation measures will be informed by the surveys and will be included in the EPSML or PMW, and may include phased vegetation clearance (first cut in winter, second cut in May) under the supervision of a appropriately licenced ecologist or accredited agent.

Surveys for dormouse are undertaken between April and November. Dormouse survey nest tubes are deployed no later than April and left in-situ until October/November. They are checked by an appropriately licenced ecologist or accredited agent on at least two occasions during this period, and retrieved at the end of the survey period. A population estimate is required for an EPSML application, and this must be done during May.

Lighting plans have not yet been provided. If there is light spill onto vegetation with suitability to support dormouse during construction or operation there is potential for disturbance of dormouse. Lighting should be controlled as per the recommendations for bats to avoid impacts on dormouse.

Vehicles, machinery and people must avoid tracking within habitat suitable for supporting dormouse (scrub, hedgerow and woodland).

To enhance the Site for dormouse, landscaping should include habitats utilising diverse mixes of native species which produce food sources throughout the year (hazel, oak, honeysuckle, bramble, sycamore, ash, wayfaring tree, blackthorn, hawthorn) and managed sympathetically. Areas of scrub, hedgerows and trees could be incorporated into the landscape design with connectivity to existing suitable habitats will enhance the Site for dormouse.

Inclusion of dormouse nest boxes within the suitable habitats on Site will enhance nesting opportunities for dormouse.

Further recommendations for mitigation will follow the completion of the surveys.

5.4.9 Badger

There will be a loss of habitat suitable for supporting foraging badger. Similar habitat is available within the wider landscape and as such the impact on local badger population is considered negligible.

There is suitable habitat to for badger to create setts within 30 m of the proposed development. Although no setts were identified on the Site during the Phase 1 survey it is recommended that a pre-construction survey for any newly created badger setts is undertaken three months prior to works commencing. Should any newly created setts be identified within 30 m of ground-breaking works, this will allow sufficient time to apply for a licence to close the sett, provide any compensatory habitat and to allow works to proceed without committing an offence with regards to badgers. Further recommendations for mitigation may be made following the completion of the surveys.

There is potential for foraging and commuting badger to get trapped in excavations if left open overnight as such all excavations must be covered overnight or a ramp provided to allow badgers to escape.

Lighting plans have not yet been provided. If there is light spill onto commuting corridors (the woodland and vegetated boundaries of the Site) during construction or operation there is potential for disturbance of commuting badgers. Lighting should be controlled as per the recommendations for bats to avoid impacts on badgers.

To enhance the Site for foraging and commuting badgers, landscaping should include habitats utilising diverse mixes of native species and sympathetic management. Areas of species-rich grassland, scrub, hedgerows and trees could be incorporated into the landscape design, enhancing the Site for commuting and foraging badgers.

5.4.10 Hedgehog

There will be a loss of habitat suitable for supporting foraging, commuting and sheltering hedgehog. Similar habitat is available within the wider landscape and as such the impact on local badger population is considered negligible.

Hedgehog may occasionally use neutral semi-improved grassland for foraging and hedgerows as commuting/ foraging routes. Habitats of similar or greater value are available within the Site and connected surrounding landscape. Habitat loss will have no impact on hedgehog.

There is potential for foraging and commuting hedgehog to get trapped in excavations if left open overnight as such all excavations must be covered overnight or a ramp provided to allow hedgehogs to escape.

Any new and existing boundary fences should include small openings at ground level, to allow hedgehogs to pass through the Site and to maintain local connectivity.

Lighting plans have not yet been provided. If there is light spill onto commuting corridors (the woodland and vegetated boundaries of the Site) during construction or operation there is potential for disturbance of commuting hedgehog.

5.4.11 Invasive Non-Native Species

No invasive non-native species were identified on Site. There is no potential for spread of invasive species during the Proposed Works.

5.5 General Mitigation Measures

5.5.1 Pollution Control During Construction

Pollution control measures as required Guidance for Pollution Prevention (GPPs) and where these have not been replaced the Environment Agencies Pollution Prevention Guidelines (PPGs) will be implemented in order to avoid and minimise adverse effects of pollution and runoff on the pond and surrounding environment. This will be implemented via a Site Construction Management Plan (CMP).

As of the 17 December 2015 all Pollution Prevention Guidance Documents published by the UK environment agencies were withdrawn. Although they provide useful advice on the management of construction to avoid, minimise and reduce environmental impacts, they should not be relied upon to provide accurate details of the current legal and regulatory requirements and processes. They are referred to in this document alongside other current guidance and in the context of scheme and site-specific mitigation measures.

Measures will be employed to ensure that dust is minimised during the construction works. Measures will be in place in order to deal with pollution incidents efficiently.

In order to avoid potential pollution effects to the site and surrounding habitats during construction, all refuelling, and servicing of vehicles will be carried out within a designated area with an impermeable base. To prevent spillages, refuelling will be carried out by pumping through a trigger delivery nozzle. Fuel, oil and other potential contaminants will be stored within bunded tanks to 110% of the volume stored and only the minimum quantity required will be stored on site. The designated area will be maintained in a secure and clean manner. An adequate quantity of oil absorbent material will be stored on site and spillages cleared up immediately. All construction equipment will be maintained in good working order and checked regularly for spillages/leaks.

Concrete will either be imported from a local batching plant or a concrete batching plant will be established on Site. The final choice will depend on the chosen contractor, the availability of local supply and the time of year. If concrete is to be batched on site, appropriate containment and clean-up measures and procedures will be put in place that are in accordance with industry standards. Particular care will be taken when pouring concrete at foundations, following specific method statements to ensure there is no spillage risk or contamination of soils and vegetation.

5.5.2 Control of Surface Water during Operation

The areas of new hard standing on Site must be designed using SUDS to control the rate and quality of surface water runoff. Consideration should be given for a soakaway system to capture and treat surface water on Site without the need to discharge to watercourses.

5.5.3 Lighting Mitigation – Operation and Construction

Once developed the lighting design should be reviewed by a suitably experienced ecologist. Through consultation with the lighting engineer and following the recommendations below, the light spill can be controlled to minimise impacts on habitats and wildlife (including Protected and Priority Species). There are British Standards that relate to various components of lighting and there are also guidelines that relate to crime prevention, prevention of vehicular accidents and amenity use (ILP, 2018). There is no legislation requiring an area or road to be lit (ILP, 2018). However, there is legislation requiring bats are protected against disturbance, which includes light disturbance.

The following recommendations in line with best practice guidance should be incorporated into any new lighting scheme at the Site and also for security lighting in place during construction:

- In the first instance, external lighting must be designed to avoid light spill onto vegetated and aquatic habitats, and trees and bridge with suitability to support roosting bats, and avoid spilling beyond the Site boundary; and,
- Light spill onto sensitive areas should be limited to levels of 3 lux or less.

Suggestions for mitigating external lighting and achieving the lighting recommendations above are outlined in the ILP Bats and Lighting Guidance Note (ILP, 2018) and best practice guidance (BCT 2014 and Gunnell et. al., 2012). These include:

- Only light areas which need to be lit, and use the minimal level of lighting required to comply with guidance such as Institute of Lighting Engineers Guidance Notes for the Reduction of Obtrusive Light (2005);
- Avoid aesthetic lighting which has no other function, and up lighting of trees and buildings;
- Use the lowest level of illumination required for purpose;
- Where lighting is proposed, use lighting modelling programs to indicate where the light spill will occur;
- LED luminaires should be used where possible due to their sharp cut off, low intensity, good colour rendition and dimming capability;

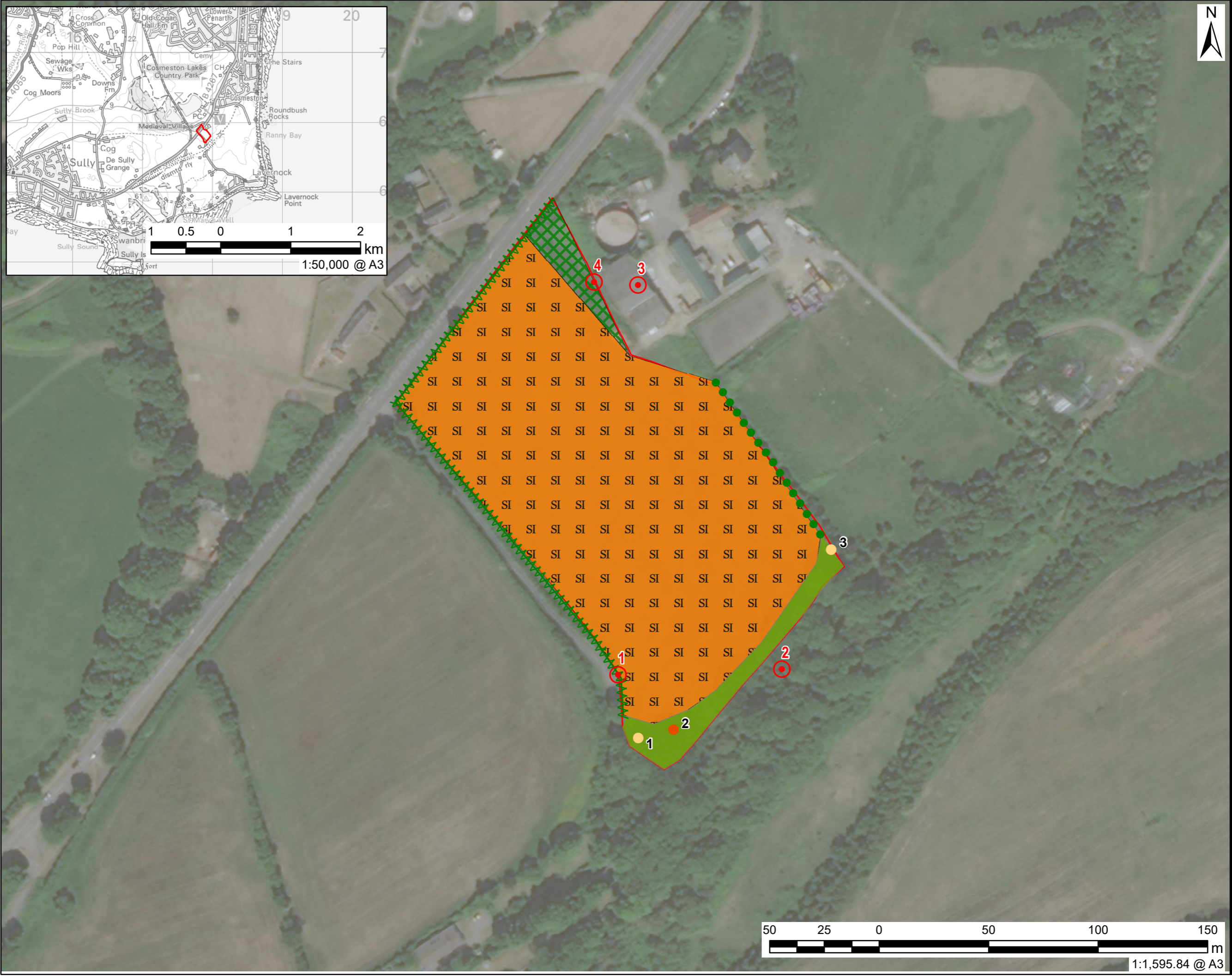
- A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component; Avoid neutral white, cool white and blue spectrums of light;
- All luminaires should lack or have negligible UV elements. Avoid white and blue spectrums of light;
- Eliminate bare lamps and any upward pointing light;
- Luminaires should be mounted on the horizontal, i.e. no upward tilt. The spread of light should be at or near the horizontal. Flat cut off lanterns are best. Only luminaires with an upward light ratio of 0% and with good optical control should be used – See ILP Guidance for the Reduction of Obtrusive Light;
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012);
- Where lighting columns are in proximity (adjacent to) vegetated and aquatic habitats and trees and bridge with suitability to support roosting bats and where light spill onto these features is predicted by the lighting models, the luminaries must be moved or fitted with light control systems to reduce light spill onto these features;
- Any external security lighting should be set to motion sensors and short (1 min) timers;
- Limit the times that the lights are on to provide some dark periods; and/or dimming of lights during certain periods; the proposed new lighting could be turned off or dimmed by 75% from 22:00 until 06:00 daily; Avoid using reflective surfaces under lights; and,
- Do not use a lamp greater than 150W for security lighting.

This will maintain the value of the Site and adjacent habitats for a number of other nocturnal species.

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Figure 1: Phase 1 Habitat Map



- Site Boundary
- Target Note
- Low Suitability for Roosting Bats
- Moderate Suitability for Roosting Bats
- Broadleaved parkland/scattered trees
- Intact hedge - native species-rich
- Neutral grassland - semi-improved
- Scrub - dense/continuous
- Broadleaved woodland - semi-natural

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Appendix A Wildlife Legislation and Local Planning Policy

Legislation – Habitats

A variety of sites are designated in the UK, under Conventions, Directives and Regulations for their nature conservation importance and interest. The general aim of these designations is to conserve and protect ecological resources, as well as raising awareness and understanding. Other non-statutory sites are afforded some protection through local plans. The following outlines the most common statutory and non-statutory designations:

Designation	Brief Description
Special Areas of Conservation (SAC)	SACs are sites selected to conserve the natural habitat types and species of wild flora and fauna as stated in the Conservation of Habitats and Species Regulations. They are the best areas to represent the range and variety of habitats and species within the European Union (EU).
Special Protection Area (SPA)	SPAs are strictly protected sites for the most important habitats for rare and migratory birds within the EU.
Ramsar Sites	Ramsar Sites are wetlands of international importance. Ramsar Sites are protected, through the planning system, under the Wildlife and Countryside Act 1981 (as amended), and the Countryside and Rights of Way Act 2000 through their notification as SSSIs and through other regulatory systems addressing water, soil and air quality.
National Nature Reserve (NNR)	NNRs are nationally important areas of wildlife habitat and geological formations in Britain. NNRs are designated and protected under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended). They receive additional protection under the Countryside and Rights of Way Act 2000. They are managed for the benefit of nature conservation.
Site of Special Scientific Interest (SSSI)	A SSSI is a site of at least national importance for nature conservation designated under the Wildlife and Countryside Act 1981 (as amended) due to its special interest in terms of flora, fauna or geological or physiographical features. Protection afforded to SSSIs was strengthened by the Countryside and Rights of Way Act 2000. It should be noted that under the Countryside and Rights of Way Act 2000 owners of SSSIs must give Natural Resources Wales (NRW) written notice before they begin any of the operations listed in the notification as likely to damage the special interest features, or if they allow others to carry out these activities. None of the listed operations can be carried out without NRW's consent.
County Wildlife Site (Local site)	A County Wildlife Site is a non-statutory site designated by a local authority as being of local nature conservation value.
Ancient Woodland Inventory	Ancient Woodland is a term applied to woodlands which have existed from at least Medieval times to the present without ever having been cleared for uses other than wood or timber production. A convenient date used to separate ancient and secondary woodland is about the year 1600. In special circumstances semi-natural woods of post-1600 but pre-1900 origin are also included.
Wildlife Trust Reserve	These non-statutory sites are managed by the Wildlife Trusts with the purpose of conserving wildlife.

Legislation – Protected Species

In addition to habitats, a number of species have been afforded protection through international/European and national law. Other species are considered to contribute to our 'quality of life'. Although these species do not benefit from legal protection, they can be material considerations in the planning process. The table below outlines the key forms of protection afforded to species. The Countryside and Rights of Way Act, the Wildlife and Countryside Act 1981 (as amended), The Protection of Badgers Act 1992 and the Conservation of Habitats and Species Regulations 2017 (as amended) are the main legislative framework for protection of wild animals in the UK. Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) covers birds, Schedule 5 covers other animals and Schedule 8 covers plants.

Species including bats, otters and great crested newts are listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017. Badgers are protected under their own Act: The Protection of Badgers Act 1992. Activities affecting protected species must usually be conducted under licence obtained from the appropriate body (in Wales, this is Natural Resources Wales).

Developers must be able to show that all reasonable measures have been taken to ensure that protected species are not subject to disturbance. The habitats which regularly support the Conservation of Habitats and Species Regulations 2017 Schedule 2 species, the Wildlife and Countryside Act 1981 (as amended) Schedule 1 species and some Wildlife and Countryside Act 1981 (as amended) Schedule 5 species are also protected from disturbance and destruction. Again, all reasonable precautions should be taken to ensure that this does not happen. The Countryside and Rights of Way Act 2000 has strengthened enforcement powers and introduced a new offence of "reckless disturbance" that applies to both protected sites and species. The table below provides a summary of the relevant legislation with regards to protected and priority species.

Designation	Brief Description
Conservation of Habitats and Species Regulations, 2017	<p>The Conservation of Habitats and Species Regulations 2017 are intended to remain in place for some time. This is due to the Government ceasing to have the power of consolidating regulations derived from EU law after the date of exit from the European Union.</p> <p>The Regulations are designed to transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. Additionally, they transpose elements of the EU Wild Birds Directive in England and Wales.</p> <p>The Conservation of Habitats and Species Regulations 2017 extend to England and Wales, including the adjacent territorial sea (12 nautical miles from the mean low-water mark of a coastal state), to a limited extent in Scotland in respect of reserved matters and Northern Ireland in respect of excepted matters.</p> <p>The Conservation of Habitats and Species Regulations 2017 protects habitat sites supporting vulnerable and protected species, as listed within the Directive. The need for an assessment of impacts on Natura 2000 sites (the collective name for European designated sites, including SPAs and SACs); and provides a framework for the protection, management and control of all species of naturally occurring wild birds in the European territory of EU Member States.</p>
Wildlife and Countryside Act (1981) (as amended)	<p>The Wildlife and Countryside Act 1981 (as amended) is the principal mechanism for the legislative protection of wildlife in Great Britain. This legislation is the means by which the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and (partially) the Birds Directive and the Habitats Directive are implemented in the UK. The Countryside and Rights of Way Act 2000 has strengthened this legal protection (see below).</p> <p>A small number of plant species are listed under Schedule 9 of the Wildlife and Countryside Act 1981, as amended, which includes species such as Japanese knotweed (<i>Reynoutria japonica</i>), Himalayan balsam (<i>Impatiens glandulifera</i>), montbretia (<i>Crococsmia x crocosmiiflora</i>), giant hogweed (<i>Heracleum mantegazzianum</i>) and some cotoneaster species (<i>Cotoneaster</i> sp.). It is illegal to</p>

Designation	Brief Description
	<p>plant or to cause these plants to grow in the wild, and legal disposal methods for vegetation and soil subject to disturbance or clearance from a site must be used.</p>
<p>Convention on Biological Diversity and the Countryside and Rights of Way Act 2000</p>	<p>The Countryside and Rights of Way Act 2000 provides a statutory framework for biodiversity conservation. The Act places a duty on Government Departments and the National Assembly for Wales to have regard for the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.</p> <p>Schedule 9 of the Act amends SSSI provisions of the Wildlife and Countryside Act 1981, including provisions to change SSSIs and providing increased powers for their protection and management. The provisions extend powers for entering into management agreements; place a duty on public bodies to further the conservation and enhancement of SSSIs; increases penalties on conviction where the provisions are breached; and introduce a new offence whereby third parties can be convicted for damaging SSSIs.</p> <p>Schedule 12 of the Act amends the species provisions of the Wildlife and Countryside Act 1981, strengthening the legal protection for threatened species. The provisions make certain offences 'arrestable' and create a new offence of reckless disturbance.</p> <p>The UK Biodiversity Action Plan (BAP) was published in 1994, and was the UK Government's response to the Convention on Biological Diversity (CBD), which the UK signed up to in 1992. It provides the framework for fulfilling the UK's responsibilities towards the Convention on Biological Diversity. Conservation of biodiversity (the variety of life on earth) is an essential element of sustainable development.</p>
<p>Environment (Wales) Act 2016</p>	<p>The Environment (Wales) Act puts in place the legislation needed to plan and manage Wales' natural resources in a more proactive, sustainable and joined-up way. Part 1 relates to the sustainable management of natural resources. This ensures that the way in which the use of and the impacts on natural resources do not result in long term decline. The aim is to sustainably manage natural resources in a way and rate that meets the needs of present and current generations without compromising the needs of future generations.</p> <p>The Act also contains at section 7, a duty for the Welsh Ministers prepare and publish a list of the living organisms and types of habitat which in their opinion are of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. This section replaces the duty in section 42 of the NERC Act 2006.</p>
<p>Protection of Badgers Act 1992</p>	<p>The Protection of Badgers Act 1992 makes it an offence to wilfully take, kill, injure or ill-treat a badger, possess a dead badger or any part of a badger. Sett interference includes damaging or destroying a sett, obstructing access to a sett, and disturbing a badger whilst it is occupying a sett. The Act defines a badger sett as 'any structure or place, which displays signs indicating the current use by a badger' and Natural England takes this definition to include seasonally used setts.</p> <p>Work that may disturb badgers or their setts is illegal without a development licence from the relevant statutory body (in this case Natural Resources Wales).</p>
<p>The Hedgerow Regulations 1997</p>	<p>The Hedgerow Regulations (1997) make provision for the protection of important hedgerows in England and Wales. The regulations affect hedgerows which are 20m or more in length, or connected at both ends to another hedgerow of any length.</p> <p>They relate to hedgerows which are on, or adjoining land used for the following purposes: agriculture or forestry; the breeding or keeping of horses, ponies or</p>

Designation	Brief Description
	<p>donkeys; common land; village greens; and SSSIs (They do not include hedges that are attached to, or marking the boundaries of a private house.</p> <p>It is an offence to intentionally or recklessly remove or cause or permit another person to remove a hedgerow or intentionally or recklessly remove, or cause or permit another person to remove, a hedgerow which is the subject of a hedgerow retention notice.</p>

Local Planning Policy

The Vale of Glamorgan Local Development Plan (LDP) 2011-2026 provides the local planning policy framework for the Vale of Glamorgan and was adopted by the Council on 28 June 2017.

The Plan sets out the vision, objectives, strategy and policies for managing development in the Vale of Glamorgan, and contains a number of local planning policies and makes provision for the use of land for the purposes of housing, employment, retailing, recreation, transport, tourism, minerals, waste, and community uses. It also seeks to identify the infrastructure that will be required to meet the growth anticipated in the Vale of Glamorgan up to 2026, and provides a monitoring framework for assessing the effectiveness of the Plan.

Policies referring to nature conservation are outlined below. Full details can be found in Vale of Glamorgan Local Development Plan 2011-2026, Local Development Plan-Written Statement June 2017.

Policy	Details
Policy SP10 – Built and Natural Environment	<p>Development proposals must preserve and where appropriate enhance the rich and diverse built and natural environment and heritage of the Vale of Glamorgan including:</p> <ol style="list-style-type: none"> 1. The architectural and / or historic qualities of buildings or Forest Schools nature area s, including locally listed buildings; 2. Historic landscapes, parks and gardens; 3. Special landscape areas; 4. The Glamorgan Heritage Coast; 5. Sites designated for their local, national and European nature conservation importance; and 6. Important archaeological and geological features. <p>The Vale of Glamorgan’s natural and built environmental qualities significantly contribute to its identity and also provide valuable local recreation and tourism opportunities. These assets include areas recognised as being of European, national and local importance, including the Vale of Glamorgan’s coastline which includes the Glamorgan Heritage Coast designation and the Severn Estuary Special Protection Area.</p> <p>Policy SP10 emphasises the need to protect the Vale of Glamorgan’s natural and built environmental assets and reinforces that sensitive design and choice of location of new development can have a positive effect on the Vale of Glamorgan’s built and natural heritage. Similarly, new development will be required to minimise its impact on natural systems, landscapes, species and habitats and, where appropriate, provide opportunities for the creation of new habitats or the sensitive enhancement of existing habitats.</p> <p>The LDP provides a policy framework that seeks to preserve and enhance the Vale of Glamorgan’s important historic built environment particularly in relation to the numerous listed buildings (both statutory and local), Forest Schools nature area s, scheduled monuments and historic landscapes, parks and gardens that exist. It should be noted that statutory listed buildings are also covered under Policy MD8 and are subject to separate legislation. In addition, it recognises the importance of preserving and enhancing the</p>

Policy	Details
	<p>natural environment, principally the countryside and the coast, which have significant landscape and nature conservation value.</p>
<p>Policy MG17 – Special Landscape Areas</p>	<p>The following areas are designated as special landscape areas:</p> <ol style="list-style-type: none"> 1. Castle Upon Alun; 2. Upper & Lower Thaw Valley; 3. Ely Valley & ridge slopes; 4. Nant Llancarfan; 5. Dyffryn basin & ridge slopes; 6. Cwrt-yr-Ala basin. <p>Within the special landscape areas identified above, development proposals will be permitted where it is demonstrated they would cause no unacceptable harm to the important landscape character of the area.</p> <p>Special Landscape Areas (SLA) have been designated to protect areas of the Vale of Glamorgan that are considered to be important for their geological, natural, visual, historic or cultural significance. These areas have been identified through the utilisation of a methodology devised by the former Countryside Council for Wales (now Natural Resources Wales) in collaboration with a consortium of local authorities in South East Wales, which uses LANDMAP data. The process allows information about the landscape to be gathered, organised and evaluated into a nationally consistent, quality assured data set.</p> <p>Details of the identified SLAs are contained within the Vale of Glamorgan Designation of Special Landscape Areas Background Paper (2013).</p> <p>The designation of SLAs is not intended to prevent development but to ensure that where development is acceptable careful consideration is given to the design elements of the proposal such as the siting, orientation, layout and landscaping, to ensure that the special qualities and characteristics for which the SLAs have been designated are protected.</p> <p>Development proposals within SLAs will be required to fully consider the impact of the proposal on the SLA through the submission of a Landscape and Visual Impact Assessment (LVIA). A LVIA will be required for any development that is likely to have a significant impact upon landscape character, or have a significant visual effect within the wider landscape (by virtue of its size or prominence or degree of impact on the locality) and will be prepared in accordance with the latest Landscape Institute and the Institute of Environmental Management and Assessment guidelines. Where applicable, this should form a key element of a planning application's design and access statement and should demonstrate that the proposal has been designed to remove or reduce any unacceptable impacts on the qualities for which the SLA has been designated. Any cumulative impacts that the proposal may have in relation to existing or planned proposals in the locality should also be considered. This is particularly the case for wind turbines or large structures and large-scale proposals such as solar farms. The level of detail required in each landscape impact assessment should be commensurate with the scale of the proposal.</p>
<p>Policy MG18 – Green Wedges</p>	<p>Green wedges have been identified to prevent the coalescence of settlements and to retain the openness of land at the following locations:</p> <ol style="list-style-type: none"> 1. Between Dinas Powys, Penarth and Llandough; 2. North West of Sully; 3. North of Wenvoe; 4. South of Bridgend; 5. Between Barry and Rhoose;

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6. South Penarth to Sully; and
7. Between Rhoose and Aberthaw.

Within these areas development which prejudices the open nature of the land will not be permitted.

Land on the urban fringe particularly around the key, service and primary settlements within the South East Zone is vulnerable to speculative development that can blur the boundaries between settlement edges and the open countryside. Unchecked this development would result in the incremental loss of open land and ultimately lead to the coalescence of settlements with a resultant detrimental impact upon agriculture, the landscape and the amenity value of land.

While other policies of the LDP seek to prevent inappropriate development within the open countryside it is considered that the areas defined by the green wedges are more vulnerable and susceptible to change and require additional protection. Therefore, within the areas defined by the green wedges there will be a presumption against inappropriate development²⁰ which would contribute to urban coalescence, prejudice the open nature of the land, or have an adverse impact upon the setting of an urban area. In applying this protection, however, it is recognised that individual or small groups of dwellings exist within the designations and that activities such as agriculture, forestry and recreation, occur. Consequently, development associated with existing uses will be limited to minor structures which are strictly ancillary to existing uses. Details of each of the designations are contained within the Green Wedge Background Paper (2013).

Policy MG19 – Site
and Species of
European
Importance

Development proposals likely to have a significant effect on a European site, when considered alone or in combination with other projects or plans will only be permitted where:

1. The proposal is directly connected with or necessary for the protection, enhancement and positive management of the site for conservation purpose; or
2. The proposal will not adversely affect the integrity of the site;
3. There is no alternative solution;
4. There are reasons of overriding public interest; and
5. Appropriate compensatory measures are secured.

Development proposals likely to have an adverse effect on a European protected species will only be permitted where:

1. There are reasons of overriding public interest;
2. There is no satisfactory alternative; and
3. The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

Internationally designated sites comprise Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar Sites. The Vale of Glamorgan has 2 international sites: - Dunraven Bay (SAC) and Severn Estuary (SAC, SPA, Ramsar) and is directly adjacent to the Kenfig SAC in the County Borough of Bridgend. The locations of the European sites are shown on the Constraints Map.

Any development proposals that are likely to affect European designated sites or European Protected Species (EPS) will be determined in accordance with national planning policy set out in Planning Policy Wales and Technical Advice Note 5: Nature Conservation and Planning (2009) and relevant case law.

In accordance with the Conservation of Habitats and Species Regulations 2010 (as amended), any development proposals that has the potential for adverse impact on the integrity of a European site will be subject to a Habitats Regulations Assessment.

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	<p>Prior to implementing any consent that may be granted which may affect species of European importance, developers will need to secure a derogation from Natural Resources Wales under the Conservation of Habitats and Species Regulations 2010 (as amended), the 'Habitats Regulations.</p>
<p>MG20 – Nationally Protected Sites and Species</p>	<p>Development likely to have an adverse effect either directly or indirectly on the conservation value of a site of special scientific interest will only be permitted where it is demonstrated that:</p> <ol style="list-style-type: none">1. There is no suitable alternative to the proposed development; and2. It can be demonstrated that the benefits from the development clearly outweigh the special interest of the site; and3. Appropriate compensatory measures are secured; or4. The proposal contributes to the protection, enhancement or positive management of the site. <p>Development proposals likely to affect protected species will only be permitted where it is demonstrated that:</p> <ol style="list-style-type: none">1. The population range and distribution of the species will not be adversely impacted;2. There is no suitable alternative to the proposed development;3. The benefits of the development clearly outweigh the adverse impacts on the protected species; and4. Appropriate avoidance, mitigation and compensation measures are provided. <p>For the purposes of the policy, nationally designated sites include Sites of Special Scientific Interest (SSSI). Within the Vale of Glamorgan there are 28 SSSI and these are detailed in Appendix 2 and their locations are shown on the Constraints Map. Protected species are those detailed within the Wildlife and Countryside Act 1981 (as amended) and species specific legislation e.g. the Protection of Badgers Act 1992.</p> <p>The presence of a protected species is a material consideration in the determination of planning applications. When assessing any development proposal which if carried out would be likely to result in harm to a protected species or its habitat, the Council will be guided by advice received from Natural Resources Wales.</p> <p>There will always be a presumption against development which is likely to harm a protected site or species. However, there may also be instances when the importance of a development proposal will outweigh the conservation value, either temporarily or permanently to a SSSI / protected species and in such instances, the objective will always be to ensure that the nature conservation value of the site or protected species is preserved and where possible enhanced.</p> <p>Where development is permitted, appropriate conditions or agreed planning obligations will be used to secure adequate compensation or mitigation measures</p>
<p>Policy MG21 – Sites of Importance for Nature Conservation, Regionally Important Geological and Geomorphological Sites and Priority Habitats and Species</p>	<p>Development proposals likely to have an adverse impact on sites of importance for nature conservation or priority habitats and species will only be permitted where it can be demonstrated that:</p> <ol style="list-style-type: none">1. The need for the development clearly outweighs the nature conservation value of the site;2. Adverse impacts on nature conservation and geological features can be avoided;3. Appropriate and proportionate mitigation and compensation measures can be provided; and4. The development conserves and where possible enhances biodiversity interests.

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Sites of Importance for Nature Conservation (SINC) are identified to protect areas of high wildlife value at a local level. Regionally Important Geological and Geomorphological Sites are locally designated sites of local, national and regional importance for geodiversity (geology and geomorphology).

Priority Habitats and Species for Conservation are identified in the Environment (Wales) Act 2016 Section 7. Species or habitats are important wildlife features, are rare or declining and are not protected by primary legislation.

Development which is likely to have an adverse impact on SINC, RIGS or Priority Habitats and Species will be required to demonstrate that every effort has been made to avoid and mitigate any adverse impacts and that the need for the development outweighs the nature conservation or geological value. Where on site mitigation is not possible or sufficient to prevent any adverse impact then off-site compensation will be required. Off-site compensation will be secured through planning conditions or Section 106 agreements as appropriate.

The Council will produce Supplementary Planning Guidance on 'Biodiversity and Development' to support these policies and provide advice for developers on the Council's approach to biodiversity issues.

Appendix B Target Notes

Target Note	Description
1	Dense scrub extending from hedgerow into field. Unmanaged on field side. Suitable habitat for breeding birds, reptiles and dormouse
2	Broadleaved semi-natural woodland with mature oaks with features likely to support roosting bats. Dense scrub on woodland edge composed mainly of bramble. Ditch running along edge of field. Heavily vegetated. No suitability for otter or water vole.
3	Farm buildings constructed of corrugated sheet metal, with pitched asbestos roof. West aspect of building are entirely open ended as typical of farm buildings. Negligible Suitability for roosting bats.
4	Dense bramble scrub adjacent to farm building and Site boundary. Suitable habitat for breeding birds and reptiles

Appendix C Site Photographs



Photograph 1: Semi-natural broadleaved woodland on south boundary



Photograph 2: Scattered broadleaved trees on west boundary



Photograph 3: Farm buildings – Target Note 7



Photograph 4: Farm buildings – Target Note 7



Photograph 5: Neutral semi-improved grassland. Looking south west



Photograph 6: Adjacent field, neutral semi-improved grassland.



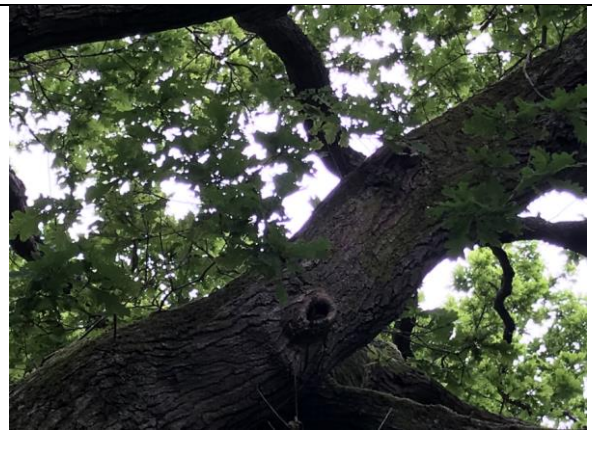
Photograph 7: Native intact species rich hedgerow west Site boundary



Photograph 8: Bat Roost Tree 1. Feature 1 – split.



Photograph 9: Roost Tree 1. Feature 2 – lifted bark



Photograph 10: Bat Roost Tree 1. Features 3 and 4 – knothole.



Photograph 11: Bat Roost Tree 1. Feature 5 – tear out



Photograph 12: Bat Roost Tree 1. Feature 6 – rot hole



Photograph 13: Bat Roost Tree 2. Feature 1 – dense ivy cover



Photograph 14: Bat Roost Tree. Feature 1 – knothole

