




DAVID CLEMENTS ECOLOGY LTD

**LAND AT NORTHCLIFFE LODGE, PENARTH
ECOLOGICAL ASSESSMENT**

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SUMMARY

This report has been prepared by David Clements Ecology Ltd (DCE) for Celtic Developments Penarth Ltd. It sets out the results of an Extended Phase 1 Habitat survey of Land at Northcliffe Lodge, Penarth, Vale of Glamorgan. The site location and context is shown on Plan 1.

The parcel of land, hence forth referred to as the site, is located to the north east of Penarth and overlooks the Cardiff Bay Barrage. The site is centred at NGR ST 18904 72377 and measures approximately 1.3ha. It consists of an occupied detached dwelling, semi improved grassland, ornamental planting, a pond, scrub and woodland habitats. The site overlooks Cardiff Bay to the North and the Cardiff Bay Barrage with Penarth Marina located to the North East. Residential housing and flats are located immediately to the east, south and west of the site. The main town of Penarth lies to the south west of the proposed development site.

The site does not contain or lie immediately adjacent to any statutory sites of nature conservation interest such as Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) or Local Nature Reserves (LNRs). The Severn Estuary Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar and SSSI is situated approximately 280m away from the proposed development site at its closest point. The boundary of the Severn Estuary protected sites extends down the coastline of Penarth and Cardiff.

The mixed woodland, scrub, grassland, pond and non-native shrub planting habitats are all considered to be of Local value for wildlife. It is likely that birds nest within the scrub and trees and that the site is likely to be used for foraging by such species. Common mammal species are also likely to use the site for foraging and commuting purposes and common amphibians may also use the site for foraging, shelter and potentially hibernation. The hardstanding areas found within the site boundary are considered to be of negligible value for wildlife.

Given the potential roosting locations within the building suitable for bats and the optimal foraging habitat for bats across the site, the building is assessed as having medium potential for bats to be present. It is recommended that bat activity surveys are completed on the building during the bat active period of April to September inclusive. At least two activity survey with a minimum of three surveyors is recommended.

Hibernatory use of the building by bats is thought to be unlikely. The building walls are constructed with brick which does not tend to offer the cool and stable conditions required by bats for hibernation purposes. However, individual use by bats during the winter period cannot be ruled out.

The site has high potential for reptile species to be present. A suite of reptile surveys are recommended to establish the presence or likely absence of reptiles from within the proposed development site.

The site is likely to support a range of common nesting birds. Appropriate mitigation measures for nesting birds will be required should the site be bought forward for development.

1.0 INTRODUCTION

- 1.1 This report has been prepared by David Clements Ecology Ltd (DCE) for Celtic Development Penarth Ltd. It sets out the results of an Extended Phase 1 Habitat survey of Land at Northcliffe Lodge, Penarth, Vale of Glamorgan. The site location and context is shown on Plan 1.
- 1.2 The parcel of land, hence forth referred to as the site, is located to the north east of Penarth and overlooks the Cardiff Bay Barrage. The site is centred at NGR ST 18904 72377 and measures approximately 1.3ha. It consists of an occupied detached dwelling, semi improved grassland, ornamental planting, a pond, scrub and woodland habitats.
- 1.3 The site overlooks Cardiff Bay to the North and the Cardiff Bay Barrage with Penarth Marina located to the North East. Residential housing and flats are located immediately to the east, south and west of the site. The main town of Penarth lies to the south west of the proposed development site.
- 1.4 The client wishes to create a number of flats across the site footprint for residential use. The remainder of this report sets out the results of an ecological survey and assessment of the site. It also assesses the likely impact of the proposed development, and makes recommendations regarding further survey work and any potentially adverse biodiversity impacts.

1.5 Designated Sites of Biodiversity Interest

Statutory Sites

- 1.5.1 The site does not contain or lie immediately adjacent to any statutory sites of nature conservation interest such as Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) or Local Nature Reserves (LNRs).
- 1.5.2 The Severn Estuary Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar and SSSI is situated approximately 280m away from the proposed development site at its closest point. The boundary of the Severn Estuary protected sites extends down the coastline of Penarth and Cardiff. The locations of these sites are shown on Plan 1. The SAC is designated primarily for its estuary, mudflats and sandflats not covered by sea water at low tide and the Atlantic salt marsh meadow habitats and the presence of sea lamprey, river lamprey and twaite shad species. The SPA is of importance during the spring and autumn migration periods for waders moving up the west coast of Britain, as well as in winter for large numbers of waterbirds, especially swans, ducks and waders. The site is also designated as a SSSI and RAMSAR site for the above mentioned species and habitats assemblages.

Non-statutory Sites

- 1.5.3 As shown on Plan 1, the River Ely Site of Importance for Nature Conservation (SINC) lies approximately 480m to the north west of the site. There are no other SINC sites within the search area.

- 1.5.4 SINC's are one of a class of non-statutory nature conservation designations which are recognised throughout the UK under a wide range of titles, and which are collectively referred to as 'Wildlife Sites'. Wildlife Sites are so-called 'third tier' sites, generally ranked below sites which are of international or national biodiversity significance, but which are considered to have substantive nature conservation value in the sub-national (ie regional or district) context. They are usually designated at the county or county borough level by the relevant local planning authority, and are recognised as a planning constraint in the relevant statutory development plan. The framework for the identification and designation of 'Wildlife Sites' is set out in various Government documents, and is referred to in *Planning Policy Wales* (2002) and *Technical Advice Note (Wales) 5: Nature Conservation & Planning* (2009).

2.0 APPROACH AND METHODS

2.1 Survey Methodology

- 2.1.1 The site was surveyed on 28th October 2015 in good weather, being dry and bright with a slight breeze, and was subject to an Extended Phase 1 survey as recommended by the Institute of Environmental Assessment (IEA 1995). This is based on the Phase 1 vegetation classification methodology developed by the former Nature Conservancy Council (NCC 1990), a nationally-accepted and standard method for the rapid survey and appraisal of ecological habitats which is based primarily on the recording of vegetation and its classification into defined habitat categories. Dominant and conspicuous flora species were recorded and ‘target notes’ were prepared for any features of particular interest.
- 2.1.2 The methodology also requires the recording of conspicuous fauna species such as birds, herptiles (ie amphibians and reptiles), mammals and invertebrates such as butterflies and dragonflies, paying particular attention to the presence (or possible presence) of any rare or protected species.
- 2.1.3 Where appropriate, the habitats of the site were also characterised against the descriptions provided by the National Vegetation Classification (NVC) as set out by Rodwell (1991 *et seq*).

Survey Constraints

- 2.1.4 The optimal time to undertake an Extended Phase 1 survey is April to September inclusive as most flora and fauna are in flower or active at this time of year. The site survey was undertaken at the end of October which is outside the optimal time frame for an extended phase 1 survey. However, it is not felt this was a significant constraint to the survey as the general habitat types could be identified and the suitability for protected species assessed.

2.2 Data Trawl

- 2.2.1 In addition to the original survey, a data trawl was carried out with the South-East Wales Biological Records Centre (SEWBRc) in order to obtain access to any existing biological data which might be available. SEWBRc is the main repository for biodiversity and wildlife records in the south-east Wales region.

3.0 SURVEY RESULTS

3.1 Habitats & Vegetation

3.1.1 The results of the vegetation and habitats survey are shown on Plan 2 of this report, and are described briefly below.

Notable Plant Species

3.1.2 No nationally rare or scarce species are recorded from the site.

Notable Habitats

3.1.3 Based on the current assessment none of the habitats within the site qualify as SINC habitats and or as 'Priority Habitats' of the UK Biodiversity Action Plan (UK BAP) or its Welsh equivalent.

Mixed Woodland

3.1.4 A large amount of mixed woodland is present along the southern and northern site boundaries. The woodland is well established and consists of a mixture of broadleaved and coniferous trees. Native and non-native species such as noted within the woodland such as ash (*Fraxinus excelsior*), sycamore (*Acer pseudoplatanus*), rowan (*Sorbus aucuparia*), hawthorn (*Crataegus monogyna*), leylandi (*X Cuppressocyparis leylandi*), holm oak (*Quercus ilex*), yew (*Taxus baccata*) and unidentified pine species were observed throughout. It is thought the woodland is not natural and has been planted in previous years.

3.1.5 Three apple trees (*Malus* sp) were noted on the bottom plateau of the site within the grassland. One of the trees has fallen over and they are all covered in bramble.

3.1.6 Many of the individual trees and groups have trees are subject to Tree Protection Orders (TPOs). These will be dealt with separately within the landscape report.

Scrub

3.1.7 A large expanse of scrub is present to the north west of site on the lower plateau. The scrub consists mainly of bramble (*Rubus fruticosus* agg) and hedge bindweed (*Calystegia sepium*). Hogweed, horsetail and a willow herb species (*Epilobium* sp) were also noted. The scrub is encroaching on the grassland areas and will soon overtake the bottom plateau making access difficult.

Semi Improved Grassland

3.1.8 There are two areas of semi improved grassland present within the proposed site boundary. Both these areas have previously been managed as lawn areas for use by the land owner. The small area of grassland to the east of the house had been mown recently making species identification difficult. Species such as creeping buttercup (*Ranunculus repens*), daisy (*Bellis perennis*), a species of violet (*Viola* sp), cocksfoot

(*Dactylis glomerata*), and the moss *Rhytidiadelphus squarrosus* were noted in the sward.

- 3.1.9 The area of grassland on the bottom plateau, to the north, of the site was longer and less well kept. Species such as cocksfoot, false oat grass (*Arrhenatherum elatius*), creeping buttercup, a dandelion species (*Taraxacum officinalis* agg), hogweed (*Heracleum sphondylium*), a species of horsetail (*Equisetum* sp), hedge woundwort (*Stachys sylvatica*), ragwort (*Senecio jacobaea*) and common nettle (*Urtica dioica*) were noted. The horsetail was particularly abundant within the sward.

Pond

- 3.1.10 A single ornamental garden pond is present within the proposed site boundary, adjacent to Northcliffe Lodge. The pond is well managed and planted with non-native ornamental species largely. The majority of the pond is open water and it is thought to be lined. The pond measures approximately 3m by 1m, is edged with paving stones and ornamental planting.

Non-native Shrub Planting

- 3.1.11 The majority of the site is the garden associated with Northcliffe Lodge and it has been managed for many years as a garden. A large amount of non-native ornamental planting is dotted around the house and garden as shown on Plan 2. This planting is largely confined to flower beds and previously landscaped areas.

Buildings

- 3.1.12 A single building is present within the proposed site boundary. Northcliffe Lodge is the Lodge house built to service Northcliffe Manor House in the 1800s. The Manor House has been demolished but the Lodge House remains as a residential dwelling. The house is a detached double storey dwelling with a number of extensions added to it and it lies on a north east to south west axis, the building layout is shown on Plan 3.
- 3.1.13 Externally, the house is covered in a white washed render with an exposed half-timber frame on the first floor of the main house. The roof of the main house and rear extension is double pitched and consists of cement roman tiles. The roof of the L-shaped outhouse is mono pitched and has plain clay roof tiles. The roof line of the main house extends on both gable ends creating an extended rake and exposing the wooding boarding under the roofing tiles. A small single storey glass conservatory is present to the north east edge of the main house.
- 3.1.14 Internally there are three attic voids one within the main house, one above the rear extension and one above the outhouse. Close fitting wooden boarding is present along the roof pitch of the attic space above the main house. It was possible to see a roof lining through a few gaps between the boarding which is thought to be bitumen based. Insulation is present between the joists but the majority of the space was boarded allowing movement. Two chimney stacks were present in the void both with metal flues extending up through the void and out through the roof. Insulation is present between rafters along both pitches of the roof and joists of the attic space above the extension. The roof line above the outhouse has a bitumen roof lining which is extensively

degraded with many holes present. A thin layer of insulation is present between the roof joists.

Stone Faced Retaining Wall

- 3.1.15 A stone faced retaining wall is present measuring approximately 5m high and 20m long. The wall splits the middle and bottom section of the site and contains two underground shed structures. Extensive cracks were noted in the masonry and in the walls of the underground sheds.
- 3.1.16 The underground sheds are both single storey with numerous open compartments within them. They both have white washed breeze block walls and are open access as the doors are either broken or wedged open by the materials being stored within them.

Gravel, Paving and Parking Areas

- 3.1.17 A small gravel parking and turning area are present to the front of the house. Paving and small areas of hardstanding are present around and to the east of the house. A set of paved steps leads from the middle plateau down to the bottom section of the site.

3.2 Fauna

Bats

- 3.2.1 All species of bat and their roosting sites are protected under the EU Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna (92/43/EEC; the 'Habitats Directive'), implemented in the UK via the Conservation of Habitats & Species Regulations 2010 (the 'Habitats Regulations'). The roosting places used by bats are also protected against unauthorised disturbance or obstruction under the amended Wildlife & Countryside Act 1981. Several bats are listed as 'Priority Species' for conservation in the UK Biodiversity Action Plan (UK BAP) and its Welsh equivalent.
- 3.2.2 It is proposed to demolish Northcliffe Lodge as part of the development proposals. The detached house is located within an area of woodland that continues around the coast line to the north west and south east of the site. The house is fairly sheltered from surrounding external light sources and is unlikely to suffer high amounts of light pollution. The habitat surrounding the house is assessed as being highly suitable for use by foraging bats.
- 3.2.3 No signs of bats were found during the scoping survey of the house and full access was gained to the building. In general the house and outbuildings looked fairly tight and well-sealed with only a few potential access points noted. These were limited to a small gap between the fascia and soffit board on the rear extension and a few slipped and cracked tiles on the outbuilding. However, given the levels of the house and surrounding land it was not possible to visually inspect all areas of the roof. The building is assessed as having moderate potential for bats to be present.

- 3.2.4 The woodland surrounding the house and within the site boundary consists of a variety of broadleaved and coniferous species. It is likely some of the trees will need to be removed and/or pruned as part of the proposed development works. All the trees within the site boundary are mature specimens and were subject to a ground level inspection for their potential to support roosting bats following the BCT Guidelines (2012), the categories are detailed in Appendix 5. All of the trees within the proposed site boundary are assessed as being category 2 or 3 and are unlikely to require further detailed survey work with regards to bats.
- 3.2.5 The closest bat record to site is approximately 330m away and is of a common pipistrelle commuting and/or foraging call rather than roosting activity. Records for foraging and commuting daubentons, whiskered, noctule, common and soprano pipistrelle bats were returned with the data search (SEWBReC data, 2015). No confirmed roost records were returned within the search area. Numerous bat care call out records were found within Penarth but no confirmation of roosting activity at the properties is detailed.

Dormouse

- 3.2.6 Dormouse is a 'European protected species' afforded a level of statutory protection which is similar to that for bats, above. It is also a Priority Species of the UK and Welsh BAPs.
- 3.2.7 There are no records for the presence of dormice within the 1km buffer zone around the site (SEWBReC data 2015). The site is assessed as being suboptimal for dormice and unlikely to support a population. The woodland on site, whilst superficially suitable for dormice, does not support the dense understorey usually associated with dormouse woodlands. The scrub and woodland habitats within site make up roughly 0.3ha of the site. The Dormouse Conservation Handbook 2nd edition section 2.3, suggests that dormice live at population densities of roughly two per hectare. Given that only roughly 0.3ha of the site has suitable habitat for dormice and that there are limited wider dispersal routes for such animals, it is suggested this would not be enough habitat to support a viable population of dormouse.
- 3.2.8 The site is located within an urban area and is likely to suffer from frequent visits from predators such as cats. The high levels of disturbance and likely predation again lower the potential presence of dormice within the site.

Otter

- 3.2.9 Otter is a 'European Protected Species' afforded the highest level of statutory protection available in the UK under both British domestic and European legislation, and therefore of similar status to bats and dormouse (see above). Protection also extends to its resting places, such as holts and couches. It is a 'Priority Species' of the UK BAP and its Welsh equivalent.
- 3.2.10 Otter are present in many of the main river systems in Wales, having now recovered much of its former range following its sharp decline in the 1970s and 1980s, although numbers often remain at lower levels than was previously the case. There are records for the presence of otter within 1km of the proposed site (SEWBReC data 2015).

- 3.2.11 No evidence of otter was found during the present survey, and no records of otter exist for the site. The site is poorly connected to any surrounding watercourses with roads, lighting and buildings causing disturbance in the area. As such otter are not considered likely to occur within the site.

Badger

- 3.2.12 Badger is afforded strict protection under the terms of the Protection of Badgers Act 1992, although this is primarily on animal welfare grounds. In addition to the individual animals, protection is extended to their underground nests ('setts') which may not be damaged or disturbed without authorisation. Badger remains a common species throughout much of South Wales.
- 3.2.13 No evidence of the presence of a badger sett was found within the proposed site boundary. The site generally exists on three plateaus, the bottom and middle plateaus are separated by a steep retaining wall. The top and middle plateaus are separated by a shallow bank and landscaped/managed areas. Badgers generally prefer a bank to dig their setts within; given the lack of suitable banks on site it lessens the potential for sets to be present.
- 3.2.14 The closest existing badger record is 1.1km away to the west of the proposed development site and is of a road kill. The site does connect to a narrow expanse of woodland to the east and west and it is thought likely that badgers are present in the wider area. The site and wider area surrounding it is considered to be suitable for foraging or commuting use by badgers, at least on occasion. A mammal path was noted through bramble to the east of the site. It was not possible to confirm which species had created the path.

Other Mammals

- 3.2.15 The site is considered likely to support a range of common synanthropic species such as wood mouse as well as voles, shrews, either as residents or whilst commuting or foraging. It is also possible that species such as hedgehog, a UK BAP priority species, may also occur on the site on occasion. However, no evidence of such species was recorded at the time of survey.

Birds

- 3.2.16 Nearly all species of bird are protected against killing or injury as individuals under UK legislation, and this protection extends to their nests, eggs and young. A number of especially rare species are subject to enhanced protection under UK law by virtue of their listing on Schedule 1 of the Wildlife & Countryside Act 1981, and may not be disturbed whilst nesting.
- 3.2.17 The vast majority of records returned by the data search were for bird species associated with the Cardiff Bay Barrage and Severn Estuary SPA, SAC, SSSI, RAMSAR site. There are no existing records of birds from the site (SEWBReC data 2015) although it is considered highly likely that at least a few common bird species would use the buildings, trees and scrub for nesting purposes.

- 3.2.18 Existing local records of birds from within the vicinity in recent years include black-headed gull, eurasian curlew, black redstart, common goldeneye, ringed plover, long-tailed duck, brambling, linnet, Slavonian grebe, hedge accentor, Common starling, field fare, song thrush and sky lark, all of which are listed on the UK BAP and/or its Welsh equivalent (Section 42 list species) (SEWBReC data, 2015). Records of common kingfisher, little gull and black tern, which are listed under Schedule 1 of the Wildlife & Countryside Act 1981, have also been recorded within 1km.

Reptiles

- 3.2.19 Four native reptile species occur in South Wales, comprising common lizard, slow-worm, adder and grass snake. These four species are all afforded so-called 'partial protection' under the amended Wildlife & Countryside Act 1981, which prohibits the deliberate killing or injury of individuals. However, there is no direct protection extended to the habitats which support these species. All four common reptiles are listed as 'Priority Species' in the UK BAP and its Welsh equivalent.
- 3.2.20 The data trawl returned no records of reptiles from the site and the closest reptile record of is for slow worm approximately 330m away (SEWBReC data, 2015).
- 3.2.21 The majority of the proposed development site has high potential for reptile species to be present. The shorter maintained grass areas, scrub, rockery areas and woodland create a mosaic of habitats across the site. This variety of habitats provides commuting, foraging and overwintering sites within the proposed site boundary.

Amphibians

- 3.2.22 Five native amphibian species occur in South Wales, comprising common frog, common toad, smooth newt, palmate newt and great crested newt. The latter species is nationally rare and declining, and is afforded full protection under both UK and European legislation (see under bats, above), which also extends to the habitats which support it. The other four species are not afforded any direct statutory protection, other than with respect to trade.
- 3.2.23 No amphibians were found during the present survey, nor are there any existing records from the site or its immediate vicinity (SEWBReC data 2015). The site contains one ornamental garden pond which holds water all year round. The pond is suitable breeding habitat for common amphibian species. It is thought highly likely common amphibian species use the site, for breeding, foraging and overwintering purposes.
- 3.2.24 There are no existing records within 1km of the site for the rare and protected great crested newt (GCN), and no evidence of this species was found during the present survey. The pond within the site pond would appear to be suitable for breeding GCN. However, given the lack of local records and the amount of surrounding development and urbanisation it is thought highly unlikely that a population of great crested newts exists on site.

Invertebrates

- 3.2.25 Upwards of 30,000 species of terrestrial and freshwater invertebrates, including some 27,000 insect species, are recorded in Britain, occurring in every available habitat. About 40 species are afforded full statutory protection in the UK under either European or British legislation.
- 3.2.26 There are no pre-existing invertebrate records from the site and none were recorded during the present survey. The site is, however, assessed as being likely to support a small range of common and ubiquitous invertebrate species, but the probability of any rare or protected species being present is considered to be very low.

4.0 ECOLOGICAL EVALUATION

4.1 There is currently no nationally accepted system for the categorising of sites or features of biodiversity significance below the level of national value, criteria for which are set out by the former Nature Conservancy Council (1989, as amended). However, guidance for the identification of non-statutory sites of district significance (ie SINCs) is also available in this instance (WBP 2008).

4.2 For the purposes of this study the habitats and features of the site have therefore been provisionally evaluated and graded in accordance with the categories set out in Appendix 2, and the assessment is shown at Plan 4.

4.3 Further surveys are likely to be required to fully assess the value of the proposed development site.

National, County and District Value

4.4 No parts of the site are considered to fall into any of these categories.

Local Value

4.5 The mixed woodland, scrub, grassland, pond and non-native shrub planting habitats are all considered to be of Local value for wildlife. It is likely that birds nest within the scrub and trees and that the site is likely to be used for foraging by such species. Common mammal species are also likely to use the site for foraging and commuting purposes and common amphibians may also use the site for foraging, shelter and potentially hibernation.

Negligible Value

4.6 The hardstanding areas found within the site boundary are considered to be of negligible value for wildlife.

5.0 ASSESSMENT OF DEVELOPMENT IMPACTS

- 5.1 It is understood the client proposes to build a number of flats and associated parking within the proposed site boundary. It would seem highly likely that construction works will entail the loss of all, or nearly all, of the habitats currently present within the site. It is, however, assumed that there would be some landscape planting within the developed site, although precise details of this are not available at the time of writing.
- 5.2 The habitats present on site are assessed as being of no greater than Local value for wildlife at present. The development of the site would be unlikely to incur any adverse biodiversity impacts beyond the local context of the site. Habitat enhancement measures should be implemented where possible. However further survey work is recommended which could affect the current valuation for wildlife.
- 5.3 The large retaining wall within the proposed site boundary has a network of large gaps and cracks within the stone work and missing mortar. The gaps appear to extend deep into the stonework which is estimated to be at least 1m thick. It was not possible to assess whether a rubble in-fill was present which could provide various gaps and routes deeper into the wall but it is thought likely. Although the retaining wall is in an exposed coastal area the narrow gaps into the wall and the potential rubble in fill structure, it is thought likely that the wall provides the stable cool temperatures favoured by bats during hibernation. The retaining wall is assessed as having moderate to high potential for hibernating bats.
- 5.4 Hibernation surveys for bats, in this particular instance, are thought unlikely to provide any meaningful results. It is proposed to assume the use of the wall by crevice dwelling bats for hibernation purposes. Given the extensive cracks present within the wall and the potential rubble in-fill an endoscope survey would be very time intensive and could easily miss the presence of individual bats tucked away deep within the wall. Swarming activity by bats is generally associated with mating and hibernation roosts. Again a swarming survey during autumn/winter could potentially miss the presence of small numbers of bats as it only provides a snap shot of bat activity. The deployment of a static monitoring device would record general bat activity in the area rather than confirm bat roost locations and the wall is too extensive to be adequately covered by an infra-red camera.
- 5.5 The underground sheds have negligible potential to be used by roosting bats. No gaps or cracks suitable for roosting bats were noted within the brick work walls. No bat droppings were noted within the structures either which would indicate either free hanging bat presence or foraging activity. The sheds are also rather shallow and do not extend very far into the bank being approximately 3m deep. The doors are also wedged ajar allowing the weather to penetrate into the structures. The layout and coastal exposed location of the sheds are unlikely to provide stable cool temperatures favoured by bats for hibernating purposes. With the lack of potential roosting features within the sheds they are unlikely to be used for summer roosting either.
- 5.6 Northcliffe Lodge is assessed as having moderate potential for bats to be present. Whilst only a few suitable features for use by bats were noted around the building, the surrounding habitat is very good for such species. As such a minimum of two flight

surveys are recommended, in order to confirm whether bats are roosting within the building, and to allow characterisation of any bat roosts present.

- 5.7 The trees on site were subject to a visual inspection for the ground for their potential to support roosting bats. No trees within the site were felt to be more than a category 2 tree (BCT guidelines, Appendix 5) with only a few limited features suitable for bats. No further detailed species surveys are recommended for the trees but precautionary measures must be implemented where mature trees are to be removed.
- 5.8 The site has high potential for reptile species to be present. Specific reptile surveys are recommended to establish the presence or likely absence of reptiles from within the proposed development site.
- 5.9 No badger setts were discovered during the survey. However some areas of the site could not be closely inspected due to the thick scrub cover. Although it is thought very unlikely that a badger sett is present on site simple precautionary measures are advised.
- 5.10 It is likely that nesting birds utilise the site throughout the summer months. Mitigation measures with respect to such species must be implemented.
- 5.11 Appropriate mitigation measures and further survey requirements are recommended in the next section of this report. The overall impact of the development cannot be assessed fully until these further surveys have been undertaken.

6.0 RECOMMENDATIONS

Statutory Requirements

Bats

- 6.1 A minimum of two bat flight surveys are recommended for Northcliffe Lodge. All surveys should be completed following the BCT Bat Survey Guidelines (2012). The results of these surveys will be used to inform any development proposals on site. The bat flight activity period, is between April and September, although the optimal time to undertake such surveys is between May and August. It should be noted that flight surveys cannot be undertaken during the winter, at which time bats will be hibernating.
- 6.2 If a bat roost is found within the building during flight surveys of the site, a licence from NRW will be required. The licence will need to be obtained from NRW prior to any works commencing on the site, and works undertaken shall follow the licence method statement, which will detail all mitigation measures required to protect any bats roosts that may be present. This is a statutory requirement.
- 6.3 The retaining wall within the site boundary is assessed as being a hibernation roost for crevice dwelling bats. It is highly likely that the current retaining wall will have to be removed as part of the development proposals. Mitigation will be required which provides similar hibernation provision within the proposed site boundary. A licence will need to be obtained from NRW prior to any works commencing on the site, and works undertaken to follow the licence method statement, which will detail all mitigation measures required to protect any bats roosts that may be present. This is a statutory requirement.
- 6.4 Mature trees on site must be retained where possible. If they cannot be retained, ‘soft’ felling techniques which involve the lowering of limbs to the ground will be implemented.

Reptiles

- 6.5 Reptile surveys are recommended to establish to presence or likely absence of the species on the site. If reptiles are found to be present an estimate of the population size can be made from the numbers found during the survey. Reptile surveys include the deployment of artificial refugia across the proposed development site which are allowed to bed in for approximately 2 weeks. Seven separate visits to check the tins are then undertaken during optimal weather conditions between the months of April and September inclusive.
- 6.6 If reptiles are found to be present within the site boundary a reptile mitigation strategy for the site will be required. This could include measures such as reptile translocation, species deterrence measures and destructive searching.

Birds

- 6.7 All work to remove the trees and scrub should be completed outside of the bird nesting period which is approximately March to August inclusive. Alternatively, any works which

must necessarily be carried out during this period should be preceded by a survey to ensure that no nesting birds are present. This restriction also applies to any other habitats which are found to support nesting birds, including ground-nesting. Clearance and construction works must not cause disturbance or harm to any birds which are nesting in the affected habitats at the time.

Badgers

- 6.8 While no specific mitigation is considered necessary with respect to badger, contractors should be made aware of the possibility of uncovering a badger sett and be warned of their protected status. If a badger sett is uncovered during works to the wooded habitats, then all work in this area should cease and an ecologist should be contacted. A licence from NRW may be required and works to this area will be on hold until the licence is issued.

Non-Statutory Requirements

- 6.9 Any retained trees or shrubs within the site, will all be treated in accordance with BS5837 (2012) *Guidance on the Treatment of Trees in Relation to Design, Demolition & Construction*.
- 6.10 Careful consideration must be given to the use of lighting within the developed site, as this can adversely affect activity by a variety of fauna, particularly foraging bats. Light spillage into any semi-natural habitats such as hedges, woodlands and scrub etc, will be avoided. Brightness must be kept to the lowest permissible level in areas near to adjacent semi-natural habitats.
- 6.11 Bat and or bird boxes could be installed in surrounding suitable habitats or incorporated into the existing buildings. Boxes should be installed in such a manner that predators such as cats cannot reach them. They should be at least 4m (preferably 5m) above ground level and the entrances should not be illuminated at night.
- 6.12 Bird and bat boxes should ideally be of 'woodcrete' construction (such as those manufactured by Schwegler Ltd), since these are much more robust and longer-lived than traditional wooden boxes and require less after-maintenance (see Appendix 4).

7.0 REFERENCES

Bat Conservation Trust (BCT 2012) *Bat Surveys – Good Practice Guidelines* (2nd Edition). Bat Conservation Trust, London.

Edgar, P, Foster, J & Baker, J (2010) *Reptile Habitat Management Handbook*. Natural England/Amphibian & Reptile Conservation Trust, Bournemouth.

Institute of Environmental Assessment (IEA 1995) *Guidelines for Baseline Ecological Assessment*. IEA Lincoln.

Nature Conservancy Council (NCC 1989) *Guidelines for the Selection of Biological SSSIs*. NCC Peterborough.

Nature Conservancy Council (NCC 1990) *Handbook for Phase 1 Habitat Survey: a Technique for Environmental Audit*. NCC Peterborough.

Rodwell, J (Ed) (1991-2000) *British Plant Communities*. Vols 1-5. Cambridge University Press.

Wales Biodiversity Partnership (WBP 2008) *Criteria for the Selection of Sites of Importance for Nature Conservation in the County Boroughs of Blaenau Gwent, Caerphilly, Merthyr Tydfil & Rhondda Cynon Taff (The ‘Mid-Valleys Area’)*. Wales Biodiversity Partnership/Welsh Assembly Government.

Froglife (1999) *Reptile Survey : an introduction to planning, conducting and interpreting surveys for snake and lizard conservation*

APPENDIX 1: SPECIES RECORDED

All species recorded by DCE 2015, unless otherwise indicated:

Species	Common Name	Indicator Species					
		W	NG	CG	AG	MG	PIL
Trees & Shrubs							
<i>Acer campestre</i>	field maple						
<i>Acer pseudoplatanus</i>	Sycamore						
<i>Conifer sp</i>	Conifer sp						
<i>Fraxinus excelsior</i>	ash						
<i>Ilex aquifolium</i>	holly						
<i>Malus domestica</i>	garden apple						
<i>Quercus ilex</i>	holm oak						
<i>Rubus fruticosus</i>	Bramble						
<i>Taxus baccata</i>	yew	W					
Herbaceous Plants							
<i>Anisantha sterilis</i>	barren brome						
<i>Arrhenatherum elatius</i>	false oat-grass						
<i>Bellis perennis</i>	daisy						
<i>Brachypodium sylvaticum</i>	wood false-brome						
<i>Calystegia sepium</i>	hedge bindweed						
<i>Dactylis glomerata</i>	cock's-foot						
<i>Epilobium sp</i>	willowherb species						
<i>Equisetum sp</i>	Horsetail species						
<i>Geranium robertianum</i>	herb Robert						
<i>Glechoma hederacea</i>	ground ivy						
<i>Hedera helix</i>	ivy						
<i>Heracleum sphondylium</i>	hogweed						
<i>Phyllitis scolopendrium</i>	hart's-tongue fern						
<i>Ranunculus repens</i>	creeping buttercup						
<i>Rhytidiadelphus squarrosus</i>	springy turf-moss						
<i>Senecio jacobaea</i>	common ragwort						
<i>Stachys sylvatica</i>	hedge woundwort						
<i>Taraxacum officinalis</i> agg	dandelion						
<i>Urtica dioica</i>	common nettle						
<i>Viola sp</i>	Violet species						
WBP (2008) Totals		1					

Key

PS - Regionally Scarce - Primary Species in SWWSP (2004)

CS - Regionally Uncommon - Contributory Species in SWWSP (2004)

Indicator Species (SWWSP 2004)

W - Woodland, NG - Neutral Grassland, CG - Calcareous Grassland, AG - Acid Grassland, PMG Purple Moor Grass and Rush Pasture, PIL - Post Industrial Land, TF Species-rich Tillage Fields and Margins

SINC Selection

Sites which support 1 primary species or 5 contributory species or habitats which support 8 neutral grassland, 8 calcareous grassland, 7 acid grassland, 12 Purple Moor Grass and Rush Pasture or 8 tillage field and margins indicator species should be considered for selection as a SINC. Post Industrial sites which support 20 or more indicator species from the combined post-industrial land, acid, neutral, calcareous and marshy grassland lists should also be considered for selection.

APPENDIX 2: DEFINITIONS OF SITE VALUE

International Value

Site carrying an internationally recognised designation such as Ramsar Site, World Heritage Site, Special Protection Area, Special Area of Conservation, Biosphere Reserve or Biogenetic Reserve, or:

Habitats: site supporting nationally significant areas of habitats of defined international community interest.

Species: site supporting nationally significant populations of species of defined international community interest.

National Value

Site meeting published Site of Special Scientific Interest (SSSI) designation criteria (NCC 1989), whether so designated or not.

Habitats: site supporting nationally significant areas of habitats of defined national rarity or interest.

Species: site supporting nationally significant populations or communities of UK Red Data Book, Nationally Notable or protected species (other than badger).

County Value

Site identified as a County Wildlife Site (CWS), Site of Importance to Nature Conservation (SINC) or similar at the county level (ie greater than district, borough or city level); meeting published CWS designation criteria (where these exist), but falling short of SSSI designation criteria, whether designated as a CWS or not.

Habitats: site supporting good examples of nationally threatened habitats, or extensive areas of habitats which are rare or unique in the county.

Species: site supporting large or strong populations or communities of nationally rare or protected species (other than badger), or of species which are rare in the county and uncommon nationally.

District Value

Sites failing to meet County Value criteria, but nevertheless supporting habitats, species or communities which appreciably enrich the ecological resource of the county, especially by virtue of their size or extent.

Habitats: sites supporting habitats uncommon in the county, small but unmodified fragments of nationally threatened habitats, or comprising extensive areas or systems of semi-natural habitats.

Species: sites supporting nationally rare species, or strong populations or communities of regionally uncommon species, which would not otherwise be present (ie they are critically dependant on the site characteristics).

Local Value

Habitats which fail to meet District Value criteria, but which appreciably enrich the ecological resource of the locality. This category can be further divided into:

- **High Local Value**: just failing to meet District Value Criteria; supporting species which are notable or uncommon in the county; or species which are uncommon, local or habitat-restricted nationally, and which might not otherwise be present in the area.
- **Local Value**: sites which are of ecological value only in the context of their immediate surroundings. Rare or uncommon species may occur but are not restricted to the site or critically dependent upon it for their survival in the area.

Sites failing to meet any of the above can be considered as being of '**Negligible**' ecological value.

APPENDIX 3: SUITABLE NATIVE SPECIES FOR PLANTING

Trees & Shrubs

<i>Betula pendula</i>	Silver birch
<i>Betula pubescens</i>	Downy birch
<i>Corylus avellana</i>	Hazel
<i>Crataegus monogyna</i>	Common hawthorn
<i>Cytisus scoparius</i>	Broom
<i>Fraxinus excelsior</i>	Ash
<i>Ilex aquifolium</i>	Holly
<i>Prunus avium</i>	Wild cherry
<i>Prunus spinosa</i>	Blackthorn
<i>Quercus robur</i>	Pedunculate oak
<i>Salix caprea</i>	Goat willow
<i>Salix cinerea</i>	Grey willow
<i>Sorbus aucuparia</i>	Rowan
<i>Ulex europaeus</i>	Common gorse
<i>Viburnum opulus</i>	Guelder rose

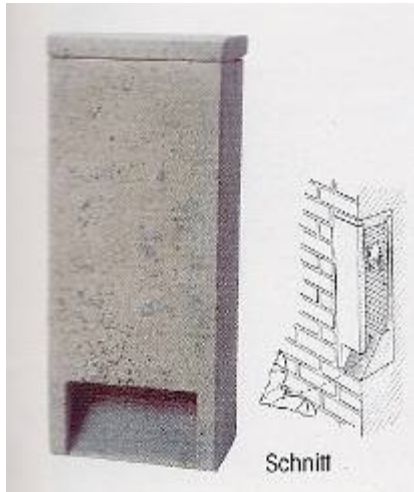
Grassland Species

<i>Centaurea nigra</i>	Common knapweed
<i>Hypochaeris radicata</i>	Common cat's-ear
<i>Lathyrus pratensis</i>	Meadow vetchling
<i>Leontodon hispidus</i>	Rough hawkbit
<i>Leucanthemum vulgare</i>	Ox-eye daisy
<i>Lotus corniculatus</i>	Bird's-foot trefoil
<i>Medicago lupulina</i>	Black medick
<i>Pilosella officinalis</i>	Mouse-eared hawkweed
<i>Plantago lanceolata</i>	Ribwort plantain
<i>Primula veris</i>	Cow-slip
<i>Primula vulgaris</i>	Primrose
<i>Prunella vulgaris</i>	Self-heal
<i>Ranunculus acris</i>	Meadow buttercup
<i>Trifolium dubium</i>	Least trefoil
<i>Trifolium pratense</i>	Red clover
<i>Veronica chamaedrys</i>	Germander speedwell
<i>Vicia cracca</i>	Tufted vetch
<i>Vicia sativa</i>	Common vetch

APPENDIX 4: BAT & BIRD BOXES EXAMPLES



Schwegler 2F bat box



Schwegler 1FR wall integrated bat box, can be rendered over



Schwegler 27 wall integrated bat box, can be rendered over



Schwegler 1FQ wall-mounted bat box



Schwegler 2FF wall-hanging bat box



Schwegler 1WI integral wintering bat box, can be rendered over



Schwegler 1B bird box



Schwegler 2H robin box

APPENDIX 5: CATEGORIES FOR TREE ASSESMENTS WITH BAT ROOSTING POTENTIAL

Tree category and description	Stage 1 Survey requirements prior to determination	Stage 2 Further measures to inform mitigation	Stage 3 Likely mitigation
Known or Confirmed Confirmed bat roost tree with field evidence of the presence of bats, e.g. droppings, scratch marks, grease marks or urine staining.	Follow SNCO guidance and these guidelines wherever possible, to establish the extent to which bats use the site. This is particularly important for roosts of high risk species and/or roosts of district or higher importance and above. Consultant ecologist required		Felled under Habitats Regulations licence ¹ following the installation of equivalent habitats as a replacement. Felling would be undertaken taking reasonable avoidance measures ² such as 'soft felling' to minimise the risk of harm to individual bats.
Category 1* Trees with multiple highly suitable features capable of supporting larger roosts	Tree identified on a map and on the ground. Further assessed to provide a best expert judgement on the likely use of the roost, numbers and species of bat, by analysis of droppings and other field evidence. Consultant ecologist required	Avoid disturbance to trees where possible ² . More detailed, off-the-ground visual assessment. Further dusk and dawn surveys to establish the presence of bats and, if present, the species, numbers and type of roost to inform the requirements for mitigation if felling is required.	Trees with confirmed roosts following further survey would be upgraded to Confirmed category and felled under licence as above. Trees with no confirmed roosts would be downgraded to Category 2 and felled taking reasonable avoidance measures ³ .
Category 1 Trees with definite bat potential, supporting fewer suitable features than category 1* trees or with potential for use by single bats	Tree identified on a map and on the ground. Further assessed to provide a best expert judgement on the potential use of suitable cavities, based on the habitat preferences of bats. Consultant ecologist required	Avoid disturbance to trees where possible ² . More detailed, off-the-ground visual assessment. Further dusk and dawn surveys to establish the presence of bats and, if present, the species, numbers and type of roost to inform the requirements for mitigation if felling is required.	Trees with confirmed roosts following further survey would be upgraded to Confirmed category and felled under licence as above. Trees with no confirmed roosts would be downgraded to Category 2 and felled taking reasonable avoidance measures ³ .
Category 2 Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats	None. Consultant ecologist required unlikely to be required.	Avoid disturbance to trees where possible ² . No further surveys.	Trees may be felled taking reasonable avoidance measures ³ . Stop works and seek advice in the event bats are found.
Category 3 Trees with no potential to support bat roosts	None. Ecologist involvement will not be required unless new evidence is found.	No further surveys.	No mitigation for bats required.

Notes

¹ The licence (issued by NRW) will need to demonstrate that alternative approaches have been previously considered to try to avoid works to the tree.

² Wherever possible, avoid disturbance and retain all features which offer some value to bats.

³ Reasonable avoidance measures are considered to be good practice. 'Soft felling' is a generic term used to describe more cautious felling approaches, using lowering and cushioning techniques to reduce the impact of felling limbs which may still have bats within cavities. May include methods such as additional dusk emergence or dawn re-entry surveys immediately prior to felling (during the active bat season) or the use of non-return valves to ensure that bats can leave but not return to a roost cavity before works begin.

PHOTOGRAPHS OF THE SITE – October 2015



View of western elevation Northcliffe Lodge



View of eastern elevation Northcliffe Lodge



Attic void in main house



Attic void above extension



Attic void above outbuilding



View of outbuilding



View of close fitting extended eaves



Roof profile Northcliffe Lodge



Pond within site boundary



View of middle plateau of site



View of bottom plateau of site



Cracks in retaining wall



Cracks in retaining wall



Woodland along northern site boundary



Sheds sunken into retaining wall



Example of shed interior

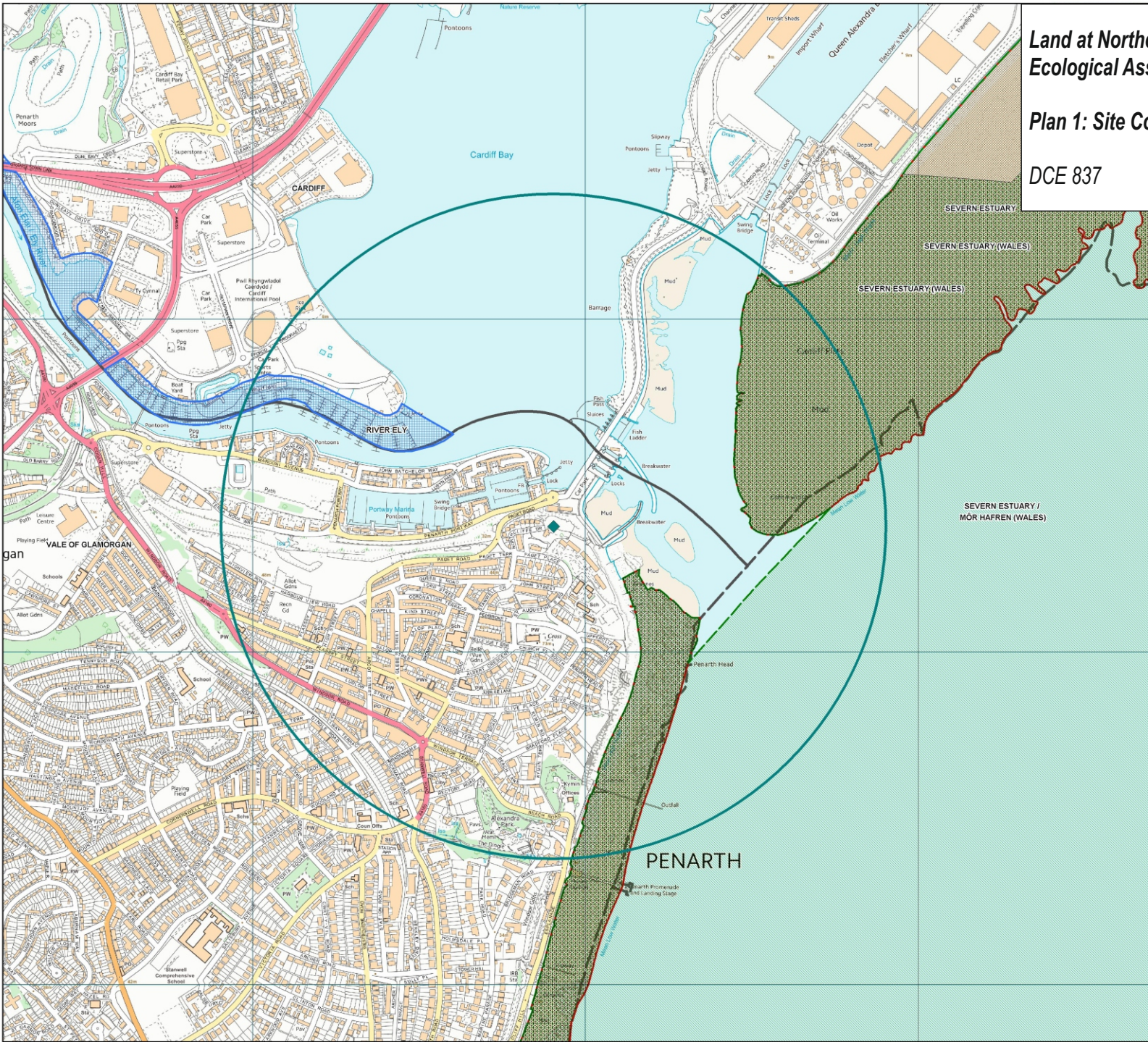
Land at Northcliffe Lodge, Penarth Ecological Assessment


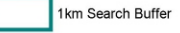
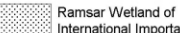



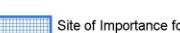

Plan 1: Site Context

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NTS

Nov 2015



-  Centre of Search Area
-  1km Search Buffer
-  Ramsar Wetland of International Importance
-  Special Area of Conservation
-  Special Protection Areas
-  Site of Special Scientific Interest
-  Site of Importance for Nature Conservation (SINC)
-  Unitary Authority Boundary

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**Land at Northcliffe Lodge, Penarth
Ecological Assessment**

Plan 2: Habitat & Vegetation

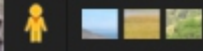
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	Semi Improved Grassland
	Non Native Shrub Planting
	Bramble Scrub
	Mixed Woodland
	Group of trees
	Retaining Wall
	Building
	Pond
	Hardstanding
	Site Boundary
	Shed



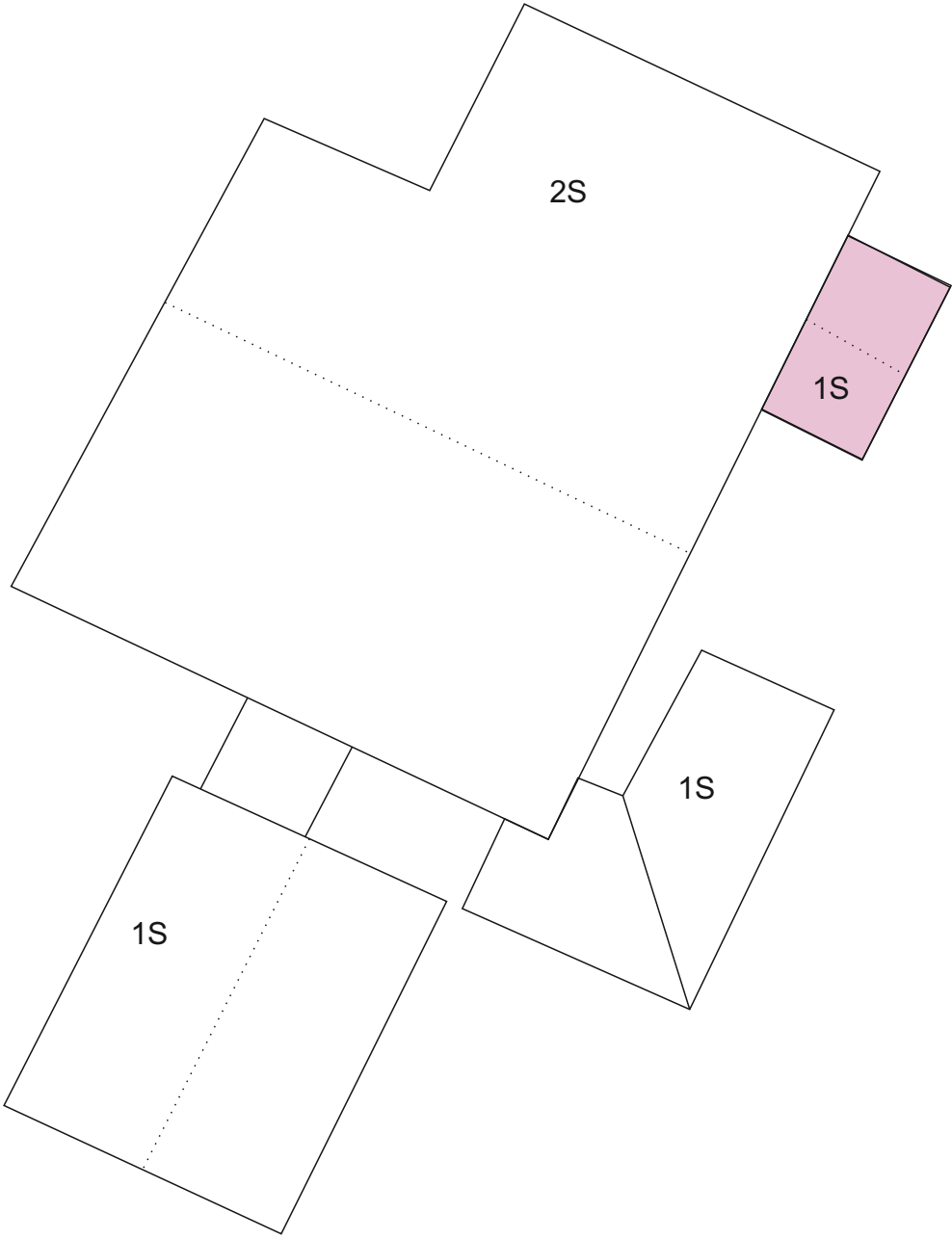
**Land at Northcliffe Lodge, Penarth
Ecological Assessment**


Plan 3: Building Layout

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	Conservatory
1S	Single Storey
2S	Double storey
.....	Ridge Line



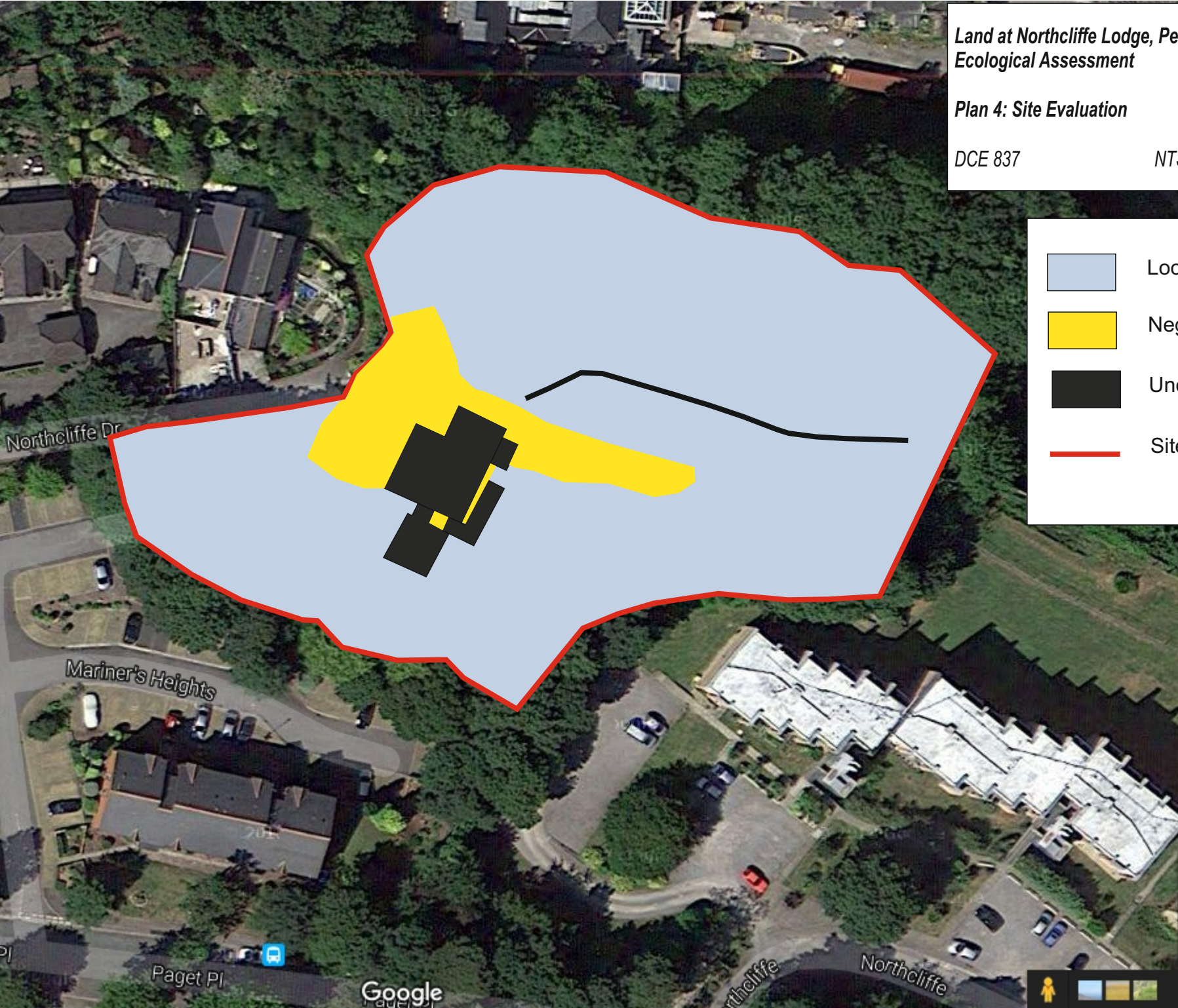
**Land at Northcliffe Lodge, Penarth
Ecological Assessment**

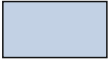



Plan 4: Site Evaluation

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-  Local Value
-  Negligible Value
-  Unconfirmed Value
-  Site Boundary

