

Sully SSC Redevelopment

Ecological Impact Assessment

St. Modwen Developments Ltd

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ATKINS

Plan Design Enable

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1. Introduction

1.1. Terms of Reference

Atkins Limited (Atkins) was instructed by St. Modwen Developments Ltd. to undertake an Ecological Impact Assessment (EclA) in support of an application for planning permission for the redevelopment of the Sully Sport and Social Club (SSC). This ecological impact assessment forms part of the supporting information lodged with the submission. The proposals are shown on the master plan (Drawing Reference: 13162/3007/A pad Design Ltd, Dated July 2014.) hereafter referred to as the 'Application Site'. A copy of the Master Plan is provided in Appendix A-1 of this document.

1.2. The Application Site

The Application Site is located on the south east fringe of the village of Sully, situated between Penarth and Barry in The Vale of Glamorgan. The northern boundary is the B4267 (South Road) and the southern boundary is the coast of the Bristol Channel / Severn Estuary. To the west it is bounded by housing off Clevedon Avenue and to the east by Beach Road and a caravan park. Beyond the Application Site, the majority of land immediately to the west and north-west is residential; to the east and north east there is more open countryside; to the south is the intertidal habitat of the coast. The Application Site largely comprises sports pitches with associated buildings including the Sully Social Club building and indoor sports facilities.

1.3. Proposed Development

Proposals involve rearrangement of the Application Site including relocation of existing sports pitches, to the eastern part of the Application Site, and residential development to the western part of the site. Residential development will include areas of low and medium density housing with associated landscaping and build infrastructure.

1.4. Scope of Work

This EclA presents information obtained during ecological surveys in 2014 and 2015. This EclA describes and evaluates the nature conservation value of ecological features present at the Application Site, characterises the impacts of the proposed development on these features and assesses the significance of the proposed development on ecological features taking the agreed mitigation measures into account.

The scope of the EclA includes:

- data gathering of existing ecological information within the vicinity of the Application Site from appropriate sources;
- extended Phase 1 habitat survey of land within and adjacent to the Application Site;
- bat roost surveys of buildings with the Application Site;
- evaluation of the area of land within and adjacent to the Application Site with regard to its nature conservation value;
- identification of impacts on ecological features including habitat loss, disturbance of animals, and off-site impacts;
- mitigation measures to minimise negative impacts;
- any biodiversity enhancement measures; and
- assessment of the significance of ecological effects taking account of agreed mitigation and enhancement measures.

2. Methods of Assessment

2.1. General

This EclA has been undertaken with reference to current best practice and in particular the *Guidelines for Ecological Impact Assessment in the United Kingdom* (Institute of Ecology and Environmental Management, June 2006). The assessment of impacts is based on the understanding of the current project as shown in the Master Plan (see Appendix A).

2.2. Zone of Influence or Spatial Scope

The Zone of Influence is the area encompassing all predicted negative ecological effects from the proposed scheme, both those which may occur as a result of land-take and habitat loss and those which may occur through disturbance such as noise. Due to the scale and nature of the proposals, it is considered that a maximum zone of 1 km is appropriate for the gathering of information during the desk study, extending to 2 km for statutory designated sites of importance for nature conservation. For the field survey, the application site itself plus the adjacent land (50 m outside the Application Site boundary) is an appropriate area to survey.

2.3. Temporal Scope

Potential impacts on ecological features have been assessed in the context of how the predicted baseline conditions within the zone of influence might change between the surveys and the start of construction). It is not known when construction will begin at the Application Site. However, the assessment has assumed that the development will be undertaken within two years from the date of the planning submission.

2.4. Desk Study

In July 2014, the South East Wales Biodiversity Records Centre (SEWBRc) was asked to provide desk study information.

The desk study included following information:

- Local nature conservation designations within 2 km of the Application Site.
- Records of notable species within a zone of 2 km around the Application Site. Notable species are those which are legally protected, identified in a Red Data Book, considered to be nationally rare, locally rare or endangered, or are identified as a priority species in the UK Biodiversity Action Plan (BAP) or the Vale of Glamorgan BAP (2002)¹.

The Multi-Agency Geographic Information for the Countryside (MAGIC) website (www.magic.gov.uk), Natural Resources Wales (www.naturalresourceswales.gov.uk) and Joint Nature Conservation Committee (JNCC) (www.jncc.gov.uk) websites were reviewed in order to obtain information on statutory designated sites of importance for nature conservation within 2 km of the Application Site and also to look for (BAP) habitats within or adjacent to the Application Site.

Ordnance Survey maps (www.ordnancesurvey.co.uk/oswebsite) and aerial photographs (www.maps.live.com) were used to search for ponds within 500 m of the Application Site. This is because great crested newts can use suitable terrestrial habitat within 500 m of a breeding pond. The search area is in line with recommendations within the *Great Crested Newt Mitigation Guidelines*².

The UK BAP and Vale of Glamorgan BAP were reviewed to identify priority habitats and species that may be present within the Zone of Influence. In addition, the list of '*Habitats and Species of Principal Importance for*

¹ http://www.valeofglamorgan.gov.uk/files/Living/Environment/Biodiversity/Local_Biodiversity_Action_Plan.pdf

² Natural England (2001) Great Crested Newt Mitigation Guidelines,
<http://publications.naturalengland.org.uk/publication/810429?category=30014>

the *Conservation of Biological Diversity in Wales*³ was reviewed in relation to species which may be present or likely to be affected by the proposed development.

2.5. Field Survey

2.5.1. Extended Phase 1 Habitat Survey

A walk-over ecological survey of areas within and adjacent to the Application Site (including land up to 50 m from the Application Site boundary) was undertaken on 30th July 2014 following the 'Extended Phase 1' methodology as set out in *Guidelines for Baseline Ecological Assessment* (Institute of Environmental Assessment, 1995). Weather was clear and sunny with light wind and some clouds but no rain. The extended Phase 1 habitat survey provides information on the habitats in the survey area and assesses the potential for notable fauna to occur in or adjacent to the survey area. Plant names recorded in this survey follow *New Flora of the British Isles* (2nd edition, Stace 1997).

The main habitats within the Application Site were mapped and are shown on the Phase 1 Habitat Plan (Appendix B-1). Target notes are used to describe habitat and species composition and highlight features of ecological interest (see Appendix B-2).

During the site visit and walkover survey, the following investigations were also undertaken in respect of the presence of legally protected species:

- assessment of waterbodies for their potential to support great crested newts (where appropriate using the standard Habitat Suitability Index);
- an external inspection of buildings and trees for their potential suitability for roosting bats;
- an assessment of terrestrial habitat suitability for amphibians including great crested newts;
- assessment of suitable habitats for nesting birds;
- a search for signs of badger activity including setts, tracks, snuffle holes and latrines within the Application Site and up to 50 m outside the Application Site);
- assessment of habitat potential for reptiles;
- The extended Phase 1 survey checked for the presence of Japanese knotweed, giant knotweed, hybrid knotweed, giant hogweed, rhododendron and Himalayan balsam. Other invasive species, in particular those associated with aquatic habitats may not have been recorded, but it is considered that this survey is sufficient to identify any significant constraints posed by invasive species.

2.5.2. Bat surveys

During the Phase 1 survey undertaken on 30th July 2014 no internal access was possible to two buildings identified as having low potential to support roosting bats (Target Notes 5 and 20, Phase 1 habitat plan, Appendix B). A small number of features of potential value to bats were noted, and a detailed bat roost survey was undertaken to provide sufficient confidence as to the likely presence or absence of roosting bats. Other buildings within the site were considered of negligible potential to support roosting bats and no further survey of these buildings was considered necessary.

Due to the very low potential of the buildings for bats, a single dusk emergence survey of each building was undertaken to establish the likely presence or absence of bat roosts within the buildings. The emergence surveys were undertaken on the following dates:

Building	Date	Number of surveyors	Weather conditions ⁴
20	16/09/2015	2	13°C. Dry. Gentle Breeze.
5	23/09/2015	4	15°C. Largely dry although light drizzle 75 mins after sunset. Moderate breeze.

³ Section 42 of the *Natural Environment and Rural Communities (NERC) Act 2006* - Habitats and Species of Principal Importance in Wales

⁴ Taken from surveyor observations and Cardiff Airport weather station c. 5mile west of the site

Surveys were undertaken using ultrasonic detectors and appropriate recording equipment. Survey followed best practice guidelines⁵ and commenced 15 minutes prior to sunset and continued for up to 180 minutes after sunset.

2.5.3. Limitations to Survey

The Phase 1 survey assessment is based on a single visit to site in mid July 2014. However, that is a good time of year to undertake Phase 1 habitat assessment as many species are active and plants are growing.

It is possible that some spring ephemeral plant species would have been over looked (one or two species were dried and un-identifiable). However, given the habitats present, it is unlikely that surveys would have overlooked any notable plant species.

Trees were subjected to external ground level inspection only, whilst is considered sufficient to assess general suitability for roosting bats, it is likely that evidence of roosting would be overlooked from this level of survey.

A comprehensive of badger activity was not undertaken, although significant badger activity would not have been overlooked it is possible that minor evidence (such as single hole outlying setts), could have been overlooked in wide hedges and areas of dense scrub.

Survey in July does not allow assessment of use the Application Site by birds (or other species) in winter and spring or autumn migration. This has been taken into account in the evaluation.

During the bat emergence survey on 23rd September 2015 light drizzle started falling 75 minutes after sunset. However bats were still active and given this was towards the end of the survey it was not considered to pose a constraint to the survey.

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The ecological survey has not therefore produced a complete list of plants and animals and the absence of evidence of any particular species should not be taken as conclusive proof that the species is not present or that it will not be present in the future. However, the results of this survey have been sufficient to undertake the EclA and have allowed an evaluation of the nature conservation value of ecological features present at the Application Site, characterisation of the impacts of the proposed development on these features, and an assessment of the significance of the effects of the proposed development on ecological features taking the agreed mitigation and any biodiversity enhancement measures into account.

2.6. Nature Conservation Evaluation

A number of criteria have become accepted as a means of assessing the nature conservation value of a defined area of land which are set out in *A Nature Conservation Review* (Ratcliffe, 1977) and include diversity, rarity and naturalness. Legal protection has been taken into account.

The nature conservation value or potential value of an ecological feature is determined within the following geographic context:

- International importance (such as Special Areas of Conservation, Special Protection Areas, Ramsar sites);
- National importance (such as Sites of Special Scientific Interest);
- Regional/county importance (such as Local Nature Reserves, ancient woodlands);
- Local (parish) importance (undesignated ecological features such as old hedges, woodlands, ponds);

⁵ Bat Conservation Trust (2012). *Bat Surveys Good Practice Guidelines*: 2nd edition.

- The Application Site and immediate environs e.g. habitat mosaic of grassland and scrub within the Application Site;
- Negligible importance would usually be applied to areas of built development, active mineral extraction, or intensive agricultural land.

2.7. Impact Assessment

The assessment of the potential effects of the proposed development takes into account both on-site effects and those that may occur to adjacent and more distant ecological features. Impacts can be permanent or temporary and can include:

- Direct loss of wildlife habitats;
- Fragmentation and isolation of habitats;
- Disturbance to species from noise, light or other visual stimuli;
- Changes to key habitat features; and
- Changes to the local hydrology, water quality and/or air quality.

The significance of a negative effect (or a positive or beneficial effect) is the product of the magnitude of the impact and the value or sensitivity of the nature conservation features affected. In order to characterise the impacts on each feature, the following parameters are taken account of:

- The magnitude of the impact;
- The extent of the area over which the impact would occur;
- The duration of the impact;
- Whether the impact is reversible and over what timeframe;
- The timing and frequency of the impact.

Effects are unlikely to be significant where features of low value or sensitivity are subject to small or short-term impacts. However, where there is a number of small scale effects that are not significant alone, the assessor may determine that, cumulatively, these may result in an overall significant effect. Impacts have been assessed as being either negative or positive and significant or not significant. Following current guidance, this assessment identifies whether the effects described are significant, based on the integrity and the conservation status of the ecological feature.

The integrity of sites is described as follows and has been used in this assessment to determine whether the effects of the proposals on a designated site are likely to be significant:

The integrity of a site is the coherence of the ecological structure and function across its whole area that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified.

The conservation status of undesignated habitats and species within a defined geographical area is described as follows and has been used in this assessment to determine whether the effects of the proposals are likely to be significant:

For habitats, conservation status is determined by the sum of influences acting on the habitat and its typical species, that may affect its long term distribution, structure and functions as well as the long term survival of its typical species within a given geographical area;

For species, conservation status is determined by the sum of influences acting on the species concerned that may affect the long term distribution and abundance of its population within a given geographical area.

The mitigation measures described within the EclA have been incorporated into the design and operational phasing programme and taken into account in the assessment of the significance of impacts. These mitigation measures include those required to achieve the minimum standard of established best practice plus additional measures to further reduce any adverse impacts of the proposed development. The mitigation measures include those required to reduce the risk of committing legal offences. In addition to measures required to ameliorate negative effects on ecological features have been identified and will be incorporated into the proposed development as it is progressed.

3. Existing Conditions

3.1. Designated Sites

3.1.1. Statutory designations

SSSI citations all of the sites discussed below are given in Appendix D.

Sully Island

Sully Island is a part of the Severn Estuary international designations, although distinct from the main estuary designation. It is designated as part of the Severn Estuary (Wales) Wetland of International Importance (Ramsar site) and the Severn Estuary Special Protection Area (SPA). It is also designated as Sully Island SSSI. The boundaries of these designations are all the same in this area and are 450 m south of the Application Site. The Severn Estuary Ramsar⁶ designation relates to intertidal habitats and bird assemblages, the Severn Estuary SPA⁷ relates to wintering and passage bird assemblages.

The island has exposed geology which is part of the reason for the SSSI designation. The other reason for SSSI designation and also for the SPA and Ramsar designation is that the island is used as a high tide roost for wading birds using the Severn Estuary. The SSSI citation indicates that: '*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.*'

Penarth Coast

Penarth Coast SSSI – 860 m east of the Application Site: designated for geological formations, coastal grassland, parts of the designation also fall within the Severn Estuary international designations.

Llynnoedd Cosmeston / Cosmeston Lakes SSSI

Llynnoedd Cosmeston / Cosmeston Lakes SSSI – 1.3 km north east of the Application Site: designated for eutrophic aquatic vegetation including starry stonewort.

Cog Moors SSSI

Cog Moors SSSI – 1.4 km north of the Application Site: Cog Moors is of special interest for its large continuous area of damp, species-rich neutral grassland, and for populations of two uncommon plant species: bulbous foxtail and pepper saxifrage

Hayes Point To Bendrick Rock SSSI

Hayes Point To Bendrick Rock SSSI – 1.4 km west of the Application Site: designated for geological formations and fossilised footprints.

3.1.2. Non-Statutory designations

Site of Importance for Nature Conservation (SINC)

SEWBRc reported the following Sites of Importance for Nature Conservation (SINCs) within of the 2 km of the Application Site, all are more than 500 m from the Application Site. Descriptions are taken from a Vale of Glamorgan local plan information⁸:

- Cog Moors - Ancient semi-natural woodland;
- Cogan Pond - Large pond supporting reedbed;

⁶ Information on the Severn Estuary Ramsar site can be found here:

<http://jncc.defra.gov.uk/pdf/RIS/UK11081.pdf>

⁷ Information on the Severn Estuary SPA can be found here:

<http://jncc.defra.gov.uk/default.aspx?page=2066>

⁸ Vale of Glamorgan Local Development Plan; *Identification of SINCs and Priority Habitats*: available at

http://www.valeofglamorgan.gov.uk/Documents/Living/Planning/Policy/LDP-2013/25_LDP_Identification_of_SINCs_2013.pdf

- Cosmeston Lakes - habitats including species-rich calcareous and neutral grasslands, scrub, hedgerows, woodland, streams and ponds which all support a wide assemblage of species including many Section 42 species⁹;
- Lavernock Point East - Site supports a mosaic of coastal species, moderate to rich limestone grassland with scrub and is contiguous with Penarth SSSI;
- North of Cog Moors - Ancient semi-natural woodland;
- North of North Road - Site with large pond supporting large stands of reedbed, scrub and scattered trees; and
- Pop Hill - Predominantly ancient semi-natural broadleaved woodland;
- Ty-r-Orsaf (Ty-r-Orsaf) - Old railway line supporting scrub and rough grassland with areas of species-rich neutral and calcareous grassland.

There is also one area of restored ancient woodland

3.2. Main Habitats

The Phase 1 habitat map and target notes with photographs are given in Appendix B.

Trees

There are a few planted ornamental trees around the main car park (TN 1), including one large ornamental Acer (TN 1a), some shrubby trees within a defunct relic hedge (TN 13) and a line of mature Scots pines (plus two others) on the western boundary (TN 18). There are some shrubby trees within a hedge on the eastern boundary (TN 14).

Hedges and scrub

There is a defunct relict hedge within the main sports pitch area (TN 13), this is dominated by mature hawthorns. A large wide hedge formed of scrubby trees forms the eastern boundary (TN 14), in the south east corner here is a hedge formed of mature Leylandii which at the time of the survey had been subject to heavy pruning (TN 15), on the southern boundary, a further scrubby hedge forms an incomplete boundary between the Application Site and foreshore (TN 16) this becomes increasingly gappy to the western end. There are also patches of native and planted/escaped non-native scrub in a few locations around the buildings at the north of the Application Site (TN 12) and emerging bramble scrub associated with buildings and un-managed areas (TN 3, 11 and 18).

Amenity Grassland

The majority of the Application Site is mown amenity grassland. the main area is the sports pitches (TN 10), but there are also more intensively managed areas (TN 17 and TN 19) and areas of more grass for more general amenity use around the buildings at the north of the Application Site (TN 6 and TN 7). All of this grassland is of limited species diversity.

There is an Astroturf sports pitch (TN 9), this has been mapped as Amenity grassland and is considered here, although in fact it has no species diversity.

Ephemeral /Short Perennial Vegetation and Tall Ruderal Vegetation

There are small areas of tall ruderal vegetation and weeds, at occasional locations including the on the periphery of car parks and around buildings (TN 1, 3 and 7). There is a more extensive area of tall ruderals in the north east corner of the Application Site (TN 11) and associated with the west boundary of the site (TN 18).

Buildings and Hard-Standing

There are several buildings within the Application Site associated with the sports club and maintenance of the Application Site. All appear to be relatively modern weather tight, in reasonable state of repair and in current use (TN 2, 3, 4, 5, 8, 20 and 21).

⁹ Section 42 of the *Natural Environment and Rural Communities (NERC) Act 2006* - Habitats and Species of Principal Importance in Wales

3.3. Notable and Legally Protected Species

Great Crested Newts

SEWBReC provided seven records of great crested newts within 2 km of the Application Site all over (500 m from the Application Site). The Application Site contains no aquatic habitats and is not suitable for breeding great crested newts. Search of aerial photographs and maps did not reveal any ponds. Some residential properties have swimming pools but these were discounted as unsuitable for great crested newt breeding. It is possible that newly created ponds and small garden ponds could have been overlooked in the search.

Bats

SEWBReC provided records of at seven species of bat species (lesser horseshoe bat, serotine, noctule, lesser noctule (Leislars' bat), common pipistrelle, soprano pipistrelle, and unidentified Myotis species), the cloess of these are three records for site over 600 m from the Application Site.

The amenity grassland within the Application Site is likely to be of limited suitability for foraging bats. Hedges on the south (TN 16) west (TN 18) and east (TN 14 & 15) of the Application Site could be suitable for foraging or commuting bats. Areas of scrub (TN 12) and the discontinuous hedge towards the centre of the Application Site (TN 13) could offer some foraging suitability but are not well connected to other habitats so unlikely to have high suitability for commuting bats.

Buildings and trees can be suitable for roosting bats. Based on external ground level inspection, the potential for roosting bats is as follows (see also Photographs in Appendix B.2):

- TN 1a: Tree - Negligible
- TN 2: Library building – Negligible
- TN 3: Outbuildings - Negligible
- TN 4: indoor sports building – Negligible
- TN 5: Sports and social club building – Low potential for small numbers of crevice dwelling bats, a few limited locations where some species might get behind woodwork or into flat roofed section
- TN 8 Bowls building – Negligible
- TN 18 Tree line – Limited, mature trees with potential for holes and cracks
- TN 20: Wooden building – Low potential for small numbers of crevice dwelling bats behind facia boards
- TN 21 Outbuildings – Negligible

No bats were recorded emerging from buildings with low bat potential (TN 5 and TN 20) during bat roost surveys in 2015. Bat activity at the site during the roost surveys was generally low, with only common pipistrelle bats being recorded. Given the low roost potential of buildings TN 5 and TN 20, and absence of bats recorded during the emergence surveys, the buildings are not considered to be used by bats for roosting and are not considered further in this assessment.

Badger

SEWBReC provided no records of badger from within the search area. No evidence of badger activity was observed during surveys.

Habitats within the Application Site offer potential suitability for badger foraging on the amenity grass areas (TN 6, 7 and 10) and it is possible that larger areas of scrub and hedge habitat could be suitable for sett excavation (TN 13, 14, 15, 16, 12 and 18).

All areas of dense scrub and wide (in particular TN 12 and 14) were not searched extensively for evidence of badger use.

Birds

SEWBReC provided large number of bird species within 2 km of the search area, many of which relate to Sully Island.

Three of these records were from within the Application Site (Mediterranean gull, Eurasian curlew and house sparrow). Other bird species recorded within 500m of the Application Site were:

- Priority and protected species:
 - ringed plover
 - black-headed gull
 - common starling
 - northern lapwing
- Other species of conservation concern:
 - turnstone
 - oystercatcher
 - lesser black-backed gull
 - grey plover
 - swallow
 - common sandpiper
 - little egret

Scrub, hedge and tree habitats on the Application Site offer potential nesting opportunities for birds (TN 1a, 3, 11, 12, 13, 14, 15, 16, and 18). The habitats on the site are all relatively common and the existing level of disturbance means that nesting is most likely to be by common/widespread species.

Amenity grassland can sometimes be used by wading and wetland birds as a high tide/loafing roost. SEBWReC provided very few records of these species from within the Application Site (a single Mediterranean gull and 17 Eurasian curlew (all recorded on 19th February 2010) and it is possible that disturbance makes the Application Site suboptimal for this use. Several of the records relate to birds on the foreshore (Sully Sound Rocks). These include ringed plover, curlew, turnstone, oystercatcher but never in particularly large numbers.

Reptiles

SEBWReC provided one very old record of common lizard (1965) and no other reptiles within the 2 km search area.

No reptiles were seen during the survey. Habitats offer very limited suitability there might be some limited suitability in areas of tall ruderal and scrub habitats (TN 11 and 18) but this is likely to be very limited indeed with only small numbers of reptiles present.

Plants

SEBWReC did not provide any records of restricted and protected plant species within 500 m of the Application Site, although several records of restricted species were recorded within the search area of 1 km around the Application Site. No rare or protected plant species were recorded within the Application Site and the heavily managed habitats make the presence of such species very unlikely.

Invasive Plant Species

No non-native invasive plant species were recorded during the survey.

SEBWReC did not provide any records of non-native invasive terrestrial plant species.

Other Species

The heavily managed habitats make it very unlikely that any rare or protected species will be present. Some areas of scrub and tall ruderal habitats should be suitable for use by hedgehog.

4. Nature Conservation Evaluation

Statutory Designated sites

Sully Island is designated as part of the Severn Estuary Ramsar and SPA and also as a Sully Island SSSI. It is considered to be of **International** value for nature conservation.

Penarth Coast SSSI, Llynnoedd Cosmeston / Cosmeston Lakes SSSI, Cog Moors SSSI and Hayes Point to Bendrick Rock SSSI are all considered to be of **National** value for nature conservation.

Non-statutory Designated sites

The SINC's within 2 km of the Application Site are all considered to be of **County** value for nature conservation.

Application Site

Hedges and trees within the Application Site are of some intrinsic value for nature conservation and are considered as being of **Site** value for nature conservation.

The other habitats present within the Application Site are all considered to have **Negligible** value for nature conservation and are not considered further in this assessment.

5. Assessment of Potential Impacts

This section characterises the impacts of the proposed development on the ecological features, and sets out the agreed mitigation and biodiversity enhancement measures.

5.1. Statutory Designations

Sully Island

Sully Island, approximately 450 m south of the Application Site, is an outlying part of the Severn Estuary Ramsar and Severn Estuary SPA designations. Whilst direct impacts can be ruled out, it is possible that indirect impacts need to be considered. In particular disturbance impacts on birds within the designation or more likely on the foreshore in front of or within the Application Site itself. This disturbance could either be during construction of works or at the 'operational' phase due to the noise or flood lighting from the new development or because of increased visitor pressure on Sully Island and the foreshore.

The proposed layout with retained sports pitches in the east, closed to Sully Island and residential areas to the west will reduce impacts from disturbance. The closest residential units will be around 500 m from Sully Island. The proposed lay-out with retained sports pitches means that opportunities for high tide roosting/loafing on amenity turf will remain available (albeit reduced in area).

Sully Island is already disturbed by nearby development and visitors at low tide, and the development is unlikely to make the situation significantly worse, therefore impacts from increased visitor pressure can be discounted.

There will be no direct impacts on Sully Island and site lay-out and design mean that indirect impacts can also be ruled out.

Other SSSIs

Other national designations Penarth Coast SSSI, Llynnoedd Cosmeston / Cosmeston Lakes SSSI, Cog Moors SSSI and Hayes Point to Bendrick Rock SSSI are all relatively remote from the Application Site (over 800 m away) and impacts can be discounted. They are not considered further in this assessment.

5.2. Non Statutory Designations

The locally designated sites (SINCs) are all relatively remote from the Scheme (over 500 m) and impacts can be discounted. They are not considered further in this assessment.

5.3. Habitats

Trees, Hedges and Scrub

The proposed master plan (Drawing:13162/3007A in Appendix A) indicates that hedges on the east and west of the Application Site (TN 14 and 18) will be retained and that areas of scrub (TN 12 and 11) will be lost as will the hedge on the southern boundary of the Application Site (TN 16). Some of the trees associated with the existing buildings (TN 1 and 1a) may be retained. The proposals include provision for landscaping including planting of trees and scrub.

5.4. Notable and Legally Protected Species

Bats

The trees on the western boundary of the Application Site (TN 18) are retained in the proposed Scheme and will retain their suitability for bats.

Hedges on the west (TN 18) and east (TN 14 & 15) of the Application Site will be retained. The discontinuous hedge towards the centre of the Application Site (TN 13) and areas of scrub (TN 12) will be removed. This would result in some minor loss of bat foraging and commuting habitats.

Nesting birds

Hedges and scrub on the site are all potentially suitable for nesting common/widespread birds. Removal of the hedge on the southern boundary (TN 16), the discontinuous hedge towards the centre of the Application Site (TN 13) and areas of scrub (TN 12) could all potentially result in impacts on nesting common bird species.

Other species

Impacts on great crested newts, reptiles, badger, birds and notable plant species are considered very unlikely.

5.5. Ecological Management Plan

The following will be undertaken in order to manage the potential impacts of the scheme:

- To reduce potential impacts on Sully Island and associated bird species: The proposed development will retain sports pitches in the area closest to Sully Island, and will be designed to minimise light spill onto the Severn Estuary/ Bristol Channel foreshore and with sensitive landscaping along the southern boundary;
- To reduce impacts on foraging and commuting bats: The scheme will incorporate a sensitive lighting scheme designed in line with standard guidance¹⁰ which will to minimise impacts to bats through light spill.
- To reduce potential impacts on nesting birds: Where possible, clearance of scrub, hedges or trees will be avoided between 1st April and 31st. If this is not possible, clearance of scrub, hedges or trees will only be undertaken under supervision of a suitably qualified ecologist. If active bird nests are found, works will cease in that area until the nest has been naturally vacated.
- To take account of species that may colonise the Application Site prior to the start of construction: Immediately prior to commencement of construction work, the site will be subjected to a survey by a suitably qualified ecologist.

¹⁰ Bat Conservation Trust. *Artificial lighting and wildlife. Interim Guidance: recommendations to help minimise the impact artificial lighting.*

5.6. Summary

Main habitats on the Application Site currently comprise amenity sports pitches, buildings hedges, trees and scrub. The majority of these habitats are considered to be of Negligible nature conservation.

Sully Island is approximately 450m from the Application Site and benefits from international and national designations. There will be no direct impacts on Sully Island and site lay-out and design mean that indirect impacts can also be ruled out. There is some limited potential for bat foraging and commuting and nesting birds. Site clearance methodologies have been put in place to ensure that any risks or impacts to these species are minimised.

The overall ecological impact assessment is set out in Table 5-1 (below). This includes all receptors assessed as being of **Site** level conservation value or higher or those with specific legal protection. Nature conservation value is taken from Section 4 of this document. Impact and mitigation summarises the conclusions of Section 5 of this document. The residual impact significance follows the assessment methods in Section 2 of this document taking account of the impacts and mitigation.

Table 5-1 Overall Ecological Impact Assessment

Receptor	Nature conservation value	Impact and mitigation	Significance of residual effects
Sully Island	International	Potential for disturbance of birds making use of the island and surrounding habitats. Mitigated by site layout	Not significant
Other designated sites	National and County	No impact	-
Trees, hedges and scrub	Site	Some loss of hedges and scrub other hedges and trees retained. Planting of trees and scrub	Not significant
Nesting birds	Not valued separately	Potential for harm or disturbance during site clearance, mitigated by sensitive clearance methods	Not significant

6. Conclusions

Atkins Limited (Atkins) was instructed by St. Modwen Developments Ltd. to undertake an Ecological Impact Assessment (EclA) in support of an application for planning permission for the redevelopment of the Sully Sport and Social Club (SSC). The proposals involve the rearrangement of the Application Site including relocation of existing sports pitches to the eastern part of the Application Site and residential development on the western part of the site. Mitigation proposals are given in the Ecological Mitigation Plan above.

Sully Island is approximately 450m from the Application Site and benefits from international and national designations. There will be no direct impacts on Sully Island and site lay-out and design mean that indirect impacts can also be ruled out. There is some risk of disturbance to birds using the island, but this will be reduced to an acceptable level by sensitive construction practices.

Habitats on the Application Site currently comprise amenity sports pitches, buildings, hedges, trees and scrub. The majority of these habitats are considered to be of Negligible nature conservation value, but hedges and trees and scrub are considered to be of nature conservation value at the Site level. Loss of trees and scrub will be partially compensated by proposed landscape planting and site clearance methodologies will be put in place to ensure that any harm to nesting birds are avoided.

Taking into account the proposed design and committed mitigation, there considered to be no significant impacts on any receptors of Site level nature conservation value or above.

Appendices

Appendix A. Master Plan



Access

- 1: Vehicular access from South Road to residential area re-using existing access with long range view to coast
- 2: Pedestrian/cycle connection and potential emergency access
- 3: Vehicular access to Sully Sports and Leisure Club car parking
- 4: Existing bus stops on South Road
- 5: Public Right of Way access from coastal footpath alongside housing to west
- 6: Public Right of Way access from Beach Road to coastal footpath alongside caravan park
- 7: Potential for vehicular loop within residential area with highway deflections to help create a low speed environment

Development

- 8: Sully Sports and Leisure Clubhouse, incorporating retained indoor bowls building and extension to the south
- 9: Medium density housing development to create body of the residential area
- 10: Low density housing development along western and southern boundaries
- 11: Housing fronting sports ground with views to eastern woodland
- 12: Low density housing along southern edge to reduce visual impact

Landscape

- 13: New outdoor bowling green with planted boundary
- 14: All weather 9-a-side pitch with fencing
- 15: All weather full size pitch with fencing and floodlights
- 16: Grass rugby pitch within terraced sports grounds layout
- 17: Two full size grass football pitches
- 18: Grass 9-a-side pitch
- 19: Landscaped edge to South Road to enhance entrance to the village (accommodating retained library if required)
- 20: Pocket park as focus for residential area acting as a gateway space and accommodating a new play area with links to the sports club
- 21: Retained boundary planting
- 22: Residential square with connections to sports pitches and view to eastern woodlands
- 23: Landscaped southern edge to the development alongside Public Right of Way
- 24: Landscaped interface with sports club helping integrate the complementary uses
- 25: Retained hedge alongside Beach Road

A Revisions following team meeting
Amendments

MCB1/7/14
By Date

DRAFT FOR COMMENT

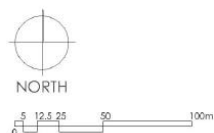
Job No/Drawing No
13162/3007A

Job Title
Sully VOG - St Modwen

Scale Date Drawn Drawing Title
1:2500 07/14 JLM/MD Concept Masterplan

All Dimensions to be checked on site

pad Design Ltd - The Tobacco Factory - Raleigh Road - Bristol BS3 1TF - Tel. 0117 9530059 - www.pad-design.com



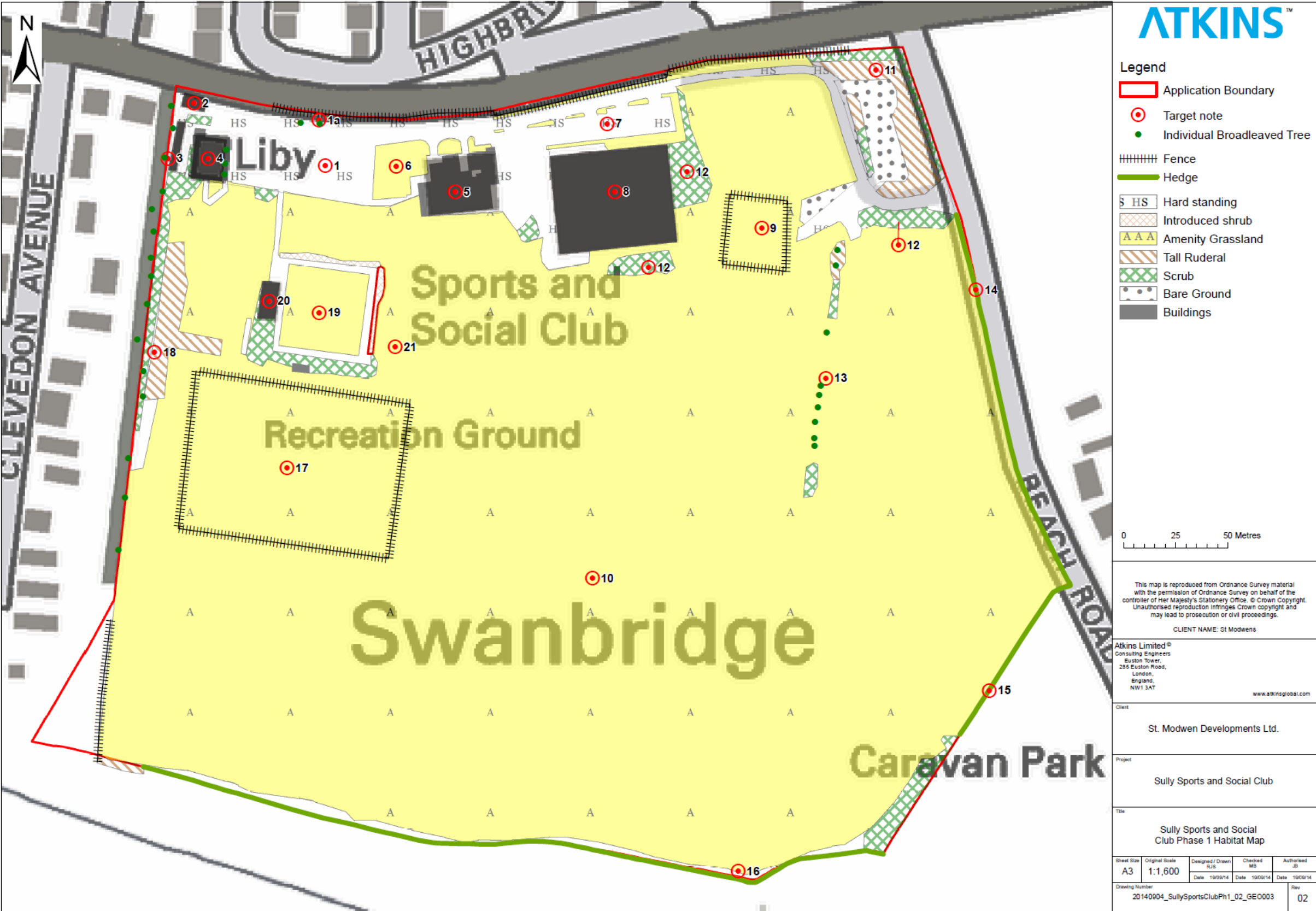


Appendix B. Phase 1 Survey information





B.1. Phase 1 Survey Plan




Figure B-1 Phase 1 Survey Plan






B.2. Phase 1 Target Notes




Table B-1 Phase 1 Survey Target Notes



Target Note (TN)	Description and photograph
1	<p>Car park, surrounding habitat, ruderal (weed) species and bare ground in borders. Planted trees as follows: one semi-mature ornamental Acer (maple) species, one bullace (plum species) and three younger rowan and ornamental white-beam trees.</p> <p>Species recorded: hedge bindweed, mugwort, thistle species, smooth sow thistle, hedge mustard, bramble, and bristly ox-tongue.</p> 
1a	<p>A large ornamental Acer (maple) tree. Some ivy but in good condition with no cracks or holes notes. Considered to have negligible potential for roosting bats</p> 
2	<p>Sully library, modern building with box section steel roof and eaves. Small plastic windows at eaves height, plastic clad walls. Considered to have negligible potential for roosting bats.</p>



Target Note (TN)	Description and photograph
	
3	<p>Two buildings behind sports pavilion, used for machinery storage. Brick and rendered walls and low bat roosting potential. Considered to have negligible potential for roosting bats. Bramble scrub and weeds surrounding.</p> <p>Species recorded: Bramble, common ragwort, hedge mustard, dandelion, red valerian, curled dock and other weeds</p> 
4	<p>Brick indoor sports building with pitched box section steel roof. Considered to have negligible potential for roosting bats</p> 




Target Note (TN)	Description and photograph
5	<p data-bbox="319 210 1422 300">Main sports and social club building. Walls rendered brick/block with wooden cladding at top. Lower flat roofed sections at north and east. Low potential for roosting bats, a few limited locations where some species might get behind woodwork or into flat roofed section.</p>  
6	<p data-bbox="319 1344 1283 1373">Mown but somewhat unkempt amenity grass surrounding the social club building.</p> <p data-bbox="319 1413 1434 1503">Species recorded: Perennial rye grass, dandelion, ribwort plantain, field bindweed, bramble, nettle, common bent grass, creeping cinquefoil, false oat-grass, bristly ox-tongue, curled dock, Yorkshire fog, common buttercup, white clover, yarrow, groundsel, a hawkweed species.</p> 




Target Note (TN)	Description and photograph
7	<p>Car park with mown but somewhat unkempt amenity grass borders. Species similar to TN 6</p> 
8	<p>Indoor bowls building. Modern, brick structure with pitched box section steel roof. Considered to have negligible potential for roosting bats.</p> 
9	<p>Astro-turf sports pitch surrounded by a fence.</p> 
10	<p>Main sports pitches. Comprising mown amenity grassland</p>

Target Note (TN)	Description and photograph
	<p>Species recorded: Perennial rye grass (dominant), common plantain, dandelion, false oat grass, hedge bindweed, white clover, hogweed, common buttercup, birdsfoot trefoil, Yorkshire fog, ribwort plantain, black knapweed, common bent, broad leaved dock.</p>  
11	<p>Hummocky area at north eastern boundary, with tall ruderals and areas of bare ground.</p> <p>Species recorded: Bristly ox-tongue, cocksfoot, broad leaved dock, hedge mustard, spear thistle, butterbur, bramble, stinging nettle, sweet pea, false oat grass</p> 

Target Note (TN)	Description and photograph
12	<p>Patch of shrubby planted trees including, Scots pine, holm oak and other non native species. Trees young and not suitable for roosting bats.</p> 
13	<p>Intermittent line of trees and shrubs, generally small, not suitable for roosting bats.</p> <p>Species recorded: Hawthorn, sycamore, elder, bramble, nettle, false oat-grass, cocksfoot.</p> 
14	<p>Wide scrubby hedge forming eastern boundary of the Application Site, mainly native broadleaved trees none large enough to offer suitability for roosting bats. Potentially suitable for badger sett excavation.</p> <p>Species recorded: Bramble, blackthorn, ash, hawthorn, false oat-grass, bristly ox-tongue, nettle, elm, hollyhock, a small willow herb species.</p>

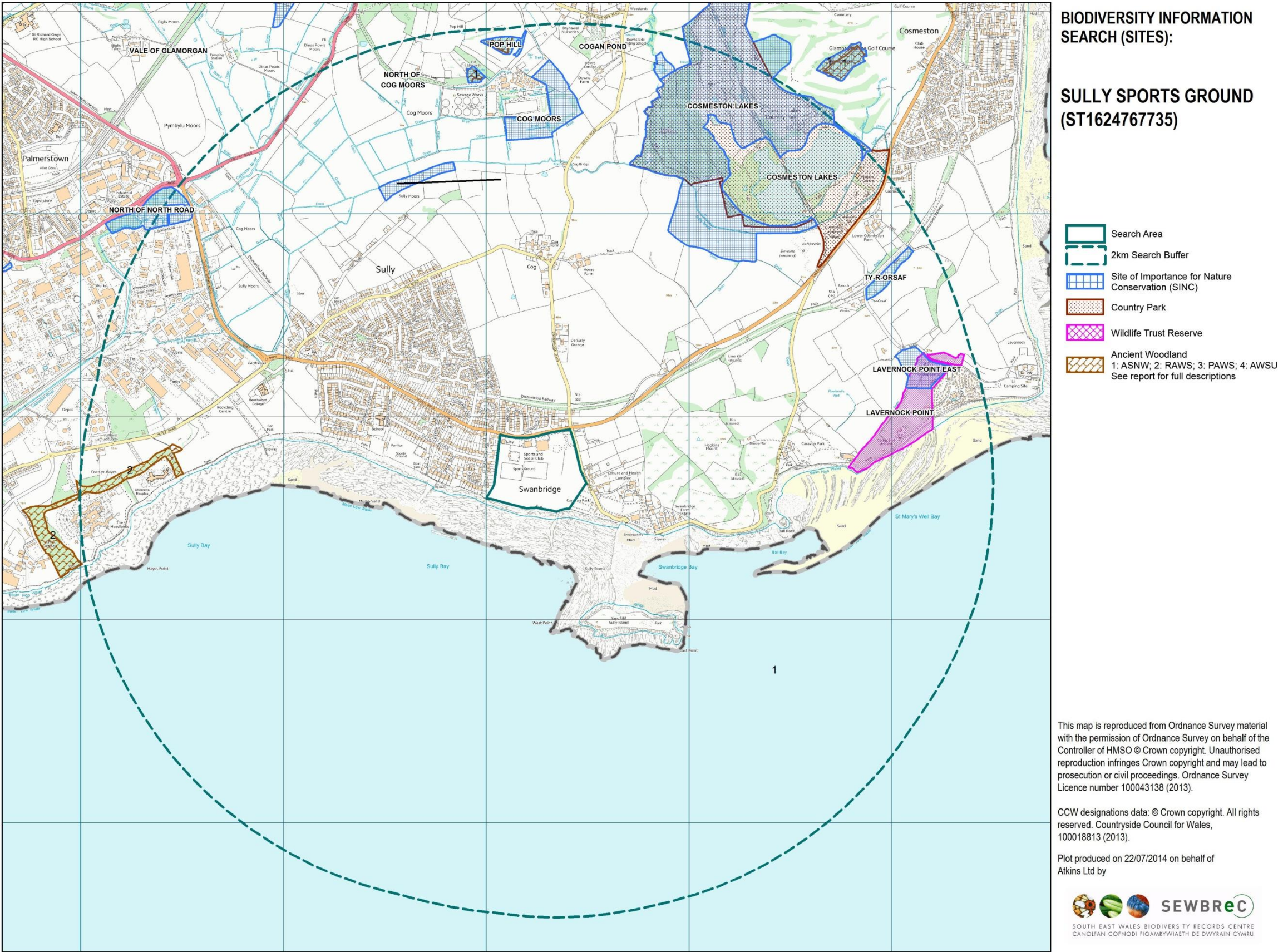
Target Note (TN)	Description and photograph
	
15	<p>Heavily pruned Leylandii hedge. At southern end trees disappear and tall bramble scrub dominates.</p> <p>Species recorded: Laylandii, hedge bindweed, stinging nettle, thistle species, false oat-grass, bramble</p> 
16	<p>Hedge /scrub belt running along top of beach/intertidal area. Scrub becomes more intermittent towards western end and at far east is replaced by tall ruderals.</p> <p>Species recorded: Elder, hawthorn, blackthorn, holm oak with bramble, thistle species, hogweed, stinking iris, stinging nettle.</p>

Target Note (TN)	Description and photograph	
		
17		<p data-bbox="320 707 1358 768">Close mown sports pitch with open metal fronted shelter and metal crate store. Neither structure offers any suitability for roosting bats.</p> 
18		<p data-bbox="320 1274 1434 1429">Tree line on western boundary of Application Site. Mostly Scots pine with one sycamore and one horse chestnut. Tree line is continuous in the north and more spaced in the south. Trees mature, with some ivy but no obvious cavities observed. Could offer some limited potential for roosting bats. At the base of the trees is an area of bramble dominated scrub and adjacent to this is un-mown grassland that has developed into tall ruderal habitat.</p> 
19		<p data-bbox="320 1935 1422 1962">Bowling green: Very closely mown sports pitch surrounded by a managed ornamental hedge.</p>

Target Note (TN)	Description and photograph	
		
20	<p>Wooden building, with low pitched roof and plastic eaves. Considered to offer low potential for roosting bats, potential access points around eaves.</p>	
21	<p>Low brick built shed with roller door. Considered to offer limited suitability for roosting bats.</p>	

Appendix C. Local Record Search Information

C.1. Local Record Centre Map
Figure C-1 Non Statutory Designations and Data Search Boundary



Appendix D. Citations for statutory designations

D.1. Sully Island SSSI (website version)

CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

VALE OF GLAMORGAN

SULLY ISLAND

<u>Date of Notification:</u>	1965, 1986
<u>National Grid Reference:</u>	ST 167670
<u>O.S. Maps:</u>	1:50,000 Sheet number: 170 1:25,000 Sheet number: ST 16
<u>Site area:</u>	11.5 ha

Description:

The excellent sea-cliff exposures of Sully Island provide sections in the marginal facies of the Triassic Mercia Mudstone Group. These rocks include a series of breccias and sands, interpreted as lake-shore deposits which are overlain by nodular evaporites and carbonates. They are all underlain (unconformably) by a terraced surface of Carboniferous Limestone. This site therefore demonstrates the regionally significant unconformity between Carboniferous and Triassic rocks, as well as a range of sediments, facilitating study of the lake facies and palaeoenvironments prevalent in late Triassic times.

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.

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.

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D.2. Penarth Coast SSSI (website version)

CYNGOR CEFN GWLAD CYMRU COUNTRYSIDE COUNCIL FOR WALES

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

VALE OF GLAMORGAN

PENARTH COAST

<u>Date of Notification:</u>	1965, 1984
<u>National Grid Reference:</u>	ST 189681
<u>O.S. Maps:</u>	1:50,000 Sheet number: 171 1:25,000 Sheet number: ST 16
<u>Site area:</u>	92.7 ha

Description:

This coastal section is regarded as the type locality for the Penarth Group, showing an extensive section from the Blue Anchor Formation to the Lower Lias. The exposures have been proposed as the type section for the Westbury Formation, Cotham and Langport Members and Lilstock Formation. This classic locality exposes a thirteen metre 'Rhaetic' section resting on a conspicuously waterworn surface beneath the 'Sully Beds'. The Westbury 'bone bed' development here yields the normal assemblage of fish and reptile debris. This coastal section is also the best available in the Blue Lias of South Wales and is of importance for its comparisons with the 'littoral' more marginal rocks of the Lias further west in Glamorgan. This through-section from the Keuper to the Lower Sinmurian is unrivalled in any other section in Wales and the site is consequently regarded as one of Britain's most important stratigraphical localities.

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 *Genista tinctoria*, Butterfly Orchid *Plantanthera chlorantha*, Bee Orchid *Ophrys apifera* and Adder's Tongue *Ophioglossum vulgatum*. Lavernock Point is a well known observation point for migratory birds.

Remarks:

The calcareous grassland area is a Nature Reserve managed by the Glamorgan Trust for Nature Conservation.

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D.3. Llynnoedd Cosmeston / Cosmeston Lakes SSSI (website version)

CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES

SITE OF SPECIAL SCIENTIFIC INTEREST: CITATION

VALE OF GLAMORGAN LLYNNOEDD COSMESTON/COSMESTON LAKES

Date of Notification: 4 March 2009

National Grid Reference: ST 174 691

OS Maps: 1:50,000 Sheet number: 171
 1:25,000 Sheet number: 151

Site Area: 25.6 ha

Description:

Llynnoedd Cosmeston/Cosmeston Lakes is 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 10m), 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 *Nitellopsis obtusa*. This species usually grows in lakes of between 1m and 6m in depth. Elsewhere in Britain it occurs in the Norfolk Broads and in Gloucestershire, where it is found in calcareous lakes near the sea. This suggests that the species prefers slightly brackish conditions. The lakes at Cosmeston Park are less than 1.5km from the Bristol Channel.

The site also includes areas of swamp, ponds and grassland that form part of the water catchment area for the lake.

Remarks:

Cosmeston Park is owned and managed by the Vale of Glamorgan Council.

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D.4. Cog Moors SSSI (Website version)

CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

VALE OF GLAMORGAN

COG MOORS

Date of Notification: 2000

National Grid Reference: ST 158694

O.S. Maps: 1:50,000 Sheet number: 171
1:10,000 Sheet number: ST16NE

Site Area: 12.9 ha

Description:

Cog Moors is situated approximately 2 km east of Barry and consists of a series of fields adjacent to Sully Brook. The fields are low-lying (around 5 m above sea level) on flat ground, with gleyed soils over alluvium. They are separated by ditches or deep drains and are generally poorly drained.

This site is of special interest for its large continuous area of damp mesotrophic (neutral) semi-natural grassland, which is associated with several stands of tall sedges, and for populations of two uncommon plant species.

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 *Centaurea nigra*, crested dog's-tail *Cynosurus cristatus*, common bird's-foot-trefoil *Lotus corniculatus* and meadow vetchling *Lathyrus pratensis*. Other distinctive species found at Cog Moors include pepper-saxifrage *Silene silaus* and meadow barley *Hordeum secalinum*.

The fields have a distinctive damp floristic element, typically comprising amphibious bistort *Persicaria amphibia*, meadowsweet *Filipendula ulmaria* and lesser pond-sedge *Carex acutiformis*. Grassland in the north western field occurs in association with stands of swampy vegetation, dominated in different patches by large sedges: slender tufted-sedge *Carex acuta*, greater pond-sedge *Carex riparia* and lesser pond-sedge.

Cog Moors supports two species of special interest. These are the nationally scarce bulbous foxtail *Alopecurus bulbosus*, found in the wetter areas of grassland, and the large population of pepper saxifrage, a species close to the edge of its range here. Cog Moors also supports populations of several species which are uncommon in Glamorgan including brown sedge *Carex disticha*, adder's-tongue *Ophioglossum vulgatum* and green-winged orchid *Orchis morio*.

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D.5. Hayes Point to Bendrick Rock SSSI (Website version)

CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

VALE OF GLAMORGAN

HAYES POINT TO BENDRICK ROCK

Date of Notification: 1986

National Grid Reference: ST 138671

O.S. Maps: 1:50,000 Sheet number: 171
1:25,000 Sheet number: ST 16

Site Area: 29.5 ha

Description:

This 1.8 km stretch of coastline lies to the south east of Barry on the northern shore of the Bristol Channel. The whole length of the cliffline and foreshore provides excellent exposures through important rock sections of Triassic age while the vicinity of Bendrick Rock is one of the best localities in Britain for fossil footprints.

The Hayes Point to Bendrick Rock coastal section provides excellent exposure of Triassic lake and river deposits. Fine-grained, lake-margin sediments occur here, interbedded with coarse-grained fluvial (river) sediments, representing the marginal facies of the Triassic Mercian Mudstone Group of South Wales. The finer sediments include siltstones with nodular evaporites, wave-rippled siltstones and fine sandstones, and thin graded sandstones of sheet-flood origin. The coarse fluvial sediments include a limestone conglomerate up to two metres thick, together with occasional thin, matrix-supported conglomerates, interpreted as the products of debris flows. Sediment transport was towards the east and south west. This is a key locality for the interpretation of Triassic lake and river environments.

Bendrick Rock is one of Britain's best localities for fossil footprints and the best for such trace-fossils in rocks of Triassic age. Dinosaur trackways have been known from South Glamorgan for over 100 years, and were first described by Sollas under the name of *Brontozoum thomasi*. Latterly the specimens from this new site have been attributed to the ichnogenus *Anchisauripus*, a form name normally associated with bipedal prosauropod dinosaurs.

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