



6.0 Ecology

6.1 Introduction

- 6.1.1 This Ecological Impact Assessment (EcIA) chapter presents the baseline ecology and nature conservation aspects of the proposed development boundary shown as the red line boundary in Figure 1.1, and hereafter referred to as 'the Site'. The assessment also covers ecological impacts of the proposed development due to potential air and water quality changes to sites within the zone of impact (as detailed in Section 6.1.3. This report assesses the likely effects of the proposed development upon ecological receptors; outlines mitigation measures proposed to reduce adverse impacts and promote biodiversity gains; and summarises the overall predicted ecological effects of the proposed development.
- 6.1.2 The Site is located off Clarion Close, Swansea within Swansea Enterprise Park. The Site is approximately 1.5ha in size and is centred on Ordnance Survey National Grid Reference (NGR) SS6825 9793.
- 6.1.3 Field surveys encompassed the Site and a wider 50m buffer. A desk study also assessed known designated sites and protected species within a 2km search area (5km for Natura 2000 sites) that may be subject to impacts as a result of the proposed development.
- 6.1.4 The site is currently used as a Biffa vehicle storage and service depot that comprises a single warehouse style building, hardstanding (comprising tarmac and paved footways) with small areas of amenity grassland. Additional industrial buildings surround the site with areas of landscape planting for screening. Nant-y-Fendrod watercourse is present to the eastern boundary with Swansea Vale Nature Reserve present approximately 120m to the north east of the site. The proposed development includes a new waste facility including a waster reception, drying and treatment operation together with a waste transfer and incineration facility including extension of the existing building and a 25m (maximum stack). Further detail regarding the proposed development is provided within Chapter 3 of this Environmental Statement.

6.2 Methodology and Scope

Policy Background

- 6.2.1 The national planning policy guidance is found principally in Planning Policy Wales (PPW) Edition 9 dated November 2016, issued by the Welsh Government. The document is supported by a series of Technical Advice Notes (TANs) with the most relevant for ecology being TAN 5: Nature Conservation and Planning, 2009. A summary of the main points relevant to the ecological assessment of the development are provided below:
- 6.2.2 Paragraph 5.1.2 of PPW set out the Welsh Government's objectives for the conservation and improvement of the natural heritage which are to:
- promote the conservation of landscape and biodiversity, in particular the conservation of native wildlife and habitats;
 - ensure that action in Wales contributes to meeting international responsibilities and obligations for the natural environment;
 - ensure that statutorily designated sites are properly protected and managed;
 - safeguard protected species; and to
 - promote the functions and benefits of soils, and in particular their function as a carbon store.
- 6.2.3 Paragraph 5.1.3 states that a key role of the planning system is to ensure that society's land requirements are met in ways which do not impose unnecessary constraints on development whilst ensuring that all reasonable steps are taken to safeguard or enhance the environment. In addition, paragraphs 5.3.8– 10 of PPW state the planning system should ensure that the UK's international and national obligations for site, species and habitat protection are fully met in all planning decisions.
- 6.2.4 Technical Advice Note 5: Nature Conservation and Planning (TAN 5) provides advice on how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation.
- 6.2.5 Paragraph 5.1.6 of TAN 5 states that Local Planning Authorities, along with other public bodies, have a duty to take reasonable steps, consistent with the proper exercise of their functions, to further the conservation and enhancement of the features by reason of which international sites are of special scientific interest.
- 6.2.6 Circular Letter CL-05-04 reaffirmed the Welsh Government's commitment to ensuring that designated sites and species of nature conservation importance are protected from damage and deterioration, with their important features conserved by appropriate management. The letter advised that under specific circumstances a pre-commencement condition should be attached to planning consents requiring the applicant to provide the LPA with a copy of their European Protected Species (EPS) Licence (once issued by NRW). The Circular Letter was withdrawn in March 2018 in an attempt to reduce the number of pre-commencement conditions, with LPA's advised to instead use a replacement informative (to be attached to all relevant consent notices) to avoid unnecessary duplication controls of other legislation.
- Environment (Wales) Act 2016**
- 6.2.7 As part of the Welsh Government's commitment to reversing the decline in biodiversity in Wales and increasing the resilience of its ecosystems, the *Environment (Wales) Act 2016* introduces a new biodiversity duty, which highlights biodiversity as an essential component of ecosystem resilience.
- 6.2.8 Section 6 of the Act places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'. This duty replaces the Section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, and applies to those authorities that fell within the previous duty.
- 6.2.9 Section 7 replaces the duty in Section 42 of the NERC Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales. In producing the list or taking any measures to improve the listed organisms and habitats, the Welsh Ministers must apply the principles of sustainable management of natural resources. Therefore, they must consider any appropriate evidence, for example as provided in the State of Natural Resources Report, and also engage with any relevant stakeholders, including pertinent public authorities. Certain public authorities will also be required to consider the Section 7 list, in complying with the new biodiversity duty under Section 6 of the Act. The list is important in assisting public bodies to identify potential issues that they may wish to address in meeting their well-being objectives, in addition to contributing to the well-being goal 'a resilient Wales' (Goal 2).
- 6.2.10 In the absence of a revised list, the Section 42 NERC Act list is still relevant: it includes 56 habitats of principal importance (HPIs) and over 500 species of principal importance (SPIs).
- Local Planning Policy**
- 6.2.11 The development plan for the area in which the application site is located is the *Swansea Unitary Development Plan 2001-2016* (UDP), which was prepared by the City and County of Swansea Council and



adopted in November 2008. The UDP is intended to guide the development, conservation and use of land in the county for the 15-year period that expired on 31 December 2016. Although its plan period has expired, the UDP remains a material planning consideration until it is superseded by a new development plan.

6.2.12 The following UDP policies are directly relevant to the ecological assessment of the proposed development:

Policy EV24- *Within the greenspace system, consisting of wildlife reservoirs, green corridors, pocket sites and riparian corridors, the natural heritage and historic environment will be conserved and enhanced.*

Development proposals which would be likely to have a significant adverse effect on the greenspace system or which do not provide for appropriate compensatory or mitigation measures will not be permitted.

Policy EV24 is relevant due to the presence of Nant-y-Fendrod watercourse to the eastern boundary and therefore the chapter considers impacts on this feature with appropriate mitigation as required.

Policy EV25- *Development, alone or in combination with other plans or projects, which is likely to adversely affect the integrity of a European protected site (SAC, Marine SAC, SPA and Ramsar Sites) and is not directly connected or necessary to the management of the site, will not be permitted unless:*

- i. *There are imperative reasons of over-riding public interest, including those of a social or economic nature, which are sufficient to override the reasons for designation, and*
- ii. *There is no alternative solution.*

Where such development is permitted, planning conditions and/or obligations will be used to secure all compensatory measures necessary to ensure that the overall coherence of the European Site is protected.

Policy EV27- *Development that significantly adversely affects the special interests of sites designated as SSSIs and NNRs will not be permitted unless the need for the development is of such significance that it outweighs the national importance of the designation.*

Where development is permitted, planning conditions and/or obligations will be used to protect and enhance those interests and where necessary provide effective mitigation and compensatory measures.

Policy EV25 & EV27 are relevant due to the presence of Crymlyn Bog SAC/ Ramsar and a number of SSSIs within the potential zone of influence of the development and therefore the chapter considers impacts on these sites and their qualifying features with appropriate mitigation as required.

Policy EV28- *Within locally designated areas the natural heritage will be preserved and enhanced wherever possible.*

Development that would significantly adversely affect the special interest of Local Nature Reserves will not be permitted unless the need for the development is of such significance that it outweighs the importance of the designation.

Development that would significantly adversely affect SINC or RIGs, or which would not provide for appropriate compensatory or mitigation measures will not be permitted, unless it can be demonstrated to meet appropriate social or economic needs where the benefits in such terms would outweigh the harm to the feature concerned.

Where development is permitted which would damage the nature conservation value of the site, such damage will be kept to a minimum, and appropriate mitigation or compensatory measures sought.

Policy EV28 is relevant due to the presence of a number of SINC within the potential zone of influence of the development (including Fendrod Lake and Nant-y-Fendrod SINC to the eastern boundary) and therefore the chapter considers impacts on these sites and their features with appropriate mitigation as required.

6.2.13 The above UDP will be superseded and replaced by the *Swansea Local Development Plan 2010-2025* (LDP) which is currently being prepared by the council. Policies directly relevant to the ecological assessment of the proposed development include the below:

- ER6 Designated Sites of Importance to Nature Conservation;
- ER8 Habitats and Species; and
- ER9 Ecological Networks and Features of Importance for Biodiversity.

Key Legislation

International Legislation

6.2.14 This assessment has been considered in the context of the following relevant international biodiversity and conservation legislation.

- The EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC). The main aim of this Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species at a favourable conservation status, including the introduction of protection for those habitats and species of European importance. The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitat Regulations) represent the UK's implementation of the Directive.
- The Convention on the Conservation of European Wildlife and Natural Habitats 1979 (the Bern Convention) which carries an obligation to protect and conserve over 500 wild plants species and more than 1,000 wild animal species.
- The Convention on Wetlands of International Importance as Waterfowl Habitat 1972 (the Ramsar or Wetlands Convention) which has the status of a legal treaty for the designation and protection of wetland habitats. The Ramsar Convention allows the designation of wetlands of international importance as Ramsar sites, the promotion of the wise-use of all wetlands in the territory of each country, and international cooperation with other countries to further the wise-use of wetlands and their resources.

National Legislation

6.2.15 The Wildlife and Countryside Act 1981 (as amended) (the W&CA) is the primary legislation covering endangered or threatened species in Wales and sets out the framework for the designation of SSSIs.

6.2.16 The Countryside and Rights of Way Act 2000 (the CRoW Act) affords a greater level of protection to SSSIs, provides better management arrangements for Areas of Outstanding Natural Beauty (AONB) and strengthens wildlife enforcement legislation. Section 74(2) of the Act requires the Secretary of State to list those habitats and species of principal importance for the conservation of biodiversity, in accordance with the United Nations Convention of Biological Diversity 1992.

6.2.17 The Natural Environment and Rural Communities Act 2006 (the NERC Act) is:

“An Act to make provision about bodies concerned with the natural environment and rural communities; to make provision in connection with wildlife, sites of special scientific interest, National Parks and the Broads; to amend the law relating to rights of way; to make provision as to the Inland Waterways



Amenity Advisory Council; to provide for flexible administrative arrangements in connection with functions relating to the environment and rural affairs and certain other functions; and for connected purposes."

- 6.2.18 Elements of the Act most relevant to the proposed scheme include (i) extension of the CRoW Act's biodiversity duty to public bodies and statutory undertakers to ensure due regard to the conservation of biodiversity; and (ii) modification of the CRoW Act so that species listed under Section 74 of that Act are now listed under Section 42 of the NERC Act.
- 6.2.19 Section 42 (S42) of the NERC Act requires the National Assembly for Wales to publish a list (in consultation with the Countryside Council for Wales, now Natural Resources Wales) of habitats and species which are of principal importance for the conservation of biodiversity in Wales (referred to here as Priority Habitats and Priority Species). The S42 list is used to guide decision-makers such as public bodies including local and regional authorities, in implementing their duty under Section 40 of the NERC Act, to have regard to the conservation of biodiversity in Wales, when carrying out their normal functions (e.g. planning).
- 6.2.20 Local Biodiversity Action Plans (LBAP) identify habitats and species conservation priorities at a local level, and are usually drawn up by a consortium of local government organisations and conservation charities and are therefore capable of being material considerations for planning decisions, as outlined within PPW.

Species-specific legislation

- 6.2.21 The following is a summary of legislation relevant to the proposed development
- Bats*
- 6.2.22 All UK species of bat are European protected species through their inclusion in the Habitat Regulations, which makes it an offence, amongst other things, to:
- Deliberately, recklessly or intentionally kill, injure or take a bat; or,
 - Deliberately, intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat, or deliberately disturb a bat while it is occupying a structure or place which it uses for that purpose.

Birds

- 6.2.23 Under the W&CA it is an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy the nest (whilst being built or in use) or eggs of a wild bird. In addition, there are 194 species that are subject to special conservation measures concerning their habitat in order to ensure their survival and reproduction. This includes an offence to disturb any birds listed on Schedule 1 of the W&CA whilst nesting, or their dependant young.

Otter

- 6.2.24 The otter is a European Protected Species and is also fully protected under Schedule 5 of the W&CA. It is an offence to capture, kill or injure otters, or to damage or destroy a breeding or resting place. It is also an offence to disturb otter or obstruct access to their resting places.

Invasive Species

- 6.2.25 It is illegal to allow any animal which is not ordinarily resident in, and is not a regular visitor to, Great Britain, or is listed on Schedule 9 of the W&CA, to escape into the wild, or to release it into the wild without a licence. It is also illegal to plant or otherwise cause to grow in the wild any plant listed on Schedule 9 of the Act.

Scoping Assessment Stage

- 6.2.26 A screening opinion was provided by City & Council of Swansea Council on 14th March 2018 with the following information provided with reference to ecology:
- As a brownfield site covered in hardstanding areas and buildings, the biodiversity resource on the site is likely to be insignificant., however an ecological survey would be able to fully assess and, where necessary, provide mitigation for loss;
 - To the west the site is separated from the Nany Y Fendrod riverbank by a line of mature vegetation. The watercourse forms part of the Fendrod Lake and Nant Y Fendrod Site of Interest for Nature Conservation (SINC). To the north west of the site is the adjacent Swansea Vale SINC;
 - The development is sited adjacent to the Nant Y Fendrod which is currently failing its standards for water quality. Given the proximity of the site to this watercourse, there is potential for the proposed development to have detrimental impacts upon this feature, which discharges to the River Tawe via the enterprise lake on Valley Way..... This watercourse is therefore considered to be a sensitive receptor that could be affected by the development;
 - There are no mountain or forested areas within the immediate surroundings of the application site with the closest areas being the coniferous forests with the Main Swansea- Fishguard Railway Line SINC and the Pluck Lake SINC located approximately 1km from the site;
 - The Six Pit, Swansea Vale and White Rock Site of Special Scientific Interest (SSSI) is located 900m to the south of the site. Moreover, the site is less than 3km from the nearest part of the Crymlyn Bog SAC/ Ramsar site. It is therefore possible that the plant airborne emissions could reach these sites and adversely affect site features;
 - In planning to operate on a 24/7 basis there is a potential for any impacts to be intensive upon ecological and human receptors.

Assessment Methodology

- 6.2.1 The impact assessment for ecology has been carried out with reference to the Chartered Institute of Ecology and Environmental Management's (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd Ed (2016), hereafter referred to as the CIEEM Guidelines.
- 6.2.2 The impact assessment process involves:
- Establishing the baseline;
 - Identifying and characterising impacts;
 - Incorporating measures to avoid and mitigate (reduce) these impacts;
 - Assessing the significance of any residual effects after mitigation;
 - Identifying appropriate compensation measures to offset significant residual effects; and
 - Identifying opportunities for ecological enhancement.
- 6.2.3 The starting point for any assessment of impacts is to determine which ecological features are important and should be subject to detailed assessment. Ecological features can be important for a variety of reasons; for example, the quality or extent of designated sites or habitats, to habitats/species rarity, to the extent to which they are threatened throughout their range, or to their rate of decline (CIEEM, 2016).



Determining Importance

- 6.2.4 The CIEEM Guidelines recommend that the importance of ecological receptors is considered within a defined geographical context. For the purpose of this assessment the following levels are used:
- **International and European** - Special Protection Areas (SPA), Special Areas of Conservation (SAC), Ramsar sites, etc.;
 - **National** - Sites designated at UK level, e.g. Sites of Special Scientific Interest (SSSI);
 - **Regional** - Habitats or populations of species of value at a regional (i.e. South Wales) level;
 - **County** - Designated sites, such as LWS or habitats / species populations of value at a county (i.e. Swansea) level;
 - **Local** - Habitats or species populations of value in a local context; and,
 - **Negligible** - Habitats or species populations which are of limited ecological value, or are of value only within the Site development boundary and its immediate surrounds.

Valuing Habitats

- 6.2.5 In accordance with the CIEEM Guidelines, the value of habitats is measured against published selection criteria where available. Habitat types of European (International) conservation importance are listed on Annex I of the Habitats Directive. Habitats that are considered a priority for conservation in Wales are listed as habitats of principal importance under S42 of the NERC Act. Reference is also made to local Habitat Action Plans (HAPs).
- 6.2.6 Where important habitat types are affected but they are currently in a degraded or unfavourable condition, their potential value is considered, including the potential to contribute to conservation objectives. In accordance with the guidance, the assessor can assign certain features a greater value if there is a reasonable likelihood that they can be restored to a higher value in the future.

Valuing Species

- 6.2.7 Species of European (International) conservation importance are listed on Annexes II, IV and V of the Habitats Directive and Annex I of the Birds Directive. Species that are considered to be priorities for conservation in Wales are listed under S42 of the NERC act and the LBAP.
- 6.2.8 With reference to the CIEEM Guidelines, the importance of species populations is measured using existing criteria where available. Contextual information about distribution and abundance is considered, including trends based on historical records.

Predicting and Characterising Ecological Impacts

- 6.2.9 With reference to the CIEEM Guidelines, when describing impacts, the following characteristics are considered:
- **Positive or negative** – if an impact will improve or reduce the quality of the environment;
 - **Extent** – the spatial or geographical area over which the impact/effect may occur;
 - **Magnitude** – refers to size, amount, intensity and volume. If an impact is deemed to be significant then its magnitude, in quantitative terms, should be assessed.
 - **Duration** - the time for which an impact is expected to last;
 - **Timing and frequency** - whether impacts occur during critical life-stages or seasons;

- **Reversibility** – an irreversible effect is one from which recovery is not possible within a reasonable timescale or there is no reasonable chance of action being taken to reverse it. A reversible effect is one from which spontaneous recovery is possible or which may be counteracted by mitigation.

Direct and Indirect Ecological Impacts

- 6.2.10 Both direct and indirect impacts are considered within this assessment. A direct impact is directly attributable to a defined action such as the physical loss of a habitat or the immediate mortality of an individual of a particular species. Indirect impacts are attributable to an action, but which affect ecological resources through effects on an intermediary ecosystem, process or receptor. An example of an indirect effect would be the loss of an important prey species for a predator.

Approaches for Determining Significant Effects

- 6.2.11 In accordance with the CIEEM Guidelines, the assessment only needs to describe those characteristics relevant to understanding the ecological effect and determining the significance. A significant effect, in ecological terms, is defined as an effect that either supports or undermines the conservation objectives for 'important ecological features' or for biodiversity in general. Effects can be considered significant at a wide range of scales from international to local.
- 6.2.12 As noted above, impacts are only assessed in detail for receptors of sufficient ecological value that impacts upon them may be significant. Therefore, for the purposes of this assessment, impacts are assessed in detail only for those receptors that are of at least local value, or are subject to some form of legal protection.
- 6.2.13 Significant impacts remaining after mitigation (the residual impacts), together with an assessment of the likelihood of success in the mitigation, are the factors to be considered against legislation, policy and development control in determining the application.

Limitations of the Assessment

- 6.2.14 There are no significant overall limitations that are considered to compromise the validity of this EcIA subject to those listed within the Air Quality and Water Quality assessments.

6.3 Baseline Environment

Existing baseline

- 6.3.1 The site was subject to desk-based and field surveys in April 2018 with all baseline information provided within this chapter, in order to inform the Nature Conservation Evaluation for each of the receptors identified.
- 6.3.2 Note that scientific names are provided at the first mention of each species and common names (where appropriate) are then used throughout the rest of the report for ease of reading.

Desktop Study

- 6.3.3 A desk based study was undertaken in April 2018 with the following sources of information consulted:
- South East Wales Biodiversity Records Centre (SEWBRc);
 - DEFRA's interactive, web-based, MAGIC website (www.magic.gov.uk); and
- 6.3.4 The desk study covered 2km for statutory designated sites (5km for internationally designated sites), 1km non-statutory designated sites and 2km for records of protected and habitats and species.



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Statutory Designated Sites

6.3.5 The following statutory designated sites are present within the desk study search area (see Figure 11.2.2 for location).

Table 6.1: Statutory designated sites within desk study search area

Designation	Site Name	Distance and Direction	Summary of Features
SSSI	Six Pit, Swansea Vale and White Rock	885m south	Six Pit, Swansea Vale and White Rock is of special interest for its calaminarian grassland, lichen assemblage, and for the vascular plant spring sandwort <i>Minuartia verna</i> .
SAC, Ramsar & SSSI	Crymlyn Bog	2,460m south east	The Annex I habitats that are a primary reason for selection of the SAC are 'Transition mires and quaking bogs' and 'Calcareous fens with <i>Cladium mariscus</i> and species of <i>Caricion davalliana</i> '. In addition, Annex I habitats present as a qualifying feature, but not a primary reason for selection of the SAC are 'Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>).' The Ramsar is also selected for the above habitats, with additional selection criteria including 'the presence of a substantial population of the nationally rare cotton-grass <i>Eriophorum gracile</i> , and a rich invertebrate fauna including many rare and highly localised species' and 'the site supports 199 vascular plant species including 17 regionally-uncommon and one nationally rare'.

6.3.6 The SSSI is considered to be of importance at a **National** level and the SAC and Ramsar at an **International** level.

Non-statutory Designated Sites

6.3.7 There are seven non-statutory designated sites within 1km of the Site (see Figure 11.2.2 for location).

Table 6.2: Non-statutory designated sites within desk study search area

Designation	Site Name	Distance and Direction	Summary of Features
SINC	Swansea Vale / Fendrod NR	Adjacent (eastern boundary)	Designated for its structurally-diverse and species-rich scrub, relatively species-rich neutral grassland, species-

Designation	Site Name	Distance and Direction	Summary of Features
			rich purple moor-grass and rush pasture, small river with good plant communities, native wet woodland and reedbed habitats. The site supports common kingfisher <i>Alcedo atthis</i> , Eurasian teal <i>Anas crecca</i> , tree pipit <i>Anthus trivialis</i> , Cetti's warbler <i>Cettia cetti</i> , little egret <i>Egretta garzetta</i> , common kestrel <i>Falco tinnunculus</i> , common snipe <i>Gallinago gallinago</i> , great black-backed gull <i>Larus marinus</i> red kite <i>Milvus milvus</i> , water rail <i>Rallus aquaticus</i> and lapwing <i>Vanellus vanellus</i> .
SINC	Fendrod Lake and Nant y Fendrod	5m south of the site (other side of Clarion Close)	Designated for its native lowland mixed deciduous woodland, planted wet woodland, lowland meadow, species-rich neutral grassland, reedbeds and small river with diverse plant communities. The site supports common kingfisher <i>Alcedo atthis</i> , Eurasian teal <i>Anas crecca</i> , gadwall <i>Anas strepera</i> , little egret <i>Egretta garzetta</i> , common kestrel <i>Falco tinnunculus</i> , common snipe <i>Gallinago gallinago</i> and great black-backed gull <i>Larus marinus</i> .
SINC	Llansamlet Marshes	370m east of the site	Designated for its structurally-diverse and species-rich scrub, gorse stands, species-rich neutral grassland, lowland dry heath, species-rich purple moor-grass and rush pasture, woodland containing an assemblage of AWI species native wet woodland, native lowland mixed deciduous woodland and reedbed habitats.
SINC	Tawe Corridor	510m north west of the site	Designated for its planted wet woodland, structurally-diverse and species-rich scrub, lowland meadow, species-rich neutral grassland, acid grassland with anthills, river, watercourse with exposure/erosion features, continuous semi-natural linear vegetation, woodland containing an assemblage of AWI species, native wet woodland, native



Designation	Site Name	Distance and Direction	Summary of Features
			lowland mixed deciduous woodland and reedbed habitats. The site supports common kingfisher <i>Alcedo atthis</i> , Black-Headed Gull <i>Chroicocephalus ridibundus</i> , red kite <i>Milvus milvus</i> and brown trout.
SINC	Main Swansea - Fishguard Railway Line	750m south east of the site	Designated for its structurally-diverse and species-rich scrub, lowland meadow, species-rich neutral grassland, lowland dry heath, species-rich purple moor-grass and rush pasture. continuous semi-natural linear vegetation and semi-natural mixed deciduous woodland habitats.
SINC	Trallwn Marsh and Wood	920m south to south east	Designated for its structurally-diverse and species-rich scrub, species-rich neutral grassland, lowland fen, species-rich purple moor-grass and rush pasture, semi-natural mixed deciduous woodland and reedbeds habitats.
SINC	Cwm Rhydyceirw to Birchgrove Railway	950m north of the site	Designated for its continuous semi-natural linear vegetation

6.3.8 The above non-designated sites are considered to be of importance at a **County** level

Protected Species Records

6.3.9 Protected species records within 2km of the Site are summarised in the table below.

Table 6.3: Summary of protected species records within desk study search area

Species	No. of Records	Nearest Location & Direction	Comments
Badger	1	917m south to south west	One record was recorded by Wildwood Ecology, no details on this record were provided.
Bats (Activity)	57	Within 2km	Species recorded included: 31 records of common pipistrelle <i>Pipistrellus pipistrellus</i> ; three records of Daubenton's bat <i>Myotis daubentonii</i> ; one record of Natterer's bat <i>Myotis nattereri</i> ; ten records of unidentified pipistrelle; two records of whiskered bat <i>Myotis mystacinus</i> ; two records of whiskered/Brandt's bat and three records of unknown bats.

Species	No. of Records	Nearest Location & Direction	Comments
Bats (Roost)	8	Within 2km	The closest bat roost record was located 440m east of the site in 2016 for a brown long-eared <i>Plecotus auritus</i> and common pipistrelle day roost. A soprano pipistrelle roost has also been recorded within 2km of the site.
Breeding birds	2670	Within 2km	30 different species of protected birds were recorded within 2km of the site, comprising: barn owl <i>Tyto alba</i> , bittern <i>Botaurus stellaris</i> , black tern <i>Chlidonias niger</i> , black-headed gull <i>Chroicocephalus ridibundus</i> , black-tailed godwit <i>Limosa limosa</i> , bullfinch <i>Pyrrhula pyrrhula</i> , Cetti's warbler <i>Cettia cetti</i> , common crossbill <i>Loxia curvirostra</i> , dunnock <i>Prunella modularis</i> , fieldfare <i>Turdus pilaris</i> , grasshopper warbler <i>Locustella naevia</i> , house sparrow <i>Passer domesticus</i> , kestrel <i>Falco tinnunculus</i> , kingfisher <i>Alcedo atthis</i> , lapwing <i>Vanellus vanellus</i> , lesser redpoll <i>Carduelis cabaret</i> , linnet <i>Carduelis cannabina</i> , little gull <i>Hydrocoloeus minutus</i> , little ringed plover <i>Charadrius dubuis</i> , Mediterranean gull <i>Larus melanocephalus</i> , merlin <i>Falco columbarius</i> , pied flycatcher <i>Ficedula hypoleuca</i> , red kite <i>Milvus milvus</i> , redwing <i>Turdus iliacus</i> , reed bunting <i>Emberiza schoeniculus</i> , skylark <i>Alauda arvensis</i> , song thrush <i>Turdus philomelos</i> , spotted flycatcher <i>Muscicapa striata</i> , starling <i>Sturnus vulgaris</i> and whooper swan <i>Cygnus cygnus</i> . The closest record being for a common crossbill on the Llansamlet industrial estate 170m east to south-east of the site.
Great Crested Newts (GCN)	0	N/A	No records of GCN were returned although the lack of data doesn't preclude the possibility the species may be present within the local area.
Hazel Dormouse	1	1100m east of the site	One record of dormouse was recorded in an area of woodland to the east of the site. The record was provided from NRW licence returns.
Invasive Species	597	Within 2km of the site	Species recorded included: two records of American mink <i>Neovison vison</i> , 415 records of Canada goose <i>Branta canadensis</i> , nine records of cherry laurel <i>Prunus laurocerasus</i> , two records of <i>Crangonyx pseudogracilis</i> , one record of curly waterweed <i>Lagarosiphon major</i> , one record of Egyptian goose <i>Alopochen aegyptiaca</i> , three records of harlequin ladybird <i>Harmonia axyridis</i> , three records of Himalayan cotoneaster <i>Cotoneaster simonsii</i> ,



Species	No. of Records	Nearest Location & Direction	Comments
			two records of Himalayan honeysuckle <i>Leycesteria formosa</i> , one record of hollyberry cotoneaster <i>Cotoneaster bullatus</i> , twenty records of Himalayan balsam <i>Impatiens glandulifera</i> , 102 records of Japanese knotweed <i>Fallopia japonica</i> , three records of Japanese rose <i>Rosa rugosa</i> , one record of least duckweed <i>Lemna minuta</i> , seven records of montbretia <i>Crocus x crocosmiliflora</i> , and four records of red-eared terrapin <i>Trachemys scripta elegans</i> ,. The closest records are for Canada goose, Himalayan balsam and red-eared terrapin located 330m from the site, within Swansea Vale / Fendrod NR SINC.
Invertebrates	1	1500m south to south west of the site	One brown-banded carder-bee was recorded to the south of the site near Fendrod Lake in 2009.
Notable Plants	6	685m north of the site	Species recorded included: three records of bluebell, two records of cornflower and one record of yellow bird's nest.
Otter	3	900m north of the site	Three records of otter <i>Lutra lutra</i> were provided by SEWBRc along the River Tawe.
Reptiles	6	270m north-east of the site	SEWBRc returned two records of common lizard and four grass snakes within 2km of the site, the two closest records being located 270m north-east of the site.
Water vole	0	N/A	No records of water vole were returned although the lack of data doesn't preclude the possibility the species may be present within the local area.

Field Surveys

Habitats

- 6.3.10 An Ecological Appraisal, including an extended Phase 1 habitat survey, was completed by WYG on the 16th April 2018. Habitats surveyed included those within the site boundary and areas of additional habitat surrounding the site within 50m where access allowed, which have since been excluded from the red line boundary, following the confirmation of scheme details. This assessment therefore focussed on habitats within the site boundary and a 50m buffer (subject to access). The habitats recorded are described below and shown on Figure 10.1.
- 6.3.11 The habitats recorded were categorised with reference to standard Phase 1 habitat survey (JNCC, 2010) definitions and considered with reference to their supporting value for notable/protected species, as discussed further below.

6.3.12 The site was searched for invasive, non-native plant species such as Japanese knotweed, giant hogweed and Himalayan balsam, all of which are listed in Schedule 9, Part II of the Wildlife and Countryside Act (as amended) 1981.

6.3.13 In summary, the following Phase 1 habitat types were recorded on site, and within the 50m survey area:

- Hardstanding;
- Buildings;
- Amenity grassland;
- Fence; and
- Additional adjacent habitats including scattered broadleaved trees, scrub, species-poor semi improved grassland and running water.

Hardstanding

6.3.14 The site is currently used as a Biffa vehicle storage and service depot with the majority of the Site comprising hardstanding including tarmac and paved footways. The hardstanding is well maintained and is regularly used by vehicles accessing the site and for vehicle and skip storage.

6.3.15 The hardstanding is considered to be of **Negligible** importance.

Buildings

6.3.16 A single building is present within the Site (B1). The building is a large open framed warehouse style building with a metal frame and corrugated metal skin (interior open to corrugated metal). In addition, a metal diesel tank is present.

6.3.17 The building is considered to be of **Negligible** importance.

Amenity Grassland

6.3.18 Small areas of managed amenity grassland verges are present to the site boundaries and small isolated areas within the hardstanding. The grasslands are regularly cut to maintain a short sward (less than 10cm at the time of survey) and are dominated by perennial rye-grass *Lolium perenne* with additional species including daisy *Bellis perennis*, cat's-ear *Hypochaeris radicata* and field wood-rush *Luzula campestris*.

6.3.19 Amenity grassland habitat within the site is unlikely to support any protected or notable species and is considered to be of **Negligible** importance.

Fence

6.3.20 A metal palisade fence is present to the southern and eastern boundary.

6.3.21 Fences within the site have limited ecological value and are considered to be of **Negligible** importance.

Adjacent Habitats

6.3.22 The Nant Y Fendrod stream corridor is present to the eastern site boundary consisting of an approximate 5m width of scrub and scattered broadleaved trees, located on a raised bund, directly adjacent to the site boundary with open, species-poor, semi-improved grassland and the Nant Y Fendrod watercourse beyond. Japanese knotweed and Himalayan balsam regrowth was noted adjacent to the watercourse. The Nant Y Fendrod is designated as a SINC and therefore is considered to be of **County** importance.

6.3.23 Habitats to the north and west of the site comprise additional buildings (B2, B3 and B4) and hardstanding associated with the wider Biffa vehicle storage and service depot, with small areas of amenity grassland.



Protected Species

Bats

6.3.24 The SEWBRc data search returned eight records of roosting bats and 57 records of bat activity within 2km of the site. The closest roost record was located 440m east of the site in 2016 for a brown long-eared and common pipistrelle day roost.

Roosting bats

- 6.3.25 Buildings, structures and trees within the survey area were appraised for their suitability to be used by roosting bats during the extended Phase 1 habitat survey.
- 6.3.26 B1 is located within the site and is a large 2/3 storey warehouse building of metal frame and corrugated metal skin construction. The building offered no significant potential roosting features and was considered to be of 'negligible suitability' for roosting bats based on best practice guidelines (Collins, 2016).
- 6.3.27 B2 is located to the west of the site boundary, within the wider Biffa site, and comprises a 'vehicle workshop' of similar construction to B1. No significant potential roosting features were noted and therefore it was considered to be of 'negligible suitability' for roosting bats.
- 6.3.28 B3 is a small brick built plant room located adjacent to the southern end of B2 within the wider Biffa site. The building had a pitched tiled roof, however it was well sealed, with no obvious potential roosting features and therefore is considered to be of 'negligible suitability'.
- 6.3.29 B4 is also located to the west of the site boundary, within the wider Biffa site, and comprises a 'traffic office and reception'. The building is a single storey brick built structure with a pitched tiled roof and PvC fascias and metal windows. Potential roosting features noted included missing mortar beneath roof tiles to the gable ends which offered potential access points (however no signs of roosting bats were noted). The building was considered to be of 'low suitability' for roosting bats.

Foraging and commuting bats

- 6.3.30 The site was considered to have negligible suitability for foraging and commuting bats comprising hardstanding with no significant natural habitats. In addition, the site includes artificial lighting limiting the value for foraging and commuting bats further.
- 6.3.31 However, the Nant Y Fendrod stream corridor is likely to offer potential foraging habitat for bat species present in the local area and provides a clear commuting link through the urban area.
- 6.3.32 The importance of the site for bat species is considered to be **negligible** however potential impacts on adjacent habitat through indirect impacts should be considered in the assessment and appropriate precautionary mitigation should therefore be considered for this species as it is considered likely that the vegetated stream provides an important foraging commuting resource in the urban landscape.

Birds

- 6.3.33 The SEWBRc data search returned 2670 records of birds within 2km of the site comprising 30 different protected species.
- 6.3.34 No signs of breeding birds were recorded within the site, with only limited suitable habitats recorded on site. The adjacent scrub and woodland has potential to be used by breeding birds, in addition building B1 may be used by species associated with buildings however no signs were noted during the survey.
- 6.3.35 The importance of the site for bird species is considered to be **negligible** however potential impacts on breeding birds should be considered in the assessment.

Otter

- 6.3.36 The SEWBRc data search returned three records of otter within 2km of the site, all records were associated with the River Tawe with the closest records 900m north of the Site.
- 6.3.37 No signs of otters were recorded along the Nant Y Fendrod during the survey (50m upstream and downstream), however based on the known presence in the wider area it is considered likely that otter could use the stream corridor for intermittent commuting. Potential impacts on adjacent habitat through indirect disturbance impacts should be considered in the assessment as otters are legally protected from disturbance whilst using a resting place.

Other species

6.3.38 The site was considered to have no significant opportunities for any other protected species, due to the habitats present, and therefore they have been scoped out of any further assessment.

Invasive species

- 6.3.39 The SEWBRc data search returned 597 records of invasive, non-native species listed on Schedule 9 of the W&CA, within 2km of the site. Species returned included both flora and fauna species. The closest records are for Canada goose, Himalayan balsam and red-eared terrapin located 330m from the site, within Swansea Vale / Fendrod NR SINC.
- 6.3.40 There were no invasive plant species observed within the site however Japanese knotweed and Himalayan balsam were recorded associated with Nant Y Fendrod watercourse banks to the east of the site.

6.4 Mitigation within the Submitted Design

- 6.4.1 Existing vegetation will not be impacted along the southern and eastern boundary of the Site, and this will therefore continue to provide the current levels of screening to the construction and operational phase of the development.
- 6.4.2 This ES assumes the project will be constructed in accordance with industry standard techniques and mandatory minimum standards, and assumes suitably experienced contractors will be appointed to design, construct and commission the development. A construction environmental management plan (CEMP) will be produced for the construction phase detailing all construction standards and techniques. In addition, no additional lighting above current levels is proposed with no night time construction.
- 6.4.3 No evidence of breeding birds was recorded on the site during the baseline surveys. However, the building (B1) onsite offers potential features for nest building. If the building extension is to be completed during the bird breeding season (considered to be March to August inclusive) a pre-construction breeding bird check will be completed to ensure no nests have become established in the intervening period which could be affected by the proposed works. This will form part of the CEMP requirements for the scheme.

6.5 Likely Significant Environmental Effects of the Scheme

- 6.5.1 As stated in Section 6.2, impacts are only assessed in detail for features potentially vulnerable to significant impacts arising from the development that would be significant in EIA terms. Consequently, impacts have only been assessed in detail for those receptors that are of at least **Local** value or are subject to legal protection - this therefore includes the following:
- Statutory Designated site – Crymlyn Bog SAC/ Ramsar - **International** importance;
 - Statutory Designated site - Six Pit, Swansea Vale and White Rock SSSI- **National** importance



- Non-statutory Designated site – SINC’s – **County** importance
- Otter - **Legal Offence** to Disturb

Construction Phase Effects

6.5.2 This section predicts and characterises the likely construction phase impacts on the sensitive ecological features identified above, in the absence of mitigation:

Statutory Designated Sites

6.5.3 Six Pit, Swansea Vale and White Rock SSSI the nearest statutory designated site located 885m south of the site. The designated site is separated from the development by further industrial and commercial buildings. No direct effects will occur during the construction phase, in addition through standard measures implemented as part of the CEMP, noise, dust and vibration levels off site are considered unlikely to be significant given the distance from the construction zone within the site to the and the intervening urban habitats which are likely lead to an insignificant increase over current levels within the SSSI. Therefore, there is considered to be **no significant adverse effect** to this National level feature during the construction phase in respect of noise, dust and vibration.

6.5.4 Crymlyn Bog SSSI, SAC and Ramsar is located 2,460m to the south east of the site. The designated site is separated from the development by further industrial and commercial buildings, roads and the residential area of Trallwn. No direct effects will occur during the construction phase, in addition through standard measures implemented as part of the CEMP, noise, dust and vibration levels off site are considered unlikely to be significant given the distance from the construction zone within the site to the and the intervening urban habitats which are likely lead to an insignificant increase over current levels within the designated site. Therefore, there is considered to be **no significant adverse effect** to this **National** and **International** level feature during the construction phase in respect of noise, dust and vibration

Non-statutory Designated Sites

6.5.5 Swansea Vale/ Fendrod NR SINC is located adjacent to the eastern boundary of the site with Fendrod Lake and Nant y Fendrod SINC 5m south of the site (both form part of the same watercourse). No direct impacts will occur on the sites however there is potential for adverse effects on the site from impacts to water quality and changes to noise, dust and vibration during construction. No direct effects will occur to the designated site during the construction phase.

6.5.6 Water quality impacts on the adjacent watercourse are discussed in detail within Chapter 10 Water Resources and Flood Risk however as a summary taking the multiple impact source risks into consideration, the limited dilution in the immediate receiving watercourse and the assumptions on mitigating features of the design of the construction works; it is considered that there is a **moderate negative** impact on surface water quality of the receiving water environment. This could result in a **significant** effect on this **County** level feature in the absence of additional mitigation.

6.5.7 Through standard measures implemented as part of the CEMP, noise, dust and vibration levels off site are considered unlikely to be significant and will be adequately controlled and minimised in proximity to sensitive features with no significant increase over current levels. Therefore, there is considered to be **no significant adverse effect** to these **County** level features during the construction phase from noise, dust and vibration.

6.5.8 Five additional non-statutory sites are present within 1km of the site. No direct effects will occur during the construction phase, in addition through standard measures implemented as part of the CEMP, noise, dust and vibration levels off site are considered unlikely to be significant given the distance from the construction zone and the intervening urban habitats which are likely lead to an insignificant increase over

current levels within the designated site. Therefore, there is considered to be **no significant adverse effect** to these **County** features during the construction phase in respect of noise, dust and vibration. In addition, as the surface water is part of a closed system **no significant adverse effects** are predicted to water quality.

Fauna

Otter

6.5.9 No signs of otter were recorded however it is considered likely they may use the Nant Y Fendrod stream for commuting, in the absence of mitigation, the construction activities could result in disturbance and pollution of the water course during proposed development. The inherent mitigation within the submitted design includes for standard techniques to maintain the water quality. In addition, the construction will be limited to the site, with no significant additional disturbance over current levels (including no night time construction). Therefore, based on the above assessment **no significant impact** to otter are predicted.

Operational Phase Effects

6.5.10 This section predicts and characterises the likely operation phase impacts on the sensitive ecological features identified above, in the absence of mitigation:

Statutory Designated Sites

6.5.11 The potential operational impacts of the proposed development largely relate to the operational emissions. The Environment Agency’s Air Emissions guidance (2011) states that insignificant emissions can be screened out unless; for nature conservation sites contribute >1% of the relevant Critical Load (as this proportion of critical load could not possibly undermine the conservation objectives of a nutrient sensitive, terrestrial Natura 2000 site feature).

6.5.12 Extensive air quality modelling and assessment have been undertaken to determine the potential effects from the proposed development (see Chapter 8 and Appendix 8.1) on the statutory designated sites. The assessment of the potential air quality impacts that are associated with the operational phase has focused on the predicted impact of changes in ambient nitrogen dioxide (NO2) as a result of the development. The changes have been referenced to EU air quality limits and UK air quality objectives and the magnitude and significance of the changes have been referenced to non-statutory guidance issued by Environmental Protection UK (EPUK).

6.5.13 The predicted nitrogen dioxide (NO2) concentrations both for annual and daily levels at ecological locations are all below the relevant critical loads for the protection of vegetation and ecosystems. In addition, the maximum predicted changes of annual mean NO2 (the process concentration) is 0.31% of critical load, which is well below the screen criteria of the 1% of critical load. Therefore, there are **no significant impacts** on any habitats included as qualifying interests within Crymlyn Bog SAC/ Ramsar & SSSI and Six Pit, Swansea Vale and White Rock SSSI and the impacts of NOx emissions from facility operations on those sites are considered to be **negligible**.

Non-statutory Designated Sites

6.5.14 No direct impacts are predicted on any non-statutory designates site during operation. In addition, no significant increase on current levels of noise, dust and vibration are predicted during the operational phase. Therefore, there are **no significant impacts** on any non-statutory designated site as a result of noise, dust and vibration.

6.5.15 The drainage strategy for the site will follow the existing system. This system includes treatment stages for pollutants such as hydrocarbons from internal roads. Therefore, there is anticipated to be **no**



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significant adverse effect on these **County** value features in respect of water quality during operation (see Chapter 10 Water Resources and Flood Risk and Flood Consequences Assessment (FCA) for further detail).

Fauna

Otter

- 6.5.16 No significant increase in levels of disturbance over current levels is considered likely during the operational phase of the development and therefore **no significant impacts** to otter are likely.

6.6 Additional Mitigation, Compensation and Enhancement Measures

Construction Phase

- 6.6.1 As detailed within Chapter 10 the pre-mitigation assessment has identified pollution risks as a result of particular activities and accidental or extreme events that could occur on the construction site such as large scale accidental spillages, extreme rainfall events or uncontrolled releases of cement. This is a precautionary assessment considering the outline nature of the proposals. As part of the detailed design a Detailed Construction Drainage Plan and contractor's CEMP will be produced with specific method statements following best practice standards and techniques to address all activities that have the potential to result in surface water quality pollution, including contingency planning for extreme or accidental scenarios.
- 6.6.2 The proposed CEMP is an appropriate document within which suitable procedures and methods can be specified to protect the water environment. This will include a series of specific method statements identifying methods of working and controls to address the surface water environment impacts. The CEMP will be implemented during the construction phase.
- 6.6.3 To monitor potential impacts the temporary construction drainage system and neighbouring water courses will be visually inspected on a pre-agreed basis during construction to detect any problems with function and any changes in colour or turbidity, or for olfactory evidence which may indicate a temporary reduction in water quality. If on a visual inspection the drainage appears to be polluted or excessively turbid, the Environment Agency will be contacted regarding the appropriate action and the source of the pollution should be identified if possible and the spillage/containment procedure specified in the CEMP followed.
- 6.6.4 The site was considered to offer negligible suitability for roosting or foraging and commuting bats with no additional lighting or night time working proposed over current levels, and therefore no assessment of impacts on bats was considered necessary. However, the adjacent habitat, including the Nant y Fendrod stream corridor, is likely to be used by commuting and foraging bats and therefore if plans change and lighting is to be increased, a sensitive operational lighting strategy should be incorporated to avoid disturbance of nocturnal species. This will avoid light spill of above 1 lux upon adjacent suitable habitats.

6.7 Assessment Summary and Likely Significant Residual Environmental Effects

- 6.7.1 Table 6.4 below provides a summary of this chapter, detailing the potential environmental effects and the anticipated residual environmental effects, following the implementation of the proposed mitigation, compensation or enhancement measures.
- 6.7.2 No significant impacts are predicted on any ecological receptor during the construction or operational phase.



Table 6.4 Assessment Summary and Residual Environmental Effects (Ecology)

Ecological feature	Sensitivity of feature	Description of potential impact	Design mitigation	Rationale	Residual significance
Construction phase					
Statutory designated sites- Six Pitt, Swansea Vale and White Rock SSSI	National	Noise, dust and vibration	Adherence to best practice methods to control noise and vibration (detailed in CEMP).	Due to the separation distance between the site construction and the feature, off site effects are negligible once CEMP measures are followed.	Not significant
Statutory designated sites- Crymlyn Bog SSSI, SAC & Ramsar	National & International	Noise, dust and vibration	Adherence to best practice methods to control noise and vibration (detailed in CEMP).	Due to the separation distance between the site construction and the feature, off site effects are negligible once CEMP measures are followed.	Not significant
Non-statutory designated sites- SINC	County	Noise, dust and vibration	Adherence to best practice methods to control noise and vibration (detailed in CEMP).	Effects are negligible once CEMP measures are followed.	Not significant
Non-statutory designated sites- SINC	County	Water Quality	As part of the detailed design a Detailed Construction Drainage Plan and contractor's CEMP will be produced with specific method statements following best practice standards and techniques to address all activities that have the potential to result in surface water quality pollution, including contingency planning for extreme or accidental scenarios.	Effects are negligible once mitigation measures are followed.	Not significant
Species- Otter	County	Disturbance	Construction limited to site with no night time construction.	No significant increase over current site levels (with no night time construction).	Not significant
Species- Otter	County	Water Quality	As part of the detailed design a Detailed Construction Drainage Plan and contractor's CEMP will be produced with specific method statements following best practice standards and techniques to address all activities that have the potential to result in surface water quality pollution, including contingency planning for extreme or accidental scenarios.	Effects are negligible once mitigation measures are followed.	Not significant
Operation phase					
Statutory designated sites- Six Pitt, Swansea Vale and White Rock SSSI and Crymlyn Bog SSSI, SAC & Ramsar	National & International	Air Quality	N/a	The predicted nitrogen dioxide (NO2) concentrations both for annual and daily levels at ecological locations are all below the relevant critical loads for the protection of vegetation and Ecosystems. In addition, the maximum predicted changes of annual mean NO2 (the process concentration) is 0.31% of	Not significant



Ecological feature	Sensitivity of feature	Description of potential impact	Design mitigation	Rationale	Residual significance
				critical load, which is well below the screen criteria of the 1% of critical load.	
Non-statutory designated sites- SINC	County	Noise, dust and vibration	N/a	No significant increase over current site levels.	Not significant
Non-statutory designated sites- SINC	County	Water Quality	The drainage strategy for the site will follow the existing system which includes treatment stages for pollutants.	No significant change over current site levels	Not significant
Species- Otter	County	Disturbance	N/a	No significant increase over current site levels (with no night time construction).	Not significant
Species- Otter	County	Water Quality	The drainage strategy for the site will follow the existing system which includes treatment stages for pollutants.	No significant change over current site levels	Not significant



6.8 References

Chartered Institute for Ecology and Environmental Management (2016). Guidelines for Ecological Impact Assessment in the UK and Ireland.
 Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.
 English Nature (2011). Badgers and Development. English Nature, Peterborough, UK
 Institute for Ecology and Environmental Management (2006). Guidelines for Ecological Impact Assessment in the UK and Ireland.
 Joint Nature Conservation Committee (2010). Handbook for Phase 1 Habitat Survey: A technique for environmental audit. JNCC, Peterborough.

6.9 Glossary

Term	Definition
Mitigation	Intended to offset predicted impacts to ecological features
Non-statutory	Non-statutory Sites are designated by Local Authorities and are recognized as being of County conservation interest. These Sites do not have statutory protection but are a 'material consideration' in the determination of planning applications
Ramsar	Coastal and inland wetland habitat types designated under the Ramsar Convention, an intergovernmental treaty that provides a framework for national and international cooperation for the conservation of wetlands and their resources
SAC	Special Area of Conservation are strictly protected sites designated under the EC Habitats Directive
SINC	Site of Importance for Nature Conservation
Statutory Sites	Sites with statutory designations receive varying degrees of legal protection under UK statute and European Directives. There are a number of statutory designations used for Sites of high nature conservation value in the UK which are made depending upon the importance of the Site in a local, regional, national or international context.
SSSI	Site of Special Scientific Interest are sites protected by law to conserve their wildlife or geology.