

## PETITION

COMMITTEE DATE: 06/04/2022

APPLICATION No. **21/00076/MJR** APPLICATION DATE: 18/01/2021

ED: **TROWBRIDGE**

APP: TYPE: Outline Planning Permission

APPLICANT: Cardiff Parkway Developments Limited  
LOCATION: LAND SOUTH OF ST MELLONS BUSINESS PARK AND BOUNDED BY FORTRAN ROAD/COBOL ROAD TO THE NORTH, CYPRESS DRIVE TO THE WEST, ST MELLONS, CARDIFF

PROPOSAL: CONSTRUCTION OF A BUSINESS PARK (UP TO 90,000M2 - USE CLASSES B1, B2 AND B8), ANCILLARY USES AND INFRASTRUCTURE ASSOCIATED WITH; BIODIVERSITY; LANDSCAPE; DRAINAGE; WALKING, CYCLING AND OTHER TRANSPORT MODES. TOGETHER WITH THE CONSTRUCTION OF A NEW TRANSPORT HUB FACILITY, COMPRISING RAILWAY STATION BUILDINGS (UP TO 2,500M2 - USE CLASS SUI GENERIS) INCLUDING ANCILLARY USES; 4 NO. PLATFORMS; SURFACE CAR PARK (UP TO 650 NO. SPACES) AND ASSOCIATED INFRASTRUCTURE WORKS

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**RECOMMENDATION 1:** That **SUBJECT** to a requirement that no decision notice may be issued unless a written authorisation is received from the Welsh Ministers pursuant to its Direction dated 23 November 2021 made under Article 18 of the Town and Country Planning (Development Management Procedure) (Wales) Order 2012:

That planning permission be **GRANTED** subject to the relevant parties (and having regard to condition 4) entering into a binding legal agreement under the provisions of **SECTION 106** of the Town and Country Planning Act 1990 within 6 months of the date of this Resolution, unless otherwise agreed by the Council in writing, in respect of matters detailed in section 9 of this report, and the conditions listed below.

**RECOMMENDATION 2:** That delegated authority is given to the Head of Planning & Operational Manager: Strategic Development & Placemaking, to make changes to the conditions and/or Heads of Terms of the required legal agreement, subject to consultation with the Chair of Planning, up to the point where the legal agreement is signed and planning permission issued.

## Conditions

### 1. STATUTORY TIME LIMIT

A. Approval of the details of the layout, scale and appearance of the buildings, the means of access thereto and the landscaping of the site (hereinafter called "the reserved matters") shall be obtained from the Local Planning Authority in writing before any phase of development is commenced.

B. Plans and particulars of the reserved matters referred to in condition 1A above, relating to the layout, scale and appearance of any buildings to be erected, the means of access to the site and the landscaping of the site, shall be submitted in writing to the local planning authority and shall be carried out as approved.

C. Application for approval of the reserved matters shall be made to the Local Planning Authority before the expiration of seven years from the date of this permission.

D. The development hereby permitted shall be begun either before the expiration of five years from the date of this permission or before the expiration of two years from the date of the last of the reserved matters to be approved, whichever is the later.

Reasons:

A. In accordance with the provisions of Article (3)1 of the Town and Country Planning (Development Management Procedure) (Wales) Order 2012.

B, C and D. In accordance with the provisions of Section 92 of the Town and Country Planning Act 1990.

### 2. APPROVED PLANS AND DOCUMENTS

Approved Plans:

- (i) HDL-ARP-DRG-GEN-100 – Site Location Plan (Jan 2021)
- (ii) UD101 – Outline Application Redline Boundary (Jan 2021)
- (iii) PRX-ARP-ES-XX-DR-AX-001 – Cardiff Hendre Lakes Parameter Plan\_02 (Jan 2022)
- (iv) Amended Scaling Statement – OPA Addendum (Jan 2022)

Approved Documents:

- (i) Environmental Statement (Arup, November 2020)
- (ii) Environmental Statement Addendum (17 December 2021)
- (iii) Transport Assessment (Arup, November 2020)
- (iv) Transport Assessment Addendum (Arup, 17 December 2021)
- (v) SSSI Mitigation Design Report (December 2021)
- (vi) Flood Consequences Assessment Technical Note (JBA Consulting, 10 August 2021)

Reason: To ensure satisfactory completion of the development and for the avoidance of doubt in line with the aims of Planning Policy Wales to promote an efficient planning system

### 3. ENVIRONMENTAL STATEMENT AND ADDENDUM

The development hereby permitted shall be carried out in substantial accordance with the principles and mitigation measures as set out within the Environmental Statement and Addendum unless provided for in any other conditions attached in this permission.

Reason: The proposed development is the subject of an Environmental Impact Assessment and due regard must be had to the principle impacts of the development in the preparation of the detailed design and operation of the site. Any material alteration to the proposal may have an impact which has not been assessed by the process.

### 4. ARSENAL CONDITION

No development authorised by this planning permission shall be commenced on the land shaded yellow on Figure 1.2 Indicative Land Ownership \_A3L\_P03 or any land south of the railway until all land south of the railway is subject to Section 106 of the Town and Country Planning Act 1990 substantially in the same terms as the draft section 106 agreement appended to the Section 106 Agreement of even date with this planning permission to bind any land south of the railway within the red line of the scheme, has been entered into by all parties with a relevant interest in that land.

No development authorised by this planning permission shall be commenced on the land shaded green, within the red line and north of the railway on Figure 1.2 Indicative Land Ownership \_A3L\_P03 until all that green land is subject to Section 106 of the Town and Country Planning Act 1990 substantially in the same terms as the draft section 106 agreement appended to the Section 106 Agreement of even date with this planning permission to that land shaded green, north of the railway within the red line of the scheme, has been entered into by all parties with a relevant interest in that land.

Reason: To enable the delivery of a complex development site within the constraints of its rail and environmental interfaces

### **STRATEGIC CONDITIONS**

### 5. PHASING AND DELIVERY PLAN

Notwithstanding the submitted information, prior to submission of any application for the approval of reserved matters, a phasing schedule and plan, to include the phasing of Green Infrastructure for the site shall have been submitted to and approved in writing by the Local Planning Authority. The development shall thereafter be carried out in accordance with the approved phasing plan.

Reason: To ensure an orderly form of development in accordance with Local Development Plan Policies KP4 (Masterplanning Approach) and KP5 (Good Quality and Sustainable Design).

## 6. DESIGN CODE

No reserved matters application shall be submitted until such time as:

- a) The content of a Design Code for the site has been submitted to and approved in writing by the Local Planning Authority and
- b) The full Design Code for the site or phase of development has been submitted to and approved in writing by the Local Planning Authority.

The Design Code shall be in broad accordance with the design principles set within the Design and Access Statement (OPA Addendum, December 2021), and thereafter the details in the reserved matters applications shall be in broad accordance with the approved Design Code.

Reason: To ensure good urban, architectural and landscape design in accordance with Future Wales Policy 2 (Shaping Urban Growth and Regeneration – Strategic Placemaking) and Local Development Plan Policy KP5 (Good Quality and Sustainable Design).

## 7. STRATEGIC CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (SCEMP)

No development of any phase or sub-phase (including site clearance, but with the exception of vegetation clearance, early planting and other measures associated with Dormouse mitigation) shall commence until a Strategic Construction Environmental Management Plan (SCEMP) covering the whole application site has been submitted to and approved in writing by the Local Planning Authority. The SCEMP shall include, but not be limited to:

- (i) Risk assessment of potentially damaging construction activities
- (ii) Construction methods: details of materials and how waste generated will be managed
- (iii) General Site Management: details of the construction programme including timetable, details of site clearance; details of site construction drainage, containments areas, 12.5m and 7m buffer zones between storage areas (of spoil, oils, fuels, concrete mixing and washing areas) and reens and field ditches, piling type and timings; vehicle access routes over sensitive habitats e.g. reens and field ditches and associated protection measures
- (iv) Biodiversity Management: Identification of "biodiversity protection zones" including protection of retained trees as per BS5837:2012 and protective fencing and warning signs erected on site to protect reens and field ditches
- (v) Biodiversity Management: Principles of practical measures of how the location and timing of sensitive works shall avoid harm to biodiversity features (both physical measures and sensitive working practices) to avoid or reduce impacts during construction. This shall include:



- Details of each culvert to ensure they provide connectivity for wildlife. This shall build upon the information supplied in Hendre Lakes: Wildlife Crossings – Species, in principle designs and size produced by Arup, dated 17 December 2021.
  - details of reen and field ditch habitat protection demonstrating that a minimum buffer of 12.5m from reens and 7m from field ditches will be maintained;
  - details of all mammal crossings
  - A mitigation strategy where there is the potential to impact on invasive non-native species. This should include measures to control, remove or for the long-term management of invasive non-native species during construction. Such a strategy shall accord with most recent guidance issued by the relevant statutory authority and led with the input of a specialist contractor if required.
  - Measures to avoid disturbance to protected habitats/species or those covered under Section 7 of the Environment (Wales) Act 2016, including relevant biosecurity risk assessment. This should be informed by update surveys relevant to a further condition.
  - Measures to protect protected and notable species during construction and avoidance measures.
- (vi) Soil Management: details of topsoil strip, storage (including the requirement to cover soil stockpiles to prevent absorbing rainfall) and amelioration for re-use.
- (vii) Control of Nuisances: details of restrictions to be applied during construction including timing, duration and frequency of works; details of measures to minimise noise and vibration; details of dust control measures and methods to monitor dust emissions; measures to control light spill and the conservation of dark skies.
- (viii) Resource Management: details of fuel and chemical storage and containment; details of waste generation and its management; details of water consumption, wastewater and energy use
- (ix) Traffic Management: details of site deliveries, plant on site, wheel wash facilities; dedicated vehicle access routes and habitat protection measures;
- (x) Pollution Prevention: demonstrate how relevant Guidelines for Pollution Prevention and best practice will be implemented, including details of emergency spill procedures, oil interceptors, bunds or sediment traps to prevent run-off into reens and field ditches and incident response plan
- (xi) Details of the persons and bodies responsible for activities associated with the SCEMP and emergency contact details.
- (xii) Landscape/ecological clerk of works to ensure construction compliance with approved plans and environmental regulations;
- (xiii) The times during construction when specialist ecologists need to be present on site to oversee works.
- (xiv) The role and responsibilities on site of a suitably competent Ecological Clerk of Works (ECoW).
- (xv) Reen and field ditch location plans to inform construction access routes and compound locations so to avoid sensitive places.

The SCEMP shall be implemented as approved during the site preparation and construction phases of the development.

Reason: In the interests of highway safety, and protection of the environment and public amenity during construction in accordance with Local Development Plan Policies T5 (Managing Transport Impacts), T6 (Impact on Transport Networks and Services), EN6 (Ecological Networks and Features of Importance for Biodiversity), EN7 (Priority Habitats and Species), EN10 (Water Sensitive Design), and EN13 (Air, Noise, Light Pollution and Land Contamination).

#### 8. STRATEGIC GREEN INFRASTRUCTURE MANAGEMENT SCHEME (SGIMS)

No reserved matters applications shall be submitted until a Strategic Green Infrastructure Management Scheme (SGIMS) for the whole outline permission site for the delivery and on-going management, maintenance and monitoring of green and blue infrastructure comprising the ecological, arboricultural, landscape, soil, open space, SUDS and water resource, has been submitted to and approved in writing by the Local Planning Authority. The SGIMS shall cover the construction and operational phases and a longer-term period (up to 25 years and beyond). The SGIMS shall include details and an implementation programme for the following:

- (i) Outline proposals for the protection, creation, translocation, diversion, enhancement, long-term management and maintenance of habitats (including scheduling and timing), including woodlands; hedgerows and trees; scrub; species rich dry and wet grasslands; reens; field ditches; highway trees/verges and road crossings, and other habitat providing foraging, community and breeding opportunities for protected species. This should include aims and objectives of management, an introduction to each feature, the prescription from creation to management, their desired condition, key indicators to show when the desired condition has been achieved, suitable protection zones, work schedule and cover a minimum of 25 years, with reviews at 5 year intervals. The details of the body or organization responsible for implementation of the plan should also be provided plus any legal or funding mechanisms. Any failures in planting shall be managed in accordance with the principles outlined in the Framework SSSI Mitigation, Management and Monitoring Strategy.. An outline plan should be produced showing habitats to be lost, enhanced, created, retained and translocated.
- (ii) Outline proposals for the delivery of green corridors including the wildlife corridor and main park which shall include plans and outline details of habitat composition and layout, the location of new, enhanced, translocated and retained planting and the phasing of that provision;
- (iii) A lighting design strategy for biodiversity including a dark corridor plan for biodiversity which shall:
  - Identify those areas/features on site that are particularly sensitive for bats, dormice, otter, water vole, barn owl and badgers and that are likely to cause disturbance in or around their breeding sites

and resting places or along important routes used to access key areas of their territory, for example for foraging;

- Show how and where external lighting will be installed (through the provision of appropriate lighting contour plans and technical specifications) so that it can be clearly demonstrated that the light spill will not exceed 0.5 lux in dark corridors and will not disturb or prevent the above species using their territory or having access to their breeding and resting places. Particular areas to consider are light spill on linear features; reens and hedgerows, the dark corridor and generally unnecessary spill on retained or created habitats.
- For all species to some degree consider; lighting direction, hooding, using minimum height and passive infrared on timers. Where possible, all lighting should be below 2700K and therefore a wavelength above 550nm.

All external lighting shall be installed in accordance with the specifications and locations set out in the strategy, and these shall be maintained thereafter in accordance with the strategy. Under no circumstances should any other external lighting be installed without prior consent from the Local Planning Authority.

- (iv) An overarching “Reptile Mitigation Strategy” that deals with the presence of reptiles within the site. The strategy shall include the location of suitable receptor sites for any animals that may require translocation. In essence, this shall include the location/size of the onsite receptor and its preparation, toolbox talk, outline translocation strategy, monitoring requirements, site management, timetable, and appropriate drawings.
- (v) Overarching Otter & Water Vole Conservation Strategies
- (vi) A Biosecurity Risk Assessment for the management of invasive non-native species (INNS) including measures to control, remove or provide long-term management of invasive non-native species both during construction and operation. The assessment shall accord with most recent guidance issued by the relevant statutory authority and led with the input of a specialist contractor if required;
- (vii) Biodiversity Enhancement Plan - A plan showing the location and short specification of the ‘embedded design’ and ‘additional’ enhancements for each habitat and species

The approved SGIMS, and any subsequent amendments, shall be implemented in accordance with the approved details and programme for implementation. The development and green infrastructure management shall be carried out in accordance with the approved details.

Reason: To protect and enhance the Green Infrastructure resource of the site, in accordance with Local Development Plan Policies KP15 (Climate Change), KP16 (Green Infrastructure) EN5 (Designated Sites), EN6 (Ecological Networks and Features of Importance for Biodiversity), EN7 (Priority Habitats and Species) EN8 (Trees, Woodlands and Hedgerows) and EN13 (Air, Noise, Light Pollution and Land Contamination)

**PHASE-SPECIFIC CONDITIONS** (covering each phase identified under the phasing/delivery plan)

9. GREEN INFRASTRUCTURE MANAGEMENT SCHEME (PHASE)

For each phase (or sub-phase) of development, each Reserved Matters submission shall be accompanied by a GIMS identifying how the submission complies with the objectives of the Strategic GIMS for the delivery, specification and on-going management, maintenance and monitoring of the green and blue infrastructure. The development and green infrastructure management shall thereafter be carried out in accordance with the approved details.

Reason: To protect and enhance the Green Infrastructure resource of the site, in accordance with Local Development Plan Policy KP16 (Green Infrastructure).

10. CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (phase)

No development shall take place in any phase or subphase of development (including site clearance, but with the exception of vegetation clearance, early planting and other measures associated with Dormouse mitigation) until such time as a detailed Phase Construction Environmental Management Plan (Phase CEMP) for that phase of the development has been submitted to and approved in writing by the Local Planning Authority. The Phase CEMP shall address the issues set out in the Strategic Construction Environmental Management Plan (SCEMP) in detail and as relevant to the phase of works. The approved CEMP for that phase shall be adhered to and implemented throughout the construction phase strictly in accordance with the approved details.

Reason: In the interests of highway safety, and protection of the environment and public amenity in accordance with Local Development Plan Policies T5 (Managing Transport Impacts), T6 (Impact on Transport Networks and Services), EN7 (Priority Habitats and Species), EN10 (Water Sensitive Design), and EN13 (Air, Noise, Light Pollution and Land Contamination).

11. ECOLOGY DATA SHELF LIFE

Any reserved matters submission for each phase of development shall be accompanied by an ecological statement which shall incorporate the findings of any necessary additional ecological surveys. The approved ecological measures secured (through other planning conditions) shall also be reviewed and, where necessary, amended and updated. The review shall be informed by such further ecological surveys commissioned to:

- i) establish if there have been any changes in the presence and/or abundance of reptiles, barn owl, amphibians, otter, water vole, invertebrates, dormouse, badger, bats including roost potential of trees, invasive non-native species and protected species, habitats/vegetation communities; and
- ii) identify any likely new ecological impacts that might arise from any changes.

The update reptile surveys shall ensure reptile refugia covers suitable habitats across the site and south of the railway within the mitigation land.

Where the survey results indicate that changes have occurred that will result in ecological impacts not previously addressed in the approved scheme, the original approved ecological measures shall be revised, and new or amended measures, and a timetable for their implementation, shall be submitted to and approved in writing by the Local Planning Authority prior to the commencement of development of the relevant phase. Works shall then be carried out in accordance with the proposed new approved ecological measures and timetable.

Reason: To ensure that the assessment of the impacts of the development upon the species concerned, and any measures to mitigate those impacts, are informed by up-to-date information to comply with the provisions of the Conservation of Habitats and Species Regulations 2017 (as amended), the Wildlife and Countryside Act 1981 (as amended), the Section 6 Duty of the Environment (Wales) Act 2016, and Local Development Plan Policy EN7 (Priority Habitats and Species).

## 12. SHADING ASSESSMENT

Details submitted in relation to the reserved matters relating to layout and scale in compliance with Condition 1 (as appropriate for the relevant phase or part thereof), shall be accompanied by a shading assessment that demonstrates that no unacceptable harm will occur to the SSSI features (ditch habitats) and dormouse compensation habitat.

Reason: To ensure for the protection of priority habitats and species in accordance with Local Development Plan Policies EN6 (Ecological Networks and Features of Importance for Biodiversity) and EN7 (Priority Habitats and Species).

## 13. REPTILE MITIGATION STRATEGY (Phase)

Prior to the commencement of each phase of the development, a detailed mitigation strategy shall be submitted to deal with the presence of reptiles within the relevant phase. The strategy shall include the location of suitable receptor sites for any animals being translocated (if this is deemed the appropriate approach following update surveys). The strategy shall be submitted to and approved in writing by the Local Planning Authority and shall thereafter be fully implemented in accordance with the approved details.

Reason: To ensure for the protection of reptiles and their habitats in accordance with Local Development Plan Policy EN7 (Priority Habitats and Species).

## 14. WATER QUALITY MITIGATION STRATEGY

No development shall take place in any phase or subphase of development (as identified in above) ((including site clearance, but with the exception of vegetation clearance, early planting and other measures associated with Dormouse mitigation) including demolition, ground works, vegetation

clearance) until such time as the '*Cardiff Parkway, Cardiff Hendre Lakes, Framework SSSI Mitigation, Management and Monitoring Strategy*', produced by Arup, dated December 2021 has been updated to assess water quality impacts of the SSSI and has been submitted to and approved in writing by the Local Planning Authority. The report shall include details of water quality mitigation, management and monitoring. The strategy shall thereafter be fully implemented in accordance with the approved details.

Reason: To ensure for the protection of water quality in the watercourses on site and manage any potential adverse impacts as a result of development on protected sites, in accordance with Local Development Plan Policy EN5 (Designated Sites).

#### 15. TREE RETENTION

Notwithstanding the submitted Arboricultural Technical Note (17 December 2021), the first reserved matters submission for each phase (or part thereof) of raised development plateaus and associated infrastructure shall fully explore options to retain Category A and B trees. Specific consent shall be required by for their removal.

Reason: To avoid unacceptable harm to trees of significant value in accordance with Local Development Plan Policy EN8 (Trees, Woodlands and Hedgerows).

#### 16. TREE PROTECTION

Prior to the commencement of any phase of development (or part thereof) the following shall be submitted to and approved in writing by the Local Planning Authority (LPA) in accordance with the current British Standard 5837:

- (i) An Arboricultural Impact Assessment (AIA);
- (ii) An Arboricultural Method Statement (AMS) detailing the methods to be used to prevent loss of or damage to retained trees within and bounding the site, and existing structural planting or areas designated for new structural planting. The AMS shall include details of site monitoring of tree protection and tree condition by a qualified arboriculturist, undertaken throughout the development and after its completion, to monitor tree condition. This shall include the preparation of a chronological programme for site monitoring and production of site reports, to be sent to the LPA during the different phases of development and demonstrating how the approved tree protection measures have been complied with.
- (iii) A Tree Protection Plan (TPP) in the form of a scale drawing showing the finalised layout and the tree and landscaping protection methods detailed in the AMS that can be shown graphically.

The development shall be carried out in full conformity with the approved AMS and TPP.

Reason: To enable the Local Planning Authority to assess the effects of the proposals on existing trees and landscape; the measures for their protection; to monitor compliance and to make good losses in accordance with Local Development Plan Policy EN8 (Trees, Woodlands and Hedgerows)

## 17. LANDSCAPING

Details in relation to the reserved matters relating to landscaping in compliance with Condition 1 shall include (as appropriate for the relevant phase or part thereof):

- A soft landscaping implementation programme.
- Scaled planting plans prepared by a qualified landscape architect.
- Evidence to demonstrate that existing and proposed services, lighting, CCTV, drainage and visibility splays will not conflict with proposed planting.
- Schedules of plant species, sizes, numbers and densities prepared by a qualified landscape architect.
- Scaled tree pit sectional and plan drawings prepared by a qualified landscape architect that show the Root Available Soil Volume (RASV) for each tree.
- Topsoil and subsoil specification for all planting types, including full details of soil assessment in accordance with the Cardiff Council Soils and Development Technical Guidance Note, soil protection, soil stripping, soil storage, soil handling, soil amelioration, soil remediation and soil placement to ensure it is fit for purpose. Where imported planting soils are proposed, full specification details shall be provided including the parameters for all imported planting soils, a soil scientists interpretive report demonstrating that the planting soil not only meets British Standards, but is suitable for the specific landscape type(s) proposed. The specification shall be supported by a methodology for storage, handling, amelioration and placement.
- Planting methodology and post-planting aftercare methodology prepared by a qualified landscape architect, including full details of how the landscape architect will oversee landscaping implementation and report to the LPA to confirm compliance with the approved plans and specifications.

The submitted details shall be consistent with other plans submitted in support of the application and the landscaping shall be carried out in accordance with an approved design and implementation programme.

Reason: To enable the Local Planning Authority to determine that the proposals will maintain and improve the amenity and environmental value of the area, and to monitor compliance in accordance with Local Development Plan Policy KP 16 (Green Infrastructure).

18. WRITTEN SCHEME OF ARCHAEOLOGICAL MITIGATION

No development shall take place in any phase or subphase of development (as identified in condition 5 above) (including demolition, ground works, vegetation clearance) until such time as the applicant, or their agents or successors in title, has secured agreement for a written scheme of historic environment mitigation which has been submitted to and approved by the Local Planning Authority. Thereafter, the programme of work shall be carried out in accordance with the requirements and standards of the written scheme.

Reason: To identify and record any features of archaeological interest discovered during the works, in order to mitigate the impact of the works on the archaeological resource in accordance with Local Development Plan Policies KP17 (Built Heritage) and EN9 (Conservation of the Historic Environment).

19. FLOORSPACE QUANTUM (BY ZONE/PHASE)

Notwithstanding the Parameter Plan hereby approved, the first reserved matters submission seeking detailed approval for each zone/phase shall demonstrate how the quantum of floorspace for each zone/phase can be achieved in the most visually sensitive manner.

Reason: To ensure good quality and sustainable design in accordance with Local Development Plan Policy KP5 (Good Quality and Sustainable Design).

20. GROUND GAS PROTECTION

No development shall take place in any phase or subphase of development (as identified in condition 5 above) ((including site clearance, but with the exception of vegetation clearance, early planting and other measures associated with Dormouse mitigation) until such time as a scheme to investigate and monitor the site for the presence of gases\* being generated at the site or land adjoining thereto, including a plan of the area to be monitored, has been submitted to and approved in writing by the Local Planning Authority.

Following completion of the approved monitoring scheme, the proposed details of appropriate gas protection measures to ensure the safe and inoffensive dispersal or management of gases and to prevent lateral migration of gases into or from land surrounding the application site shall be submitted to and approved in writing to the LPA. If no protection measures are required than no further actions will be required.

All required gas protection measures shall be installed and appropriately verified before occupation of any part of the development which has been permitted and the approved protection measures shall be retained and maintained until such time as the Local Planning Authority agrees in writing that the measures are no longer required.

'Gases' include landfill gases, vapours from contaminated land sites, and naturally occurring methane and carbon dioxide, but does not include radon gas. Gas Monitoring programmes should be designed in line with current best



practice as detailed in CIRIA 665 and BS 8485:2015+A1:2019 Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings.

Reason: To ensure that the safety of future occupiers is not prejudiced in accordance with Local Development Plan Policy EN13 (Air, Noise, Light Pollution and Land Contamination).

## 21. CONTAMINATED LAND MEASURES – ASSESSMENT

No development shall take place in any phase or subphase of development (as identified in condition 5 above) (including demolition, ground works, vegetation clearance) until such time as an assessment of the nature and extent of contamination has been submitted to and approved in writing by the Local Planning Authority. This assessment must be carried out by or under the direction of a suitably qualified competent person \* in accordance with BS10175 (2011) Code of Practice for the Investigation of Potentially Contaminated Sites and shall assess any contamination on the site, whether or not it originates on the site. The report of the findings shall include:

- (i) a desk top study to identify all previous uses at the site and potential contaminants associated with those uses and the impacts from those contaminants on land and controlled waters. The desk study shall establish a 'conceptual site model' (CSM) which identifies and assesses all identified potential source, pathway, and receptor linkages;
- (ii) an intrusive investigation to assess the extent, scale and nature of contamination which may be present, if identified as required by the desk top study;
- (iii) an assessment of the potential risks to:
  - human health,
  - groundwaters and surface waters
  - adjoining land,
  - property (existing or proposed) including buildings, crops, livestock, pets, woodland and service lines and pipes,
  - ecological systems,
  - archaeological sites and ancient monuments; and
  - any other receptors identified at (i)
- (iv) an appraisal of remedial options, and justification for the preferred remedial option(s).

All work and submissions carried out for the purposes of this condition must be conducted in accordance with the Environment Agency's 'Land contamination: risk management (LCRM)' (October 2020) and the WLGA / WG / NRW guidance document 'Land Contamination: A guide for Developers' (2017) unless the Local Planning Authority agrees to any variation.

\* A 'suitably qualified competent person' would normally be expected to be a chartered member of an appropriate professional body (such as the Institution of Civil Engineers, Geological Society of London, Royal Institution of Chartered Surveyors, Institution of Environmental Management) and also have relevant experience of investigating contaminated sites.

Reason: To ensure that information provided for the assessment of the risks from land contamination to the future users of the land, neighbouring land, controlled waters, property and ecological systems is sufficient to enable a proper assessment in accordance with Local Development Plan Policy EN13 (Air, Noise, Light Pollution and Land Contamination).

## 22. CONTAMINATED LAND MEASURES – REMEDIATION & VERIFICATION PLAN

No development shall take place in any phase or subphase of development (as identified in condition 5 above) (including demolition, ground works, vegetation clearance) until such time as a detailed remediation scheme and verification plan to bring the site to a condition suitable for the intended use by removing any unacceptable risks to human health, controlled waters, buildings, other property and the natural and historical environment shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall include all works to be undertaken, proposed remediation objectives and remediation criteria, a timetable of works and site management procedures. The scheme must ensure that the site will not qualify as contaminated land under Part 2A of the Environmental Protection Act 1990 in relation to the intended use of the land after remediation.

All work and submissions carried out for the purposes of this condition must be conducted in accordance with the Environment Agency's 'Land contamination: risk management (LCRM)' (October 2020) and the WLGA / WG / NRW guidance document 'Land Contamination: A guide for Developers' (2017) unless the Local Planning Authority agrees to any variation.

Reason: To ensure that any unacceptable risks from land contamination to the future users of the land, neighbouring land, controlled waters, property and ecological systems are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors in accordance with Local Development Plan Policy EN13 (Air, Noise, Light Pollution and Land Contamination).

## 23. CONTAMINATED LAND MEASURES - REMEDIATION & VERIFICATION

The remediation scheme approved by condition 22 shall be fully undertaken in accordance with its terms prior to the occupation of any part of the development. The Local Planning Authority shall be given two weeks written notification of commencement of the remediation scheme works.

Within 6 months of the completion of the measures identified in the approved remediation scheme, a verification report that demonstrates the effectiveness of the remediation carried out shall be submitted to the Local Planning Authority for approval. Any recommendations for additional remediation shall be

undertaken in accordance with the approved details and in accordance with an approved timetable.

All work and submissions carried out for the purposes of this condition must be conducted in accordance with the Environment Agency's 'Land contamination: risk management (LCRM)' (October 2020) and the WLGA / WG / NRW guidance document 'Land Contamination: A guide for Developers' (2017).

Reason: To ensure that any unacceptable risks from land contamination to the future users of the land, neighbouring land, controlled waters, property and ecological systems are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors in accordance with Local Development Plan Policy EN13 (Air, Noise, Light Pollution and Land Contamination).

#### 24. ROAD CONSTRUCTION DETAILS

No development shall take place in any phase or subphase of development (as identified in condition 5 above) ((including site clearance, but with the exception of vegetation clearance, early planting and other measures associated with Dormouse mitigation) until detailed plans showing the position and form of construction of all roads, footpaths, cycleways and verges within that phase or subphase and the method of disposal of all surface water have been submitted to and approved in writing by the Local Planning Authority. The approved details shall be implemented to the satisfaction of the Local Planning Authority prior to beneficial occupation of the relevant phase or subphase.

Reason: To ensure an orderly form of development and in the interests of highway safety, by facilitating safe commodious access to and use of the proposed development in accordance with Local Development Plan Policies T5 (Managing Transport Impacts) and T6 (Impact on Transport Networks and Services).

#### 25. VEHICLE ACCESS JUNCTION DESIGN

Details in relation to the reserved matters relating to access and layout in compliance with Condition 1 shall include (as appropriate for the relevant phase or part thereof) the scale and form of the four site junctions at Cypress Drive, Cypress Drive/Sandbrook Road, and Cobol Road. The details shall include, but not be limited to:

- a. Bus priority measures (incorporating bus gate at Cypress Drive/Sandbrook Road)
- b. Dedicated / segregated cycle and pedestrian facilities (including pedestrian / cycle crossing facilities) including (where appropriate) connections to Cycleway 2 (as shown on the Council's Integrated Network Map: Cycling)
- c. signalised control at Cypress Drive and Cypress Drive/Sandbrook Road including all necessary ducting and cabling

Reason: To ensure the highway modifications and junctions provide an improved public realm environment and to facilitate safe commodious access/egress to the proposed development in accordance with Local

Development Plan Policies T5 (Managing Transport Impacts) and T6 (Impact on Transport Networks and Services).

## 26. OFF-SITE HIGHWAY IMPROVEMENTS

As part of the first reserved matters submission for Phase 1, updated traffic surveys (conducted by the applicant in accordance with a scope that shall first have been agreed in writing by the Highway Authority) and an associated Transport Assessment shall be submitted to the Local Planning Authority. The Assessment shall incorporate full details of a programme of highway improvement works and active travel / public transport improvements necessary to mitigate the identified impacts of the development, and shall include a phased implementation timetable for such works.

No development shall be commenced on each phase until such programme of works has been approved in writing by the Local Planning Authority. The highway improvement works and active travel / public transport improvements approved under this condition (in conjunction with the associated reserved matters application) shall be implemented in full accordance with the approved timetable (subject to the following review process).

Thereafter, the first reserved matters application for each subsequent phase (as approved under condition 5) shall be accompanied by further traffic surveys / assessment (as appropriate) incorporating a review of the approved programme of works / timetable. The highway improvement works and active travel / public transport improvements shall be implemented in full accordance with the approved scheme and timetable, or such other scheme that may be approved in writing by the local planning authority under this review process prior to commencement of each subsequent phase.

For the purposes of completeness, based on the submissions at outline stage, the expectations are that the following works should be provided / addressed as part of the works required under this condition: -

- 1) traffic signalisation on Cypress Drive at the junctions with Fortran Road, Pascal Close, Willowdene Way and Newport Road/A48 slips, to include the design and installation of traffic signal controls, traffic pre-signal controls, signalised pedestrian / cycle crossings, bus gates at Willowdene Way and bus priority locations, all taking full account of Cycleway 2 (as shown on the Council's Integrated Network Map: Cycling) and associated bus priority measures;
- 2) CCTV camera infrastructure (including all ducting, cabling, etc) at junctions and between junctions
- 3) Accessible and safely-located maintenance bays for equipment, including signals;
- 4) Appropriate and accessible locations for cabinets;
- 5) Provision of fibre infrastructure along the length of Cypress Drive;
- 6) Bus lane enforcement ANPR infrastructure for any bus lanes / bus priority;
- 7) Detection loops;

- 8) Incorporation of UTC, SCOOT MOVA, or other appropriate system following agreements with Cardiff Council;
- 9) Variable Message Sign (VMS) and associated infrastructure on Newport Road and A48 prior to Cypress Drive/Newport Road junction;
- 10) Clear and uncongested access to any crossings and push buttons for all users;
- 11) Bus stop facilities, including details of existing stops, new stops and any proposed relocations. Bus stop locations shall be agreed with Cardiff Council in consultation with bus operators.

Reason: In the interest of highway safety and to limit the impact of vehicular congestion on the adjacent highway and prioritise active travel and public transport movements in accordance with Local Development Plan Policies T5 (Managing Transport Impacts) and T6 (Impact on Transport Networks and Services).

## 27. SIGNAGE STRATEGY

No development shall take place in any phase or subphase of development (as identified in condition 5 above) (including demolition, ground works, vegetation clearance) until a signage strategy for that phase has been submitted to and approved in writing by the Local Planning. The signage strategy shall:

- (i) direct users to appropriate facilities (including Park & Ride car park, railway station, station drop-off point, business area).
- (ii) Provide electronic / digital real-time car park occupancy signage to advise potential users of the railway station Park & Ride car park real-time advance information detailing the availability and quantum of parking spaces.
- (iii) Show signage locations on routes leading to the A48/Newport Road /Cypress Drive junction advising of car parking availability within the site car parks.
- (iv) Incorporate all appropriate facilities (such as, ducting, cabling, communications, cameras, loops, etc) required to provide a functional advice system.

The approved strategy shall be implemented in accordance with the approved details prior to the beneficial use of any part of the relevant phase of development.

Reason: In the interest of highway safety and to limit the impact of vehicular congestion on the adjacent highway in accordance with Local Development Plan Policies T5 (Managing Transport Impacts) and T6 (Impact on Transport Networks and Services).

## 28. CAR PARK MANAGEMENT PLAN

Details submitted in relation to the reserved matters relating to access and layout in compliance with Condition 1 shall include a car parking management plan (CPMP) for that phase. The CPMP shall include full details (where appropriate) for the control, management and monitoring of;

- (i) the railway station Park & Ride car park to ensure that it is for railway users only;
- (ii) the business park car parking provision; and
- (iii) parking demand in external streets or the existing business park.

The CPMP shall ensure that car parking provision across the development (excluding the station park and ride) is phased in accordance with mitigation measures to manage vehicular traffic accessing the site by total vehicular numbers, by time period, or other (to be determined as part of the car park management plan) to better facilitate highway capacity. Parking demand and occupancy surveys and classified traffic counts at the junction of Newport Road/Cypress Drive shall be undertaken to inform the nature of any mitigation interventions required prior to the beneficial occupation of any element of each phase of development. The size of the car park may be a mitigating factor in the management of highways.

Reason: In the interest of traffic management, highway safety, to limit the impact of the congestion on the adjacent highway, to control car parking layouts and effectively manage future traffic demand on the surrounding traffic network in accordance with Local Development Plan Policy T6 (Impact on Transport Networks and Services)

#### 29. NEWPORT ROAD/CYPRESS DRIVE JUNCTION TRAFFIC MONITORING

No phase (or part thereof) of the development hereby approved shall be occupied until a traffic monitoring strategy for that phase has been submitted to and approved in writing by the Local Planning Authority. The submitted details shall include the methodology to record full turning movements by mode. The results of the traffic surveys shall be submitted to the Local Planning Authority annually from the date of the first traffic survey and to 5 years beyond final occupation.

Reason: To allow full monitoring, reporting and assessment of the impact of the proposed development in accordance with Local Development Policy T6 (Impact on Transport Networks and Services)

#### 30. HIGHWAY AND PUBLIC REALM WORKS

No development shall take place in any phase or subphase (as identified in condition 5 above) (including demolition, ground works, vegetation clearance) until a scheme of highway and public realm works to any footways, cycleways, carriageways, verges and junctions that form and adjoin the site have been submitted to and approved in writing by the Local Planning Authority. Each scheme shall include full details of the required works, including construction make-up, surfacing, kerbs, edging, drainage, lighting, lining, signing, telematics/signals, traffic regulation orders, trees, soft and hard landscaping, bus stops/shelters and other street furniture as may be required as a consequence of the scheme. The agreed scheme shall be implemented to the written satisfaction of the Local Planning Authority prior to beneficial occupation of that part of the development.

Reason: To ensure the provision of the development, highway modifications and junctions to provide an improved public realm environment in accordance with the permission and to facilitate safe commodious access to and use of the proposed development in accordance with Local Development Plan Policies T5 (Managing Transport Impacts) and T6 (Impact on Transport Networks and Services).

### 31. CYCLE PARKING STRATEGY

The first reserved matters submission creating floorspace for each phase (or part thereof) shall include a strategy for the secure parking of cycles for that phase.

Reason: To ensure for the secure parking of cycles in accordance with Local Development Plan Policies T1 (Walking and Cycling) and T5 (Managing Transport Impacts).

### 32. ELECTRIC VEHICLE CHARGING

Details in relation to the reserved matters relating to access and layout in compliance with Condition 1 shall include (as appropriate for the relevant phase or part thereof) the provision of Electric Vehicle (EV) charging infrastructure for a minimum of 10% of the overall number of spaces for that phase. 20% of all car parking shall be provided with the necessary ducting for future electric charging points and a minimum of 10% of the car parking provision shall be EV operational prior to first occupation of the relevant phase.

Reason: To ensure for the provision of a satisfactory car park layout and that appropriate provision is made for Electric Vehicle charging in accordance with Future Wales Policy 12 (Regional Connectivity).

## **REGULATORY CONDITIONS**

### 33. NESTING BIRDS

No clearance of hedgerows, trees, bushes or shrubs shall take place between 1st March and 15th August unless the Local Planning Authority has first approved such works in advance in writing following submission of a report demonstrating that there are no birds nesting in this vegetation immediately (48 hrs) before works commence.

Reason: To avoid disturbance to nesting birds which are protected under the Wildlife and Countryside Act 1981: Part 1 1(1)(b), under which it is an offence to intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built, in accordance with Local Development Plan Policies EN6 (Ecological Networks and Features of Importance for Biodiversity) and EN7 (Priority Habitats and Species).

#### 34. BUFFER ZONES

No soils or other materials shall be placed, nor shall any movement of vehicles occur (except for maintenance purposes or for works and/or vehicle movements associated with the construction of reens/ditch crossings), within 12.5 metres of the top edge of the bank of any reen or within 7 metres of the top edge of the bank of any field ditch as detailed in Cardiff Hendre Lakes Environmental Statement, Chapter 7 Biodiversity OPA Addendum, dated 17<sup>th</sup> December 2021, produced by Arup.

Reason: To conserve and enhance the nature conservation interest of the Gwent Levels: Rumney and Peterstone Site of Special Scientific Interest in accordance with Local Development Plan Policy EN5 (Designated Sites).

#### 35. HERITAGE INTERPRETATION SCHEME

Prior to the first beneficial use of the development a Heritage Interpretation Scheme explaining the development of the Historic Landscape shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall comprise Heritage Interpretation Boards in appropriate locations which shall be installed on site in accordance with the agreed details prior to the beneficial use of the development (or any other such programme of implementation that may be agreed in the scheme) and retained as such thereafter.

Reason: To ensure the historic mitigation measures are implemented in accordance with Local Development Plan Policies KP17 (Built Heritage) and EN9 (Conservation of the Historic Environment).

#### 36. PUBLIC ART STRATEGY

No part of the development shall be occupied until a public art strategy has been submitted to and approved in writing by the Local Planning Authority. The strategy shall include details of procurement, a timetable for implementation and a maintenance schedule. The approved public art shall be provided prior to the completion of the relevant phase and maintained in accordance with the approved details.

Reason: In the interests of visual amenity and the creation of a quality and legible built environment in accordance with Local Development Policy KP5 (Good Quality and Sustainable Design).

#### 37. PLANT NOISE

Prior to beneficial use of any unit or operation of the station, a BS 4142: 2014 +A1 2019 (or any British Standard amending or superseding that standard) Noise Impact Assessment shall be submitted to and approved in writing by the Local Planning Authority. The Assessment shall demonstrate that noise from fixed plant and equipment does not exceed 5db below background noise level at the nearest noise sensitive premises. For units that operate as B8 class use the BS4142 assessment also shall assess the cumulative effect of noise from plant as well as associated vehicular movement. Where noise exceeds 5dB



below background noise mitigation shall be implemented prior to the beneficial use of the relevant premises and maintained thereafter.

Reason: To ensure that the amenities of future occupiers are protected in accordance with Local Development Plan Policy EN13 (Air, Noise, Light Pollution and Land Contamination).

#### 38. CONTAMINATED LAND MEASURES – UNFORESEEN CONTAMINATION

In the event that contamination is found at any time when carrying out the approved development that was not previously identified it must be reported in writing within 2 days to the Local Planning Authority, all associated works must stop, and no further development shall take place until a scheme to deal with the contamination found has been approved. An investigation and risk assessment must be undertaken and where remediation is necessary a remediation scheme and verification plan must be prepared and submitted to and approved in writing by the Local Planning Authority. Following completion of measures identified in the approved remediation scheme a verification report must be submitted to and approved in writing by the Local Planning Authority. The timescale for the above actions shall be agreed with the LPA within 2 weeks of the discovery of any unsuspected contamination.

Reason: To ensure that any unacceptable risks from land contamination to the future users of the land, neighbouring land, controlled waters, property and ecological systems are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors in accordance with Local Development Plan Policy EN13 (Air, Noise, Light Pollution and Land Contamination).

#### 39. IMPORTED SOILS

Any topsoil [natural or manufactured], or subsoil, to be imported shall be assessed for chemical or other potential contaminants in accordance with a scheme of investigation which shall be submitted to and approved in writing by the Local Planning Authority in advance of its importation. Only material approved by the Local Planning Authority shall be imported. All measures specified in the approved scheme shall be undertaken in accordance with the relevant Code of Practice and Guidance Notes. Subject to approval of the above, sampling of the material received at the development site to verify that the imported soil is free from contamination shall be undertaken in accordance with a scheme and timescale to be agreed in writing by the Local Planning Authority.

Reason: To ensure that the safety of future occupiers is not prejudiced in accordance with Local Development Plan Policy EN13 (Air, Noise, Light Pollution and Land Contamination).

#### 40. IMPORTED AGGREGATES

Any aggregate (other than virgin quarry stone) or recycled aggregate material to be imported shall be assessed for chemical or other potential contaminants in accordance with a scheme of investigation which shall be submitted to and approved in writing by the Local Planning Authority in advance of its

importation. Only material approved by the Local Planning Authority shall be imported. All measures specified in the approved scheme shall be undertaken in accordance with the relevant Code of Practice and Guidance Notes. Subject to approval of the above, sampling of the material received at the development site to verify that the imported material is free from contamination shall be undertaken in accordance with a scheme and timescale to be agreed in writing by the Local Planning Authority.

Reason: To ensure that the safety of future occupiers is not prejudiced in accordance with Local Development Plan Policy EN13 (Air, Noise, Light Pollution and Land Contamination)

#### 41. USE OF SITE WON MATERIALS

Any site won material including soils, aggregates, recycled materials shall be assessed for chemical or other potential contaminants in accordance with a sampling scheme which shall be submitted to and approved in writing by the Local Planning Authority in advance of the reuse of site won materials. Only material which meets site specific target values approved by the Local Planning Authority shall be reused.

Reason: To ensure that the safety of future occupiers is not prejudiced in accordance with Local Development Plan Policy EN13 (Air, Noise, Light Pollution and Land Contamination).

#### 42. FOUL WATER CONNECTION

Only foul water from the development site shall be allowed to discharge to the public sewerage system and this discharge shall be made at the 1040mm combined sewer between manhole reference number ST24804501 and ST24804401. The sewerage connection shall be made prior to the beneficial use of the development hereby approved.

Reason: To prevent hydraulic overloading of the public sewerage system, to protect the health and safety of existing residents and ensure no pollution or detriment to the environment to ensure compliance with Local Development Plan Policy EN10 (Water Sensitive Design).

#### 43. FLOOD STORAGE AREA

Provision of compensatory flood storage to protect third parties from flood risk shall be provided in accordance with the details in the Hendre Lakes FCA Addendum (JBA Consulting, 10 August 2021).

Reason: To protect third parties from any flood risk in accordance with Local Development Plan Policy KP15 (Climate Change) and EN14 (Flood Risk).

#### 44. HEOL LAS ACTIVE TRAVEL ROUTE

The Southern Active Travel Route connecting Heol Las with the station phase (Access F on Figure 53 'Primary Access Points, Design and Access Statement, December 2021) (or such other replacement that might be agreed under this condition) shall be constructed and completed prior to beneficial use of any part of that phase of development in accordance with details that shall first have

been submitted to and approved in writing by the Local Planning Authority. The approved details shall ensure that the route serves both pedestrian and cyclists. Reason: To ensure early provision of an active travel route to the east of the site to enable people to satisfactorily access the development by active travel modes in accordance with Local Development Plan Policy T1 (Walking and Cycling).

#### 45. STATION PARK AND RIDE

The railway station park and ride shall provide for a minimum of 600 long stay park and ride spaces, which shall be fully laid out and available for use prior to the new station being first brought into beneficial operation. Future expansion areas shall be appropriately set out, quantified and safeguarded for such use in the relevant reserved matter submission.

Reason: To ensure sufficient and satisfactory provision is made for the needs of public transport users in accordance with Local Development Plan Policy T3 (Transport Interchanges).

#### 46. EMPLOYMENT TRAVEL PLAN

No part of the development hereby approved shall be occupied until an Employment Travel Plan (ETP) has been submitted to and approved in writing by the Local Planning Authority in relation to that particular part. The ETP shall set out proposals and targets, together with a timetable to limit or reduce the number of single occupancy car journeys to and from that part of the site, and to promote travel by sustainable modes. The ETP shall set out proposals to implement and manage the Travel Plan through a designated Travel Plan Coordinator. The ETP shall be implemented in accordance with the timetable which shall be set out in the plan or in accordance with a revised timetable which shall first be agreed in writing by the Local Planning Authority. Reports demonstrating progress in promoting the sustainable transport measures detailed in the Travel Plan shall be submitted annually to the Local Planning Authority for approval in writing for a period of 5 years beyond final occupation of each particular part of the employment development, commencing from the first anniversary of beneficial occupation.

Reason: To encourage sustainable transport to limit the impact of the development on use of the adjacent highway and effect modal shift to non-car modes in accordance with Local Development Plan Local Development Plan Policies T5 (Managing Transport Impacts) and T6 (Impact on Transport Networks and Services).

### **RECOMMENDATION 3: R1 Construction Site Noise**

### **RECOMMENDATION 4: R4 Contamination and Unstable Land Advisory Notice**

**RECOMMENDATION 5:** Prior to the commencement of development, the developer shall notify the Local Planning Authority of the commencement of development, and shall display a site notice and plan on, or near the site, in accordance with the requirements of Article 12 of the Town & Country Planning (Development Management Procedure) (Wales) (Amendment) Order 2016

**RECOMMENDATION 6:** That the Applicant / Developer be advised of Dwr Cymru Welsh Water's advice regarding the public rising main crossing the site and applying for public sewer connections set out in their letter of 26 January 2022, forwarded to the Agent acting on behalf of the Applicant.

**RECOMMENDATION 7:** The applicant is advised that section 3.25 of Planning Policy Wales states that the land use planning system should take account of the conditions which are essential to the Welsh language and in so doing contribute to its use and the Thriving Welsh Language well-being goal. In this context and with regard to the Welsh Language (Wales) Measure 2011, it is recommended that: (1) developments adopt a Welsh name that is consistent with the local heritage and history of the area, (2) during the construction phase, on site marketing information (i.e. text on construction hoardings / flags / banners – as consented) be provided bilingually and (3) for commercial developments, shopfront / premises signage be provided in Welsh or bilingually. Where bilingual signage is provided, Welsh text must not be treated less favourably in terms of size, colour, font, prominence, position or location (it is recognised that Welsh translation does not extend to company / business names). Cardiff Council's Bilingual Cardiff team ([BilingualCardiff@cardiff.gov.uk](mailto:BilingualCardiff@cardiff.gov.uk)) can provide advice on unique and locally appropriate Welsh names for developments, bilingual marketing / branding and bilingual signage.

**RECOMMENDATION 8:** That the developer be advised that peak months to undertake reptile surveys are April and May. Surveys can also be undertaken in late August to late September. July and early August are generally less useful months for surveying due to higher temperatures during the day.

**RECOMMENDATION 9:** That the developer be advised that the archaeological work must be undertaken to the appropriate Standard and Guidance set by Chartered Institute for Archaeologists (CIfA), ([www.archaeologists.net/codes/ifa](http://www.archaeologists.net/codes/ifa)) and it is recommended that it is carried out either by a CIfA Registered Organisation ([www.archaeologists.net/ro](http://www.archaeologists.net/ro)) or an accredited Member.

**RECOMMENDATION 10:** That the developer be advised to contact Western Power Distribution and National Grid in respect of their apparatus on and within the vicinity of the site prior to any works commencing on site.

# 1. DESCRIPTION OF PROPOSED DEVELOPMENT

1.1 Outline planning permission is sought (with all matters reserved) for the construction of a business park (up to 90,000 square metres – Use Classes B1, B2 and B8), ancillary uses and associated infrastructure, biodiversity, landscape, drainage, walking, cycling and other transport modes. The application also includes the construction of a new transport hub facility comprising railway station buildings (up to 2,500 square metres – Use Class Sui Generis) including ancillary uses, 4 no. platforms, surface car park (up to 650 no. spaces) and associated infrastructure works, on land to the south of St Mellons Business Park.

1.2 Key components of the proposed development include:

### *Building Densities and Heights*

1.3 A minimum height of up to 6 storeys (24 metres) is proposed in the north and west of the site with a maximum height of 15 storeys (60 metres) around the railway station and transport interchange.

- Station zone: up to 15 storeys (60m) in Zone 1b around the station and up to 12 storeys (40m) in the western area, Zone 1a (see Figure 1 below).
- Campus zone: up to 12 storeys (48m) along the main access road and in the centre (Zone 2b) and up to 6 storeys (24m) along the western edge (Zone 2a).
- Northern/Western parcels: up to 6 storeys (24m) in Zones 3a and 3b. (a further 4m height may be required for rooftop plant in each case).

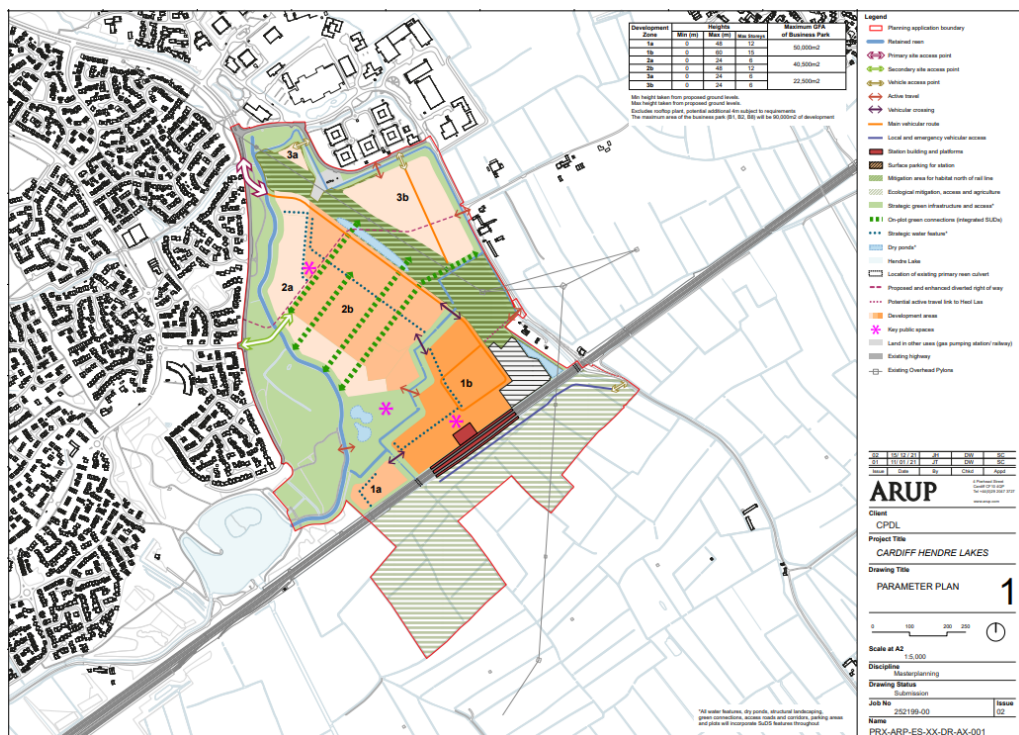


Figure 1: Proposed Parameter Plan

## Biodiversity

1.4 The application is located within the Gwent Levels (Rumney and Peterstone) Site of Special Scientific Interest) (SSSI) which is characterised by a network of reens, field ditches and hedgerows containing a wide variety of species. The application proposed to retain as much habitat as possible, creating new habitat where compensation is required and enhancing habitats for protected and notable species. Key components include:

- Proposed 'Wildlife Corridor' through the site from the northwest to southeast comprising new field ditches, hedgerows, woodland and grassland and new dormice habitat;
- 12.5 metre wide buffer zone either side of the Faendre, Ty Fynnon and Green Lane Reens;
- 7 metre wide buffer zone around proposed and retained field ditches;
- 1-2 metre verges of vegetation suitable for Water Vole foraging within the Ty Fynnon buffer zone;
- 4.04km of replacement field ditches to the south of the railway to replace 3.96km of field ditches that would be infilled to accommodate the development;
- 3.78km of species-rich intact hedgerow to replace 2.93km of hedgerow to be removed (0.21km of which is species-rich) to provide dormice habitat.
- 3.20 hectares of new woodland (of which 0.46 Ha would be wet woodland) (circa 5,120 individual trees) to replace 1.41 hectares of existing woodland;
- New species diverse grassland
- Creation of Main Park

1.5 Figure 2 below confirms the proposed tree retention and removal. 200 no. individual/feature trees are proposed in addition to the new woodland.

Trees															
Existing						Retained					Lost				
Category	A	B	C	U	Total	A	B	C	U	Total	A	B	C	U	Total
North of railway	2	68	16	2	88	0	25	4	0	29	2	43	12	2	59
Cardiff Council land (west)	0	11	17	0	28	0	11	17	0	28	0	0	0	0	0
South of railway	0	18	6	2	26	0	14	6	2	22	0	4	0	0	4
<b>Total</b>	<b>2</b>	<b>97</b>	<b>39</b>	<b>4</b>	<b>142</b>	<b>0</b>	<b>50</b>	<b>27</b>	<b>2</b>	<b>79</b>	<b>2</b>	<b>47</b>	<b>12</b>	<b>2</b>	<b>63</b>

Figure 2: Tree Removal/Retention

## Access and Movement

1.6 New access points and routes are proposed to create safe and convenient access to the site as follows:

- Main vehicle access at the northwest of the site providing direct access to the railway station and park and ride (Bus-based rapid transit corridor);
- Secondary vehicular access further south via Cypress Drive/Sandbrook Road (emergency access and public transport only);
- 2 no. new vehicle access points via Fortran Road to serve the northern development parcels.
- A hierarchy of streets for all modes of travel with 20mph or lower design speed
- Diverted Public Right of Way running east-west
- Dedicated walking and cycling routes plus segregated cycling on key routes
- 3 no. access points with Heol Las to the east boundary are subject to separate planning applications with Newport Council as follows:
  - Installation of a new bridge to carry public right of way (St. Mellons 4A) at the junction of Heol Las and St. Mellons Road and to facilitate a new active travel route across the widened Green Lane Reen from Heol Las (Newport Planning Reference 21/0029);
  - Installation of a new wearing course surface, fencing, bollards and road markings to facilitate a new active travel route across the Green Lane Reen from Heol Las (Newport Planning Reference 21/0030);
  - Installation of kerbing, fencing and road markings associated with a new permanent access road and junction to the south of the green lane overbridge, Heol Las, to provide a new railway maintenance access road plus earthwork structure tie-in associated with a new penstock within Green Lane to control water flows (Newport Planning Reference 21/0031).

### *Flood Management*

- 1.7 Raising of land levels by 1-2 metres to achieve 6m AOD for development areas north of the railway line to safeguard against flooding. Creation of a flood storage area to the south of the railway line (with some smaller areas in the north) by lowering existing land levels (to 4m AOD). New field ditches are proposed to the mitigation area south of the railway to provide further water storage, together with the widening of Green Lane Reen by 3 metres.

### *Indicative Phasing*

- 1.8 The Design and Access Statement Addendum (January 2021) estimates construction will occur over an 8 year period as follows:
- 2023-2025: Enabling Infrastructure and Ecological Mitigation;
  - 2024-2027: Early Phases (Statin Phase)
  - 2027-2031: Middle and Later Phases (Whole development plateau)

## *Environmental Impact Assessment*

1.9 The application site exceeds the Schedule 2 threshold for development of this type as outlined within the Environmental Impact Assessment Regulations, and therefore the application has been accompanied by an Environmental Statement. The following topics have been assessed:

- Traffic and Transport
- Hydrology and Flooding
- Ground Conditions
- Biodiversity
- Air Quality
- Noise and Vibration
- Cultural Heritage
- Socio-Economic
- Health
- LVIA
- Climate Change
- Materials
- Cumulative Effects

1.10 Further information under Regulation 24 of the Environmental Impact Assessment Regulations was received in December 2021 to support the following key changes:

- The strategy for replacing field ditches has been updated to reflect discussions with Natural Resources Wales (NRW) regarding the quantum and location of field ditches as well as the quantity and quality of water run-off. It is now proposed that infilled wet field ditches are replaced on a 1.02:1 basis within the redline. Dry field ditches which are currently infilled will not be replaced – as these do not exhibit SSSI features.
- As a result, the field ditches in the south are more widely spaced than in the original OPA and the field pattern is a closer match for that in the north.
- The hedgerow, woodland and grassland planting proposals have been updated and additional habitat opportunities are proposed.
- Proposed planting also includes early planting in selected areas to support retention of dormice within the site. The final location of these areas will be agreed with NRW through a protected species licence application.
- Proposals for additional sustainable transport measures through the A48/ Cypress roundabout have been identified.
- Building heights have been revised to reduce the maximum proposed building heights along the western edge of the development, this being closest to existing residences. In addition, a limit has been set on the maximum level of floorspace which can be constructed in any one area.
- The proposed flood compensation works have been modified so that the primary compensation area south of the railway line is larger but shallower, this providing better alignment with wider landscape and biodiversity strategies.



- A Framework SSSI Mitigation, Management and Monitoring Strategy has been developed setting out the main principles of future landscape and biodiversity management.
- Additional surveys have been undertaken for Wintering and Breeding Birds.
- The air quality assessment includes calculations for nitrogen deposition and comparison with current land use practices.
- Trial trenching has been undertaken at key locations within the masterplan with no significant findings identified.
- Construction years have been updated to reflect the latest programme. The overall construction period assumed for the purposes of assessment remains at eight years.

### *WG Holding Direction*

- 1.11 Members should note (from Recommendation 1) that the Welsh Ministers have been asked to call in the application for their own determination. Article 18 of the Town and Country Planning (Development Management Procedure) (Wales) Order 2012 (“DMPWO”) enables the Welsh Ministers to give Directions restricting the grant of permission by a Local Planning Authority (“LPA”). This authority was exercised on behalf of the Welsh Ministers on 23 November 2021 and Cardiff Council as LPA is directed not to grant planning permission without the prior authorisation of the Welsh Ministers in respect of this planning application or any development of the same kind which is the subject of the application on any site which forms part of, or includes the land to which the application relates.
- 1.12 This Direction has been issued to enable Welsh Government to give further consideration whether or not the application needs to be referred to be Welsh Ministers for their determination. The LPA is prevented from granting planning permission, however it is not prevented from continuing to process or consult on the application nor is it prevented from refusing permission.

## **2. DESCRIPTION OF SITE**

- 2.1 The site comprises approximately 80 hectares of land located east of Cypress Drive, south of Fortran Road and Cobol Road and west of Heol Las, St. Mellons. The east site boundary also defines the administrative boundaries between Cardiff County Council and Newport City Council (part of the southern boundary also marks this administrative boundary). See Figure 3 below.
- 2.2 The South Wales mainline railway dissects the southern part of the site on an east/west alignment.
- 2.3 The residential community of St. Mellons is further west beyond Cypress Drive. St. Mellons Business Park lies immediately north (two-storey office development). Open countryside is immediately east and south interspersed with sporadic dwellings and the villages of Marshfield (east) and Peterstone (south).

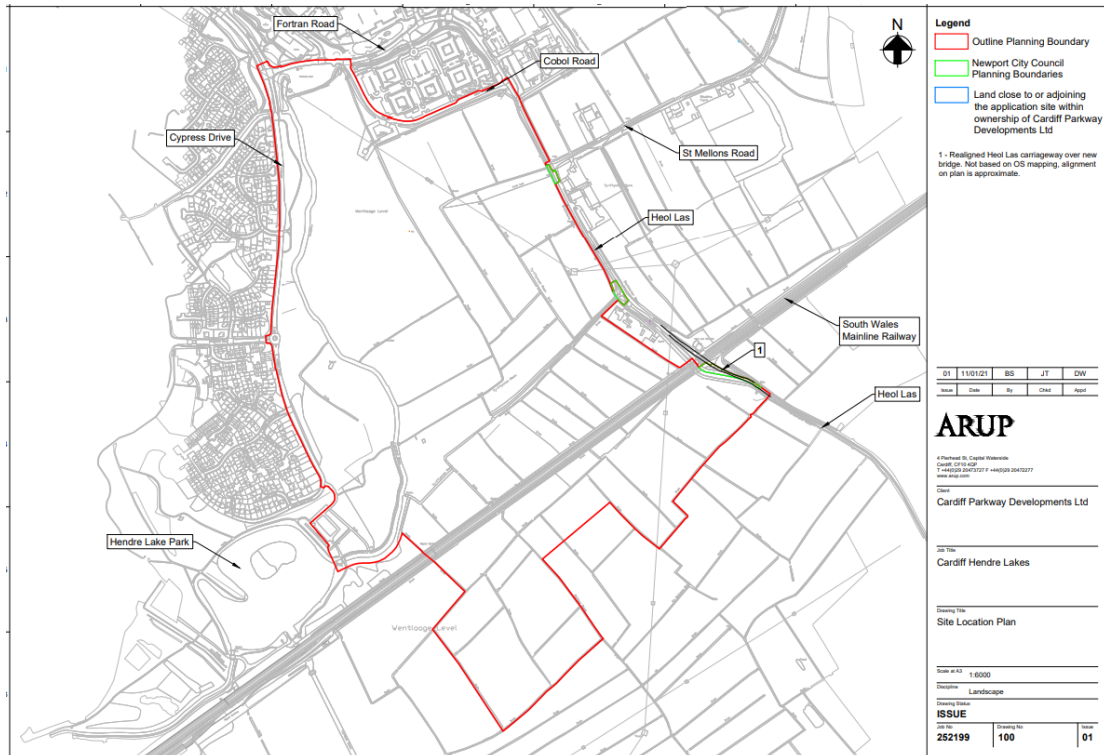


Figure 3: Site Location Plan

- 2.4 The site is located approximately 1.1km from the Severn Estuary Marine Sites (SAC, SPA and Ramsar)
- 2.5 The site is almost entirely within the Gwent Levels: Rumney and Peterstone Site of Special Scientific Interest (SSSI), notified for its range of aquatic plants and invertebrates associated with the interconnected reens and field ditches of the drainage network. These interests are dependant upon the water quantity, quality, the inter-connected drainage system and its continued management. The site is largely flat with some variations associated with reens, ditches and hedgerows. The existing ground levels range between 4.7 metres and 6.3m AOD.
- 2.6 Marshfield Site of Importance for Nature Conservation (SINC) is located in the southeast corner of the northern parcel (i.e. north of the railway line). Hendre Lake SINC adjoins the southwest corner of this northern parcel with Hendre Lake West beyond.
- 2.7 The application site is within the Gwent Levels, a landscape of outstanding historic interest and is also within the Gwent Levels Special Landscape Area. The application site is also within the Wentlog Levels, an Archaeologically Sensitive Area.
- 2.8 The entire site lies within flood Zone C1 (areas served by significant flood defence infrastructure) as defined on the Development Advice Maps.
- 2.9 A Public Right of Way (PROW) (St. Mellons No. 4A) crosses the northern part of the site on an east-west alignment (roughly parallel to the mainline railway).

It connects with Cypress Drive in the west just north of the roundabout with Sandbrook Road and to the east it connects with Heol Las immediately south of its junction with St. Mellons Road. This PROW does not appear to have been used for some time. The bridge crossing Green Lane Reen is collapsed and therefore impassable.

- 2.10 Electricity Pylons dissect the part of the site north of the railway from the northwest to the southeast.

### **3. SITE HISTORY**

- 3.1 The application site has no relevant planning history.

### **4. POLICY FRAMEWORK**

#### National Planning Policy:

- 4.1 [Planning Policy Wales](#) (Edition 11, February 2021) was revised and restructured in February 2021 to coincide with the publication of, and take into account the policies, themes and approaches set out in, [Future Wales - the National Plan 2040](#) (see below) and to deliver the vision for Wales that is set out therein.
- 4.2 The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015 and the Well-being of Future Generations (Wales) Act 2015.
- 4.3 PPW11 takes the seven *Well-being Goals* and the five *Ways of Working* as overarching themes and embodies a placemaking approach throughout, with the aim of delivering *Active and Social Places*, *Productive and Enterprising Places* and *Distinctive and Natural Places*. It also identifies the planning system as one of the main tools to create sustainable places, and that placemaking principles are a tool to achieving this through both plan-making and the decision-making process.

#### *Technical Advice Notes*

- 4.4 PPW is supported by a series of more detailed [Technical Advice Notes](#) (TANs), of which the following are relevant:
- TAN4 Retail and Commercial Development
  - TAN 5 Nature Conservation and Planning
  - TAN 11 Noise
  - TAN 12 Design
  - TAN 15 Development and Flood Risk
  - TAN 18 Transport
  - TAN 21 Waste
  - TAN 23 Economic Development

- TAN 24 The Historic Environment

4.5 On 16<sup>th</sup> July 2020 the Welsh Government published [Building Better Places: The Planning System Delivering Resilient and Brighter Futures](#) which provides planning policy guidance for local planning authorities and the development industry on priorities for the planning system to deliver post Covid-19. The guidance is to be read in conjunction with PPW, which contains the principles and policies needed for Wales to recover from Covid-19 in a positive manner, putting placemaking at the heart of future development.

4.6 In November 2020 the [South East Wales Transport Commission \(the Burns Commission\)](#) published its final recommendations, having been established to investigate sustainable ways to tackle congestion on the M4 in South East Wales. Its recommendations include:

- Create a new South East Wales ‘rail backbone’ by significantly increasing the capacity and flexibility of the South Wales Main Line
- Transform access to the rail network by increasing the number of stations between Cardiff and the River Severn from three to nine (including Cardiff Parkway);
- Create new rapid bus and commuter cycle corridors across Cardiff and Newport, connecting to the rail backbone and Cardiff Council’s public transport proposals;
- Plan new developments around the public transport network rather than the motorway.

The Development Plan:

4.7 Section 38 (6) of the Planning and Compulsory Purchase Act 2004, requires that, if regard is to be had to the development plan for the purpose of any determination to be made under the Planning Acts, the determination must be made in accordance with the plan unless material considerations indicate otherwise.

4.1 [Future Wales - the National Plan 2040](#) now forms part of the Development Plan for all parts of Wales, comprising a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of our communities. All Development Management decisions, strategic and local development plans, planning appeals and all other work directed by the development plan need to accord with Future Wales.

4.8 The [Cardiff Local Development Plan 2006-2026](#) was adopted in January 2016, within which the following policies are of relevance:

*Key Policies*

- KP1 Level of Growth
- KP2 Strategic Sites

KP2(H)	South of St. Mellons Business Park
KP3(B)	Settlement Boundaries
KP4	Masterplanning Approach
KP5	Good Quality and Sustainable Design
KP6	New Infrastructure
KP7	Planning Obligations
KP8	Sustainable Transport
KP9	Responding to Evidenced Economic Needs
KP12	Waste
KP13	Responding to Evidenced Social Needs
KP14	Healthy Living
KP15	Climate Change
KP16	Green Infrastructure
KP17	Built Heritage
KP18	Natural Resources

### *Detailed Policies*

#### *Economy*

EC2	Provision of Complementary Facilities for Employees in Business, Industrial and Warehousing Developments
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#### *Environment*

EN3	Landscape Protection
EN5	Designated Sites
EN6	Ecological Networks and Features of Importance for Biodiversity
EN7	Priority Habitats and Species
EN8	Trees, Woodlands and Hedgerows
EN9	Conservation of the Historic Environment
EN10	Water Sensitive Design
EN11	Protection of Water Resources
EN12	Renewable Energy and Low Carbon Technologies
EN13	Air, Noise, Light Pollution and Land Contamination
EN14	Flood Risk

#### *Transport*

T1	Walking and Cycling
T2	Strategic Rapid Transit and Bus Corridor Enhancement
T3	Transport Interchanges
T5	Managing Transport Impacts
T6	Impact on Transport Networks and Services
T7	Strategic Transportation Infrastructure

#### *Community*

C3	Community Safety/Creating Safe Environments
C6	Health

#### *Waste*

W2	Provision for Waste Management Facilities in Development
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### *Supplementary Planning Guidance:*

4.9 The following [Supplementary Planning Guidance](#) (SPG) is of relevance to this application:

- *Archaeology and Archaeologically Sensitive Areas* (July 2018)
- *Green Infrastructure* (November 2017)
  - Ecology & Biodiversity Technical Guidance Note
  - Trees and Development Technical Guidance Note
  - Public Rights of Way and Development Technical Guidance Note
  - Soil and Development Technical Guidance Note
- *Managing Transportation Impacts (Incorporating Parking Standards)* (July 2018)
- *Planning for Health and Wellbeing* (November 2017)
- *Planning Obligations* (January 2017)
- *Public Art* (June 2006)
- *Tall Buildings* (January 2017)
- *Waste Collection and Storage Facilities* (October 2016)

## **5 INTERNAL CONSULTEES RESPONSES**

5.1 The following is an overview of the **Operational Manager, Transportation's**, comments (his full comments are available to view in Appendix A):

- (i) The application has been submitted in a form which seeks outline planning consent to be granted, which therefore reserves the need for more detail information to be submitted. The outline proposal includes a railway station (including Park & Ride), transport hub in addition to a modern business park. The applicant has provided an outline access strategy for the business park elements of the application which it states take account of the “*sustainable transport hierarchy*” giving “*priority to pedestrians and cyclists over other road users*”. This approach is welcomed as it concurs with both Cardiff Council and Welsh Government’s approach (to paraphrase);
  - the avoidance of action which increases carbon emissions
  - the reallocation of existing road space to the benefit of more sustainable modes of travel
  - adaptation of existing road infrastructure to cope with climate change
  - investment to maintain safety and serviceability of existing road networks
  - the improvement of biodiversity alongside major transport routes.
- (ii) Despite the outline nature of the application a level of clarity as to the status of the proposals and what is, and is not, committed within this application is required. In order to help provide this clarity and to work to secure and support the sustainable nature of the application, a number of planning conditions have been prepared.

- (iii) A thorough understanding and agreement of the proposed phasing of all elements (especially on-site car parking provision) of development is considered paramount to supporting a successful and sustainable outcome. The implementation and timing of these will be a matter for detailed consent and will be secured through appropriate planning conditions and appropriate trigger mechanisms.
- (iv) The nature of the proposed / indicative junction remediation measures needs to be understood. The applicant will need to undertake further investigations to take full account of the significant third party work underway in the vicinity of the site to improve both cycle and bus priority on the Cardiff to Newport corridor and also that which will be introduced on Cypress Drive as part of the Council's East / West improvement scheme.
- (v) The control and management of any car parking within the site is considered critical to the success of the development and what it seeks to achieve as both a transport and employment hub. Significant collaborative work will need to be undertaken between the applicant team and the Council to develop a suitably robust car park management strategy for both the railway station Park & Ride and the prospective business park. The provision of some 1,800 car park spaces for the business park, as indicatively identified, is not considered practicable in terms of the traffic generation that could be associated with it. The capacity assessment modelling that has been submitted as part of the application appears to demonstrate that the local road network would not have the capacity to serve the business park car parking demand, as currently conceived.
- (vi) It is considered that the detailed future phasing of each element of the development, associated car parking strategy and improved connectivity by public transport would be vital in securing the confidence needed to support the proposed development.
- (vii) The applicant information submitted suggests that sustainable transport options could be improved as the railway station will be served, potentially, by up to 16 services an hour, and that within the site high-quality active travel routes would be provided alongside bus stops with high quality waiting facilities.
- (viii) There appears little, if any, emphasis on a strategy for the supporting off-site service proposals, which appears to be limited to a willingness to explore "*as part of the future mitigation strategy for Cypress Drive and the roundabout with the A48*". Overall aspirations appear limited particularly given the site is "*located on the edge of the city reducing the potential for a high proportion of journeys to be made by sustainable modes of transport*", and that despite being "*recognised that the sustainable transport hierarchy places bus above car, any solution needs to ensure there is appropriate access*" and that the "*existing corridor width is insufficient to provide an additional lane for buses and*

*a new cycleway*". It is therefore considered that significant and additional work, beyond that submitted at this outline stage, will be required to support the scheme during forthcoming detailed planning applications.

- (ix) However, despite the above outlined concerns the applicant does appear to understand and accept that providing "*an appropriate amount of car parking to encourage use of alternative sustainable modes*" is required. There also appears to be an acceptance that car parking, would be delivered during a number of phases which will offer the structured opportunity "*to monitor onsite parking demand and to adapt parking proposals*".

5.2 **Shared Regulatory Services (Environment Team)** recommends the full suite of contamination conditions be included. This will provide an opportunity to undertake supplementary sampling and testing to identify any Volatile Organic Compounds (VOCs) present and address the concerns raised by NRW prior to commencement. In doing so the applicant has the opportunity to establish whether the VOCs detected were down to either equipment or human error or, if this is not the case, clarify their nature and extent and provide the means of addressing any issues via a pre-commencement mitigation/remediation strategy.

5.3 The **Council's Tree Officer** has reviewed the further information comprising the Arboricultural Technical Note. The Note contends that wider benefits of development and mitigation planting will offset the loss of existing trees, hedgerows and soil. He disagrees and considers the arboricultural constraints in combination with the soil resource to be overriding. In particular, he comments as follows:

- (i) The note fails to acknowledge the veteran and emerging veteran status of the 'A' category oaks to be lost – this is not something that can be brushed over as our veteran trees are essentially cultural monuments of huge importance. A development based on the loss of such trees and the loss of the majority of other oaks that in time may act as natural replacements for the veterans and become veterans in their own right, cannot be supported.
- (ii) He reiterates that a net gain in tree numbers is not a net gain in terms of environmental and ecological impacts when a large number of those trees comprise new planting replacing established trees. New tree planting typically involves bringing in trees, often from nurseries distant from the planting site, excavating large pits to accommodate root-balls and commonly importing large volumes of planting soil where in-situ or site won soil is unsuitable for supporting the establishment and healthy growth of new trees. Established trees have developed over many (hundreds in some cases) years to form intimate and complex relationships with the soil. The development as proposed will set the clock back to zero on these intimate and complex relationships – something one can ill afford to do in the context of climate change and the climate emergency. Development should be seeking to preserve and



enhance such features to help mitigate the predicted impacts of climate change.

- (iii) The mitigation planting referred to by the Note remains an in principle 'ambition' rather than a component of a detailed landscape scheme and will take many years to establish. Considering that serious impacts of climate change are likely to be felt in the next 20 years, he fails to see how the large-scale removal of existing trees can be offset by new planting within 20 years. Tree populations need to have a balanced age class structure in order to be considered sustainable, but development means that large parts of the site will see trees of a very similar age class structure.
- (iv) He reiterates that following the submitted Soil Management Strategy, the soils within the main developed part of the site, due to their high silt and clay content, are likely to be vulnerable to significant loss of functionality once they are disturbed, compacted or handled when plastic. The Soil Management Strategy does not consider the suitability of site soils to support different landscape functions, understandably since landscaping details are illustrative currently, but it is clear that sensitive landscape functions that demand immediate access to well aerated and free draining soils, such as large trees, are not suitable for planting into in-situ or site won soils. Smaller whips and other robust landscape functions may be suitable subject to precautionary measures as per the Soil Management Strategy, but for sensitive landscape functions He foresees a need to import large volumes of planting soil. Such soils are highly unlikely to sit comfortably with in-situ silty or clay soils as imported soils for tree planting are typically sandy loams, often from sources distant from the site. Consequently, He foresees that the existing soil resource will not only be vulnerable to loss, compaction, disturbance and contamination as a result of development, but is also likely to be replaced by large volumes of imported soil where tree planting with larger specimens is proposed. If such trees are to establish and grow healthily, it is important that the planting soils do not become dysfunctional – there is a risk that if imported soils form interfaces with native soils, soil drainage and aeration may be impacted detrimentally and impact on tree establishment and growth. This may mean that larger volumes of imported planting soil are required to reduce the risks of planting soils becoming dysfunctional. Imported soil typically lacks the complexity and structural characteristics of native soil that has developed over thousands of years in conjunction with vegetation and prevailing hydrological conditions. They are essentially a 'soil forming material' – i.e. the component parts are in place, but the pedological processes that occur in relation to 'in-situ' soils will essentially be set back on the clock to near zero.

5.4 **Shared Regulatory Services (Air Quality)** is content with the submitted Air Quality Assessment (Environmental Statement Chapter 8) air quality assessment. He therefore has no objections on the grounds of air quality. The report has examined both the construction and operational phases associated

with the proposal, referencing a 2019 baseline, 2022 construction year and 2028 operational year. The assessment has been undertaken correctly and makes use of conservative techniques to ensure a worse-case scenario outcome. He recommends a pre-commencement condition to secure the approval of a Construction Environmental Management Plan (CEMP) containing a detailed Dust Management Plan with appropriate measures.

- 5.5 In respect of the operational phase, he advises the produced AQA assesses the impacts expected for both human and ecological receptors. The assessment comprehensively examines the impacts associated with construction vehicle movements for a 2022 year scenario which is likely to be at the height of construction activities. This construction vehicle assessment takes into account 2 potential site access and egress routes. Furthermore the assessment considers an operational year of 2028 when the development is to be complete. The AQA has derived its outcomes ensuring a cumulative approach is considered throughout, such as including committed nearby development traffic flows. It is summarised that the operational phase will have negligible impact on the modelled human receptors. In terms of impacts expected for ecological receptors it is noted that a number of examined receptors are above the air quality standard in both the do-minimum and do-something scenario testing. Important to note that no new ecological areas of exceedance will be created from the operation of the proposed development.
- 5.6 The **Operational Manager, Waste Management**, expects future reserved matter submissions to show locations for litter bins where high footfall is anticipated (including bus stops and any A3 units). A waste strategy should also accompany future applications to outline access and collection point details. Each commercial unit should have its own recycling and waste storage facilities and should take into consideration the segregation of different waste streams. Larger central storage facilities can be considered to bulk waste up using compactors and/or larger skips which may help reduce the footprints required. The developer would need to negotiate a trade contract for the waste collection with their trade department.
- 5.7 The **Council's Ecology Consultant** has raised no objections to the proposal but offers extensive comments, which have been considered and incorporated into a suite of ecological conditions. A Habitats Regulation Assessment has also been undertaken / agreed.
- 5.8 **Shared Regulatory Services (Environment - Noise & Air Pollution)** accepts the outcome of the Environmental Statement that, with suitable controls consistent with the draft CEMP, noise and vibration can be suitably managed. He recommends a suitable condition.
- 5.9 He also notes that the ES outlines that, given the complex nature of construction near a rail line and of course need for safety, there are times where out of hours work and access to the rail line are required. He would advise the applicant that such works must be subject to a Section 61 Control of Pollution Act 1974 "prior consent" application and agreement with this team, with an application received no less than 28 days prior to the planned works.

5.10 Concerning the operation phase, he makes the following comments:

- (i) Plant – he is satisfied that plant noise, vehicle movements from any B8 use, and public address systems associated with the new platform can be covered by a suitable condition. He suggests:

*Prior to beneficial of any unit or operation of the platform, a with BS 4142: 2014 +A1 2019 (or any British Standard amending or superseding that standard) Noise Impact Assessment shall be undertaken that demonstrates that noise from fixed plant and equipment does exceed 5db below background noise level at the nearest noise sensitive premises. For units that operate as B8 class use the BS4142 assessment also shall assess the cumulative affect of noise from plant as well as vehicular movement associated. Where noise exceeds 5dB below background a noise mitigation shall be implement and maintained. Reason: To ensure that the amenities of future occupiers are protected.*

- (ii) Vehicle Movement – Road Traffic noise increase has been identified within the ES as impactful on Cypress Drive between Fortran Road and the new development entrance so requires mitigation. An actual map of affected residencies would be of assistance with the report so that a detailed condition may be drafted, as recommend within the report. The recommendations for mitigation are either earth bunding or a noise barrier or by reducing road traffic speeds on Cypress Drive through installing speed limit signs, installing traffic lights at the Fortran Road and proposed development junction with Cypress Drive, proposed development access junction to have priority over Cypress Drive (south); reducing road speeds for through-movements on Cypress Drive; changes to the radius/alignment of Cypress Drive and the proposed development access. The ES details that one or more of options would be effective in reducing noise, to be achieved via condition. He would recommend:

*Prior to beneficial use, impact from road traffic on critical facades identified within Environmental Statement Chapter 9 Noise and Vibration shall be subject to noise mitigation measures demonstrating that road traffic is reduced by 5dB when measured using the Calculation of Road Traffic Noise methodology.*

*Reason: To ensure that the amenities of future occupiers are protected.*

- (iii) Train Movement - He is satisfied with the findings of the report that there is no significant impact from train arrival, departures and movement associated with the new platform.

5.11 The **Public Rights of Way Officer** advises that PROW 4A (St. Mellons) crosses the site east/west. This PROW must remain open through the construction period however any if any interference is planned with works then Licences, Temporary closure and commodious temporary diversion must be sought. The PROW is currently not in a satisfactory useable condition and they

would seek improvement with access, signage and bridges across the reens. Any alteration to the alignment would require a Section 257 Diversion Order in conjunction with Planning Consent.

- 5.12 The **Operational Manager, Drainage Division** makes some detailed comments on the drainage strategy and flood consequences assessment. The development will be subject to separate SuDS approval.
- 5.13 The **Operational Manager, Parks and Sport**, has been consulted and any comments will be reported to Committee.

## **6 EXTERNAL CONSULTEES RESPONSES**

- 6.1 **Dwr Cymru Welsh Water** advises their initial assessment concluded that it was unlikely the proposed development could be accommodated within their existing potable water and public sewer networks and the applicants were advised to commission Hydraulic Modelling Assessments. These assessments have since been completed and the outcomes are such that they are able to support the application with the introduction of suitably worded planning condition to ensure that the proposed development connects to the points of adequacy identified in the Hydraulic Modelling Assessments.
- 6.2 Therefore, they advise that the foul only flows from the proposed development site can be accommodated in the 1040mm public combined sewer between manhole reference number ST24804501 and ST24804401 located approximately 0.6 kilometres south-west of the development site. They recommend conditions and advisory notes to ensure no detriment to existing residents or the environment or to their assets.
- 6.3 Regarding surface water drainage, this proposed development is subject to Schedule 3 of the Flood and Water Management Act 2010. The development therefore requires approval of Sustainable Drainage Systems (SuDS) features, in accordance with the 'Statutory standards for sustainable drainage systems – designing, constructing, operating and maintaining surface water drainage systems'. They therefore recommend that the developer engages in consultation with the Local Authority, as the determining SuDS Approval Body (SAB), in relation to their proposals for SuDS features.
- 6.4 No problems are envisaged with the Waste Water Treatment Works for the treatment of discharges from this site.
- 6.5 **Glamorgan Gwent Archaeological Trust** has reviewed the detailed information contained and can confirm that the proposal requires archaeological mitigation. Their previous comments on this application noted the proposal was located in an area of high archaeological potential. It is located within the Cardiff Archaeologically Sensitive Area (ASA), as well as the Gwent Levels Registered Historic Landscape, specifically the Trowbridge Historic Character Area (HLCA019). As such they recommended that an archaeological evaluation be conducted, which was completed in April 2021. Due to numerous

constraints, only selected areas were evaluated. However, the results identified no structural remains, although significant peat deposits were encountered.

- 6.6 Chapter 10 (Archaeology and Cultural Heritage) of the Environmental Statement has been revised to include the results of the evaluation. It also suggests mitigation in the form of additional trenching, an auger survey to more precisely identify the depths of the peat and hence which construction activities may have an adverse effect, hedgerow surveys, and an archaeological watching brief on identified intrusive groundworks. Such an approach is appropriate, with the exact scope and methodology detailed in an agreed written scheme. Therefore it is their recommendation that a condition requiring the applicant to submit a detailed written scheme of investigation for a programme of archaeological work to protect the archaeological resource should be attached to any consent. They envisage that this programme of work would take the form outlined above, with detailed contingency arrangements including the provision of sufficient time and resources to ensure that any archaeological features or finds that are located are properly investigated and recorded; it should include provision for any sampling that may prove necessary, post-excavation recording and assessment and reporting and possible publication of the results. To ensure adherence to the recommendations they recommend that the condition should be worded in a manner similar to model condition 24 given in Welsh Government Circular 016/2014. They also recommend that a note be attached to the planning consent explaining that the archaeological work must be undertaken to the appropriate Standard and Guidance set by Chartered Institute for Archaeologists (CIfA), ([www.archaeologists.net/codes/ifa](http://www.archaeologists.net/codes/ifa)) and it is recommended that it is carried out either by a CIfA Registered Organisation ([www.archaeologists.net/ro](http://www.archaeologists.net/ro)) or an accredited Member.
- 6.7 The consultation responses received from **Natural Resources Wales** are appended to this report (see appendix B).
- 6.8 **CADW** has no objection in regard to the scheduled monuments, registered historic parks and gardens and Registered Historic Landscape, subject to conditions. They note that an archaeological evaluation has been carried out in parts of the application area where environmental and safety restrictions did not apply. This work has identified areas of peat, which indicate where previous ground surfaces are buried, and pieces of waterlogged wood have been found: However, there is no indication of any human activity associated with the peat layers or waterlogged wood. Whilst the evaluation areas have been restricted, currently there is no indication of nationally important archaeological features being present in the application area. As such, given that the areas of the proposed development that are available for archaeological investigation have been evaluated, it is their opinion that sufficient information has been provided to meet the requirements of section 6.1.26 of Planning Policy Wales. Whilst detailed advice on the future investigation of undesignated archaeological features in the proposed development area will be given by the Glamorgan-Gwent Archaeological Trust they would expect further investigations to be carried out both prior to the commencement and during the development and

therefore expect an appropriate condition to be attached to any consent that is granted.

- 6.9 The amended environmental statement has considered the impact of the proposed development on the Registered Gwent Levels of Landscape of Outstanding Historic Interest. This has included a desk-based assessment following the Design Manual for Roads and Bridges (DMRB) methodology and the more specific historic landscape methodology provided by the Assessment of the Significance of the Impact of Development on Historic Landscape Areas on the Register of Landscapes of Historic Interest in Wales (ASIDOHL2). The terminology provided for the results of these methodologies are different with the DMRD result being Major and the ASIDOHL2 result being Fairly Significant, but in both cases these results indicated that the proposed development will have a significant effect on the Registered Historic Landscape. However in neither case are any mitigatory or compensatory measures considered.
- 6.10 The area to the south of the railway line is proposed to be an ecological mitigation area where it is proposed to reinstate lengths of reens and field ditches and maintain them in an appropriate manner. These changes will produce a managed area of publicly accessible historic landscape. It is also suggested that information boards explaining the development of the historic landscape should also be provided in appropriate locations (see section 10.9.7 of amended environmental statement). If these measures are implemented than the effect of the proposed development will be reduced to a level that, in their opinion, will not be significant. In order to ensure that appropriate information boards are provided it is recommended that a condition should be attached to any consent that is granted. A condition is included.
- 6.11 **Transport for Wales** confirm that they are actively engaged and collaborating with Cardiff Parkway Development Ltd (CPDL) and therefore have the opportunity to raise and review design and operational queries through this forum. They do not wish to raise any comments in connection with this planning application. They advise that Network Rail remain the asset owners of the section of track that crosses through the site subject of this application.
- 6.12 Amey Infrastructure Wales also provides comments on behalf of Transport for Wales, confirming they do not object. They advise that the proposal is next to AIW managed infrastructure and therefore the applicant will need to engage with AIW Asset Protection 3 months prior to commencing any works on site. They also suggest it would be useful to see modelling demonstrating how total carbon emissions from the development over the 60 year appraisal period will potentially be counter-balanced with a prospective decrease in transport sector emissions over the same period. Finally, they recommend that the climate change risk assessment is updated
- 6.13 **Network Rail** has no objection in principle to the above proposal but due to the proposal being next to their land and infrastructure and to ensure that no part of the development adversely impacts the safety, operation and integrity of the operational railway they have included asset protection comments which the

applicant is strongly recommended to action should the proposal be granted planning permission.

- 6.14 They also provide additional comments and requirements for the safe operation of the railway and the protection of Network Rail's adjoining land with particular reference to drainage, plant, scaffolding and cranes, foundations, excavations and earthworks, railway access, landscaping, and lighting.
- 6.15 **Welsh Government Transport Division** has considered the amended submission and notes that there are options at the Cypress Drive junction. So long as there is no queuing back on/to their network they would not object. They would also encourage a more sustainable/multimodal junction choice as part of the bigger picture. There is also mention of staggering a number of TA's linked to the general phasing and assessment of impacts as part of the reserved matters. There are potential impacts at J30 and this should be fleshed out as part of the detail with either suitable mitigation provided or a contribution to improvements as there could be impacts to slip-road queueing.
- 6.16 **Welsh Government Land, Nature and Forestry Division** provides a response in accordance with Technical Advice Note 6, Annex B6 as follows:
- (i) **Agricultural Land Classification (ALC):** A detailed ALC Survey has been undertaken on the site which confirms the site to be ALC Subgrade 3b with some areas of non-agricultural land. The ALC survey report has been previously validated and has been completed to an acceptable standard;
  - (ii) The ALC Survey Report (*Ref: ALC 033-89 - City Springs Business Park, St Mellons – January 1990*) can be accepted by the Local Planning Authority as an accurate reflection of the agricultural land quality on the site. Best and Most Versatile (BMV) agricultural land policy (PPW 3.54 & 3.55) will not apply in this case.
- 6.17 **Newport City Council** has no objection and recognise the principle of development is established due to the site being allocated in the LDP. In respect of air quality, they note the impacts will be negligible in two of their AQMAs, suggest the use of alternatives in addition to EV and heating plant proposals, and suggest construction traffic should avoid AQMAs. With conditioning, they would support the application in respect of noise matters. In respect of landscape they suggest additional viewpoints be carried out.
- 6.18 **The South Wales Police Crime Prevention Design Advisor** has met the developer and discussed their requirements.
- 6.19 **Wales and West Utilities** - National Grid Electricity Transmission, Wales and West Utilities and Western Power Distribution have assets within the search area.
- 6.20 **National Grid Electricity** advise that the area is within the High Risk Zone from National Grid Electricity Transmission's apparatus and further assessment is required by asset protection.

6.21 **Western Power Distribution** provide details of their apparatus in the vicinity of the site and provide advice regarding obtaining diversions, health and safety, overhead line and use of plant on site.

## 7. **REPRESENTATIONS**

7.1 The application has been advertised by **press and site notices** in accordance with the relevant planning and EIA development legislation. The original publicity period took place in February/March 2021 followed by a second consultation for the amended proposals in January/February 2022.

7.2 A valid **petition** of more than 50 signatures has been submitted objecting to the application for the following reasons:

- (i) Destruction of SSSI important for biodiversity, carbon offsetting and flood protection;
- (ii) Over-supply of commercial floorspace;
- (iii) Railway station and improved public transport and footways/cycleways should be provided separate to the business park and associated traffic;
- (iv) High rise development of up to 15 storeys is inappropriate.

7.3 The **first public consultation period** in early 2021 generated 51 no. objections, 21 comments in support, plus 1 letter of concern and 1 neutral submission. The objections received are summarised as follows:

### *Environmental*

- Destruction of SSSI and SINC
- Increased flood risk as a result of the development
- Destruction of LOHI
- Loss of endangered species
- Development would be worse for climate: wetlands store more carbon than farmland and would release methane when destroyed (80x worse than CO2)
- Waste management strategy inadequate:
- Development does not achieve net biodiversity gain (Apparently a requirement for new developments under para. 6.4.5 of PPW 11) and does not even set out how it would achieve net gain.
- Apparently contravenes; 1997 Hedgerow Regs, Habitats Regs 43, Nature Recovery Action Plan 2015; UK Post-2010 Biodiversity Framework; and Cdf Local Biodiversity Action Plan 10, and policy KP2 of LDP as entire marshfield SINC destroyed
- Confusion as to why M4 relief road was rejected because it would destroy wetlands, but this business park is ok to destroy literally the same thing?
- Living levels wanted to make clear that they did not endorse or help develop the water and habitat system (however developer said they did???)
- Breeding and Wintering bird surveys conducted in 2017: not up to date/ would be now inaccurate?



- Despite breeding birds survey identifying birds of conservation significance and that birds would breed there, no mitigation efforts/this issue not mentioned in environmental statement
- FOGL allege that the recommendations of the bat and dormouse surveys have been completely neglected/ignored by the developer
- One person requested a condition for the site to return to countryside if the development failed
- A few people requested a condition for the developer to take responsibility for stopping fly tipping on site

#### *Economic*

- Viability of the business park given the shift to work from home/amount of unused office space in area and central Cardiff
- Welsh Government would achieve better ROI by investing into existing community facilities and activities rather than the 10% ? investment into this business park

#### *Application Process*

- Not enough time for residents to comment on application
- Only able to look at documents online/ consultation biased towards internet users
- Contest developer's statement that there were no significant objections in earlier consultation
- Why development not classed as Development of national significance

#### *Overdevelopment*

- Buildings at 12/15 stories are out of character for area with 2/3 stories
- Concerns at precedent set for future development: apparently developer has listed parkway as "Phase 1"
- Apparently contravenes Tall Buildings SPG (Sections; 5.1,2.2,3.2-4,4.14)

#### *Transport*

- Modelling has not been conducted to analyse impact of major events despite plans to use station/car park for them.
- Modelling used traffic data from lockdown period: not accurate
- Significantly increased traffic as a result of the car park/station
- Significant disruption caused through high number of construction trucks
- Concerned at potential significant disruption caused by rail replacement buses who will "Park in existing road network": ask why they can't park on development
- By charging for parking, business park/train station users will park in residential streets where they will cause significant disruption to local residents
- Does not meet sustainable travel requirements: Transport statement acknowledges that majority of trips to and from development will be by car
- Car park too large for site
- Train station would be supported if it was smaller and want train station to be submitted as a separate application: funded publicly rather than privately

- Concern about increased use of lanes and residential streets as a rat run

#### *Other*

- Loss of green space: impact on mental health
- Increased noise and air pollution: impact on mental health
- Lack of information about materials, detailing, heights and where on development buildings would be
- Archaeological concerns: Site includes roman remains which would be lost in development

#### *Support*

- Improvement to the attraction of Hendre lake
- Train station useful and essential
- New focal point for St. Mellons

- 7.4 **Living Levels:** Want to clarify that they did not endorse or help develop the water and habitat system (despite the developer saying they did).
- 7.5 **Gwent Wildlife Trust:** Objection focused on environmental impacts.
- 7.6 **Campaign for the Protection of Rural Wales:** Objection focuses on lack of need for business park and environmental impact.
- 7.7 **The Gwent Ornithological Society:** Objection focused on environmental impact.
- 7.8 **Friends of the Gwent Levels:** 2 objections. Both focusing on environmental issues, how development conflicts with policy, but also raises point that site is based on old LDP, the context and evidence base of which is now out of date.
- 7.9 **Railfuture Wales:** Support application but want a condition to ensure station is provided when a specified amount of commercial floorspace is provided.
- 7.10 During the **second consultation period in January 2022** following the submission of further environmental information, 26 no. objections were received together with 3 comments in support, a neutral comment and a comment of concern. The objections raised the following matters:

#### *Environmental*

- Destruction of SSSI and SINC and specifically referenced the "Future Wales" document, the council/Welsh Gov's state of "nature emergency", the Environment Wales" act and TAN 5 (Nature cons. and planning) Additionally, they did not feel that the park/green space area was sufficient to mitigate the habitat loss.
- Many endangered and non-endangered species would be impacted permanently and irreparably
- Data collected for the surveys for breeding and wintering birds was conducted in 2017: thus it could now be inaccurate and out of date
- Breeding birds survey not referenced in environmental statement

- Destruction of the wetlands will cause a significant amount of methane to be released, far exceeding any decarbonisation impacts that the station will have
- The moving of protected species is illegal in the UK
- Development will increase flooding
- Wildlife mitigation is not sufficient
- Questions why M4 relief road is cancelled for destroying wetlands and this is ok whilst effectively having an identical impact
- Building on wetland allegedly contradicts: Wildlife and Countryside Act (1981), Environment (Wales) Act - section 6, and the Well-being of Future Generations Act.
- Scheme does not constitute sustainable development as no renewable energy used, gas boilers for heating too.
- Impact on shrill carder bee should be material consideration

### *Economic*

- Council's commitment to city centre living/ recovery questioned if they want to draw investment and jobs out of the city centre
- Requests to have more retail space as this would be used by existing residents (very little if any retail in area)
- Large amounts of empty units in area (and city centre) so no demand for business park
- Investment in local facilities and activities would yield greater benefits for community
- Investment into active travel (cycle routes /footpaths /improved bus services)

### *Application Process*

- A resident was not informed about proposals despite living "on the border of the development"
- Unhappy that documents used technical jargon and felt it is a deliberate tactic to confuse and alienate residents out of the process
- Impartiality if called in: WG have invested into the development so would be biased
- Community not consulted about transport strategy for area and what kind of development should go there
- Felt people in Newport/Marshfield should be consulted
- Lack of information about development: no building heights, feel as though development is not accurately represented
- Alleged unlawful consultation under the equalities act 2010

### *Overdevelopment*

- Buildings in the business park are significantly taller than those existing in the area (12/15 storey compared with 2/3 existing)
- Development out of character for the area

### *Transport*

- The transport assessment acknowledges that the development would not achieve the 50:50 sustainable travel split as 67% of trips are estimated to be taken by car?
- Increased traffic in the area due to business park: lead to increased pollution
- Parking is not going to be free for station: makes station less viable and discriminates against the local residents who are less well-off compared to those in wealthier areas who have free parking
- Two commenters noted that the application focuses on the business park and feels that the findings from the Burns commission and SEWTC mean that the train station has higher strategic priority and should be treated separately from the business park
- A number of residents suggested that they would support a smaller station which would be able to serve the local community without the need for a business development or massive car park
- Worried increase in traffic will lead to lanes becoming rat runs
- Noise and air pollution caused by construction vehicles and the construction of a train station
- Noise pollution from increased number of trains
- One commenter stated that the lack of provision of stations for every community along the rail line means it does not comply with the wellbeing act 2016?
- Removing free car parking at hendre lakes does not benefit the community
- One person wanted a new road to be built to east to mitigate impact of construction

### *Other*

- Development will overlook homes: residents are concerned about a significant loss of privacy
- Loss of LOHI: significant detrimental impact to view as area is flat
- Loss of access to hendre lakes during construction
- Buildings appear bland not “exceptional” as required by tall buildings SPG
- Increase in crime as a result of the development
- Concerns that current lack of tenants will mean offices will be converted into housing.
- Not in compliance with Tall buildings SPG (can't negatively impact historical/archaeological sites, must have no negative impacts on important views/vistas, buildings must be of exceptional architectural standards, cars can't be predominant means of access)
- Archaeological site: will lose ability to discover artifacts/ gain further understanding of site
- Preserve public right of way
- Alleged breach of article 8 of human rights act (safeguard respect for private and family life)?

*Support*

- Train station useful and essential
- New employment opportunities

- 7.11 **Cardiff Civic Society:** Objects based on conflict with policy, environmental impact, overdevelopment, conflict with council's city centre commitment and that the findings from the consultation have not been addressed.
- 7.12 **Bumblebee Conservation Trust:** State that the loss of habitat for the shrill carder bee should be a material consideration and that 4 specific conditions should be imposed if the development is approved. Those being; a) avoiding disturbance of Shrill carder bee nesting and foraging habitat during the nesting season, b) ensuring there is a continuity of habitat availability for the species, c) long term, appropriate and sustainable management of habitat, d) adequate monitoring post development.
- 7.13 **Campaign Against the Levels Motorway:** Object based on environmental impact, increase in car traffic, change in context with work from home and therefore the unviability of business park
- 7.14 **Friends of the Gwent Levels:** Object based on environmental destruction (and reference an objection by the Newport council ecologist to support this), negative climate impact of the development, the need to separate the train station and business park into two applications, policy contradictions, lack of detail, unviability of business park and lack of detail of the development.
- 7.15 **Wentlooge Community Council** supports the transport hub but opposes the business park, stating the following:
- (i) the Wentlooge Levels is open countryside, a designated Site of Special Scientific Interest (SSSI), a Registered Landscape of Outstanding Historic Interest, an Archaeologically Sensitive Area, adjacent to the new Wales Coastal Path and to the internationally important RAMSAR site of the Severn Estuary.
  - (ii) The Levels are a Special Landscape Area (SLA) is recognised nationally and internationally
  - (iii) Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions and must provide a net benefit for biodiversity (PPW, para 6.4.5).
  - (iv) Ecosystem resilience (PPW para 6.4.9 refers) should be used to assess the current resilience of a site. If this cannot be achieved, permission for the development should be refused.
  - (v) The Wentlooge Levels has seen a revival in species of recent years e.g. Shrill Carder Bee, Swans, other nesting and migrating birds, water vole and dive beetle;
  - (vi) Acknowledges benefits of a transport hub on the east of Cardiff;
  - (vii) Objects to the proposed business park. Lack of demand for existing business park. Introduction of retail units is negative to aims of city centre regeneration as this will encourage people to travel to this location and

- not Cardiff City Centre.
- (viii) The proposed mitigation area is already a haven for wildlife;
  - (ix) Further details required on long-term certainty of green buffer to St. Mellons;
  - (x) Concerns regarding surface water run-off within a flood plain requiring substantial earth movements;
  - (xi) Expresses surprise it is not a Development of National Significance.

7.16 **Marshfield Community Council** would greatly welcome a rail link but are greatly concerned at the adverse effect this proposal will have on their community. They also welcome the inclusion of the Hendre Lakes and the increase of parkland. They provide specific comments on:

(i) Traffic Congestion and lack of planned infrastructure

- detrimental effect on residents in the area; unsustainable, not environmentally friendly; not in line with the wellbeing of future generations. Lengthy period of construction and insurmountable strain on busy and failing road network;
- No plans at present by Cardiff and Newport Councils to alter junctions at A48 /Cyprus Drive /St. Mellons roundabout or the junction of the A48 and Marshfield Road in Castleton
- rat run through Marshfield.
- Increased congestion at peak times

(ii) Noise and Pollution

- Increased road traffic noise on properties on A48 and Marshfield Road
- Detrimental to Health and well-being
- Piling disturbance

(iii) New Jobs and Investment

- Vacant space exists in St. Mellons Business Park
- Increased home-working as a result of the Covid Pandemic
- Existing employment sources in Coedkernew, Newport and Cardiff are not accessible by Public Transport from Marshfield/Castleton. Train station will not change this
- Retail outlets are needed, especially another supermarket

(iv) Sustainability

- Marshfield only has a DRT service in the day and no night-time bus service
- 5,000 jobs = 2,500 more cars on the network. Parking is a major issue
- No plans to connect to the existing P&R at Pentwyn
- Congestion on network means the station will only drastically cut travel times to both Newport and Cardiff to those at a short walking distance
- New bus facilities, walking routes and cycle paths are not guaranteed
- Overlooking from multi-storey development causing a loss of property value
- NCC must ensure new and dedicated road and joined up public transport provision occurs.

- 7.17 **RSPB:** Proposals are contrary to PPW and TAN 5 with regard to the European Sites and SSSI. References the Ministers Statement in July 2021 regarding the Gwent Levels which recognised the vulnerability of the SSSIs to encroachment by development and Future Wales identifies the Levels as one of 9 areas requiring LPAs and stakeholders to work together for their protection (Policy 9). Proposals are at odds with the climate emergency. They recognise the position to improve transport infrastructure but this does not extend to the proposed business use. Changes in working practices due to the COVID pandemic and the LDP review create an opportunity to reconsider this allocation. The need for the development is questionable given current vacancy rates.
- 7.18 **Buglife:** Objects and supports the comments made by the Bumblebee Conservation Trust. SSSIs should be considered out of bounds to development as a fundamental planning principle. The Rumney and Peterstone SSSI supports a number of rare and scarce invertebrates including the Shrill Carder Bee, Red-Shanked Carder Bee, Moss Carder Bee and Brown-banded Carder Bee. The site is also within the South Wales Coast Important Invertebrate Area (IIA). They highlight particular concern with regard to the Shrill Carder Bee and urge that the application be refused.

## 8. **ANALYSIS**

### **Principle of Development**

- 8.1 The application site sits within Strategic Site H, an allocation in the adopted Local Development Plan (LDP) for a strategic employment site on land south of St. Mellons Business Park together with essential/enabling and necessary supporting infrastructure to be delivered in a phased manner. LDP Policy KP2(H) specifies the essential/enabling infrastructure to include the provision of a new railway station with park and ride facilities, off-site infrastructure including bus priority measures, on-site and off-site walking and cycling links to improve access to neighbouring residential communities and flood mitigation and defences including raising development plateaus in the northern parcel and providing compensatory flood storage in the mitigation area south of the railway line. Other necessary infrastructure is to retain land to the west boundary between Cypress Drive and Faendre Reen as green space and the provision of compensatory reens and field ditches within the site where unavoidable losses would occur.
- 8.2 LDP Policy T7 also states that support will be given to the development of 'St. Mellons' rail interchange including Park and Ride' as a piece of strategic transportation infrastructure.
- 8.3 The provision of a mainline railway station is a strategically important component of the allocation, providing connection to London and Cardiff Airport via the City Centre. Whilst the LDP allocation establishes the principle of development, the impacts generated by the proposed development on the site and the surrounding area require assessment under this outline application.

## Transport

### *Policy Overview*

- 8.4 The provision of the mainline railway station and park and ride facility is recognised in LDP Policy T7 to be of strategic importance to both Cardiff and the wider Cardiff Capital Region. More recently, the final recommendations of the [Burns Commission](#) (November 2020), also highlights the strategically important role the proposed new mainline station with park and ride facility can have in creating a network of sustainable transport alternatives to the private car in order to relieve congestion on the M4.
- 8.5 The Commissions' final recommendations go so far as to "endorse plans" for the proposed Cardiff Parkway station, recognising its location close to areas of high employment and population density which currently have limited access to rail services, with the potential for a larger catchment through properly integrated bus and cycle networks. The station therefore has the potential to function as a multi-modal transport interchange between Cardiff and Newport (104 p26).
- 8.6 The Commission also recognises the important role that Active Travel (walking and cycling) has to play in providing a sustainable network of alternatives to the private car. It recommends that active travel and public transport should be the focus, particularly for Cardiff (p11) and there is a need for commuter cycling corridors within Cardiff and Newport as well as improved routes between these Cities (e.g. National Cycle Network Route 88 and the A48, p32). Cardiff's rapid bus routes and cycleways are recommended to connect to Cardiff Parkway (153, p34)
- 8.7 At the local level, the Local Development Plan support developments that encourage people to make trips by active travel means (Policy T1 Walking and Cycling) and seeks to ensure safe and convenient provision is sought for all highway user groups, including pedestrians and cyclists (Policy T5 Managing Transport Impacts)

### *Railway Station and Park & Ride*

- 8.8 LDP Policy T3(i) (Transport Interchanges) supports the development of new rail stations which can be easily accessed by walking, cycling and local bus services, facilitate park and ride and meet the access needs of all users.
- 8.9 Officers recognise the clear policy support for the provision of this strategically important station and park and ride in creating a transport interchange for the east side of the City that will encourage sustainable modes of travel and reduce congestion and pollution on the road network. It is recognised that this application is in outline only and future reserved matter submissions will be required to approve the detailed design. It is also recognised that the railway station will be provided as the initial phase of the development which is welcomed.



### *Active Travel*

- 8.10 A number of active travel route options are identified both within and beyond the site in line with the aforementioned policies, to provide safe and secure routes for both pedestrians and cyclists.
- 8.11 Two routes are proposed to connect to Heol Las east of the site. Both of these connections are subject to separate planning applications and currently sit with Newport Council for determination (the administrative boundary is Green Lane Reen on the east edge of the site). The northern most connection would necessitate a new bridge over the widened Green Lane Reen which would also accommodate the Public Right of Way crossing the site from Cypress Drive in the west. This connection will facilitate opportunities for connection to National Cycle Route 88 which extends eastwards along St. Mellons Road towards Marshfield from the junction with Heol Las. This route is highlighted as an important commuter cycle route by the Burns Commission. The application proposes that this route extends westwards through the site following the alignment of the resurrected PROW and connecting with Cypress Drive near Sandbrook Road.
- 8.12 A segregated cycleway would run through the site from the main entrance in the northwest corner to the railway station interchange. This route is then able to connect with the proposed 'Cycleway 2' on Cardiff's Integrated Network Map for Cycling, thus providing a dedicated segregated cycle route from the new transport interchange with the Newport Road/A48slips/Cypress Drive junction.
- 8.13 Provision of the segregated 'cycleway 2' from the site boundary to the Newport Road roundabout (alongside improvements in bus priority heading northwards) will form a critical part of the necessary off-site highway improvements to ensure the site is sustainable and encourages the use of more sustainable modes of transport. Given the recommendations within the Burns report, there is support for such off-site improvements from both Welsh Government and Cardiff Council, which will seek to ensure delivery of such infrastructure in advance of the proposed development being brought into beneficial use. Accordingly, and given the wider strategic benefits associated with the new Parkway station proposal, it has been agreed that the proposed legal agreement should not seek a financial contribution towards such provision – although such a developer contribution may form part of wider discussions. Such works are on the adopted highway and will be in the Council's control.
- 8.14 Other shared recreational routes are identified in the Design and Access Statement accompanying the application, including the potential for connections with Hendre Lake Park to the southwest and along the Faendre Reen corridor.
- 8.15 This outline application and its accompanying information identifies the potential to create some key active routes both within the site and connecting the existing communities in line with policy requirements. The precise alignment and design specification of these routes will be subject to further detailed design

through future reserved matter submissions and appropriate conditions are recommended.

### *Traffic Generation & Mitigation*

- 8.16 The Highways Officer (paragraph 5.1 and appendices) has expressed some concerns regarding the possible car journeys that may be generated by the development. Whilst provision is being made within the development for bus and active travel modes, concerns remain regarding the projected car journeys by users of the business park (1,168 trips in the AM peak hour & 1,080 in the PM peak hour). The Transport Assessment also anticipates up to 1,800 car parking spaces being required by the business park (and is projected to be full by 9:30am).
- 8.17 Whilst this figure is the maximum allowed under the Council's SPG (for the whole business park), it has the potential to constitute a major traffic generator that would have impacts upon the junction with Newport Road/A48 slips. To mitigate for this, a series of conditions to monitor traffic flows and phase car parking provision during the development of the business park as well as securing necessary off-site highway works (which is anticipated to include traffic signalisation of key junctions along Cypress Drive from the application site up to and including Newport Road/A48 slips and provision of bus gates). The off-site mitigation would be secured both by conditions (requiring such works ahead of first use or other such agreed timescales) and under separate Highways Agreements.

### *Construction Traffic*

- 8.18 The Environmental Statement identifies the potential for significant increases in heavy goods vehicles during construction associated with the importation of materials (126 HGV trips per weekday on average throughout the construction period rising to 302 trips per day during the busiest 12 month construction period. It is recognised that these impacts on the network would be temporary, nevertheless, a condition requiring a Construction Environmental Management Plan is considered to be necessary to manage construction traffic to ensure no unacceptable harm occurs to neighbouring occupiers or other highway users.

## **Ecology**

### *International Sites*

- 8.19 The site is located approximately 1.1km from the Severn Estuary Marine Sites (SAC, SPA and Ramsar) and LDP Policy EN5 (Designated Sites) therefore applies. This policy states that development will not be permitted that would cause unacceptable harm to sites of international nature conservation importance.
- 8.20 The Habitats Regulations require that consideration is given to the implications of plans and projects (developments) on such European Sites. Specifically, the process of Habitats Regulations Assessment (HRA) involves an initial

'Screening' stage, and if such assessment identifies that proposals are likely to have a significant (adverse) impact, Regulation 63(1) requires a competent authority (the LPA) to make an 'Appropriate Assessment' of the implications of the development/project on such European sites (either alone or in combination with other plans or projects), in view of that site's conservation objectives.

- 8.21 The proposed development is located within the zone of influence for the Severn Estuary Marine Sites (SAC, SPA and Ramsar), approximately 1.1km south of the proposed development (The amended HRA also identifies other SACs within a 30km that sit outside of Cardiff's administrative boundary). The applicant has submitted a 'shadow' Habitats Regulations Assessment of the proposed development the first stage of which is the Screening Stage, which seeks to determine whether there would be a likely significant effect (in the absence of mitigation). As stated above, if a likely significant effect, either alone or in combination with other plans or projects, cannot be ruled out then it will be necessary for the proposed development to be subject to an Appropriate Assessment to determine whether there would be an adverse effect to the integrity of the designated site in light of its conservation objectives.
- 8.22 The 'shadow' HRA, supported by updated bird surveys, concludes that, in the absence of mitigation, potential pathways do exist for the development to cause significant effects on Cardiff's International Sites, for example habitat degradation in the form of dust deposition, pollution events, sediment runoff, changes in air quality, and the spread of invasive non-native species; habitat loss/severance; physical disturbance/damage of habitats for which qualifying features rely on; disturbance/displacement to qualifying fauna and mortality/injury of individuals. Therefore an Appropriate Assessment is required.
- 8.23 The HRA then proceeds to Appropriate Assessment which concludes that, subject to suitable mitigation measures and proposed monitoring, the construction and operation of the proposed development does not, either alone or in-combination with other plans or projects, give rise to any adverse effects on the integrity of the International Sites. Following engagement with the Council's ecological advisors, the Council has accepted the conclusions and adopted the shadow HRA as its own (a copy is appended to this report as appendix C). The necessary mitigation and monitoring measures are to be secured through relevant conditions.

#### *Site of Special Scientific Interest*

- 8.24 The site is located within the Gwent Levels (Rumney and Peterstone) Site of Special Scientific Interest (SSSI). LDP Policy EN5 (Designated Sites) therefore applies which does not permit development that would cause unacceptable harm to such sites.
- 8.25 NRW are the statutory consultee in respect of SSSI matters and their consultation responses are appended to this report. Although NRW have objected to the development, such objection only 'bites' beyond the stage of development where the applicant would need to provide compensation off-site

(i.e. outside of the red line boundary). This is explained in detail below, and also as part of the overall planning balance at the end of the report.

8.26 In summary NRW has expressed significant concerns at the potential for adverse effects to occur to the SSSI features and advise that appropriate compensation is required for the habitat that will be lost by the development. Notably, 5.37km of field ditches will be infilled within the application site to accommodate the train station, development plateaus and associated infrastructure with an additional 4.04km of new field ditches being created – a net loss of 1.33km of field ditches. This is indicated on figures 4 and 5 below.

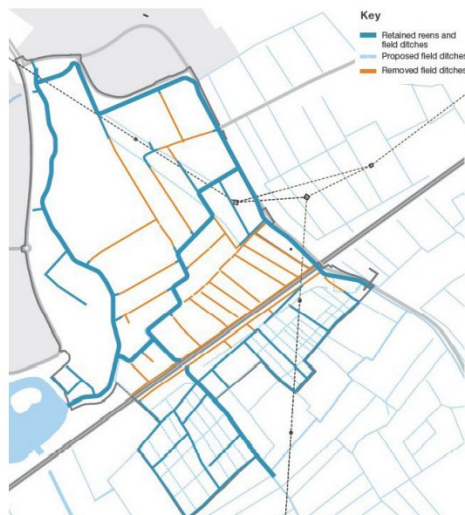


Figure 3 | Proposed field ditch infilling and new as per January 2021 OPA

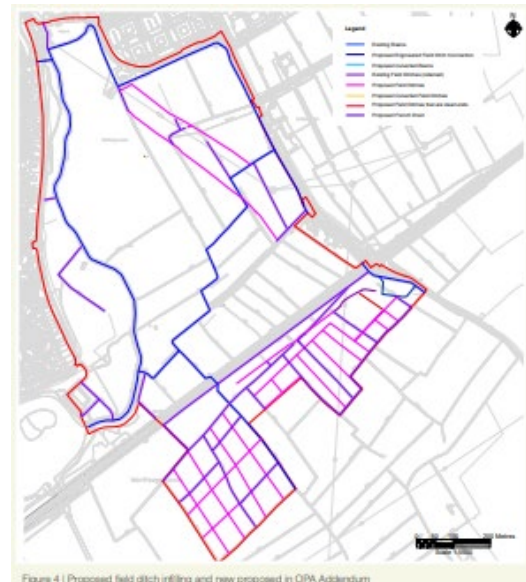


Figure 4: Field Ditch Removal

Figure 5: New Field Ditches

8.27 NRW advise that these losses must be compensated for on a 1:1 ratio and discussions between NRW, the Council, and the applicant have concluded that this will necessitate a degree of off-site compensation as this cannot be wholly accommodated within the application site. The option of providing appropriate compensation by way of a financial contribution has also been explored.

8.28 The starting point for these discussions was that the proposed development will be undertaken in a phased manner commencing with the earthworks and creation of the station infrastructure, including access roads (along with appropriate Green Infrastructure etc). While on-site compensation and enhancement is proposed to address identified environmental impacts, which can be controlled through conditions (and the associated legal agreement), there is also a need for an appropriate mechanism for the delivery of off-site compensation. However, as identified below, the applicant does not currently have any additional land on which such compensation could be achieved, meaning that there is no certainty that compensation could be delivered. It is at this stage that the NRW objection bites.

8.29 The following approach has been discussed and is considered to be the most appropriate way forward to address the identified concerns:

- (i) Development of the initial phases of the development (notably the preliminary rail works zone (purple zone on the figure 6 below), the strategically important station zone (yellow), southern mitigation area (light green), main park (green) and wildlife corridor (dark green) to be undertaken without the need for off-site compensation. This is because alterations/compensation within the red line is evidenced in the application and can be appropriately controlled by condition:

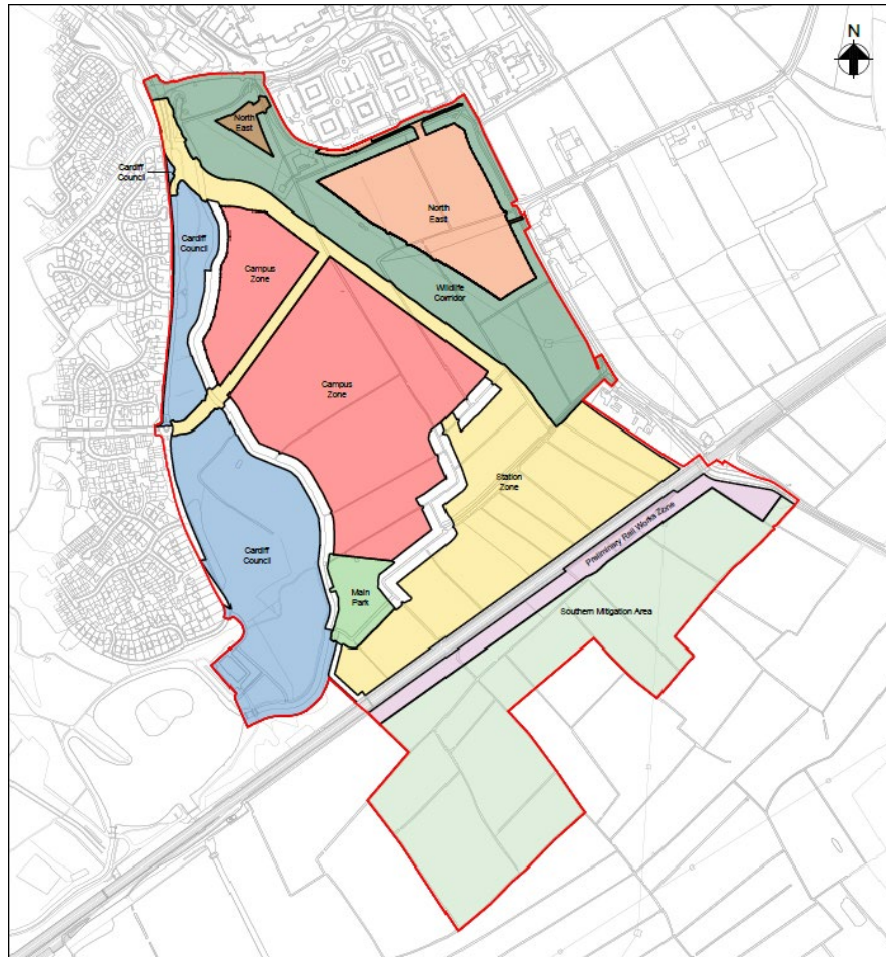


Figure 6: Development Zones/Phases

- (ii) In order for later phases to progress, that is, the Campus Zone (red) and North-East Zone (peach and brown), off-site compensation will be required. The most appropriate way this could be delivered is to secure new offsite field ditches through a planning obligation. However, there are significant complexities and uncertainties, not least because the developer does not currently have control over additional land (or options in respect of any such land) necessary to provide such compensation.
- (iii) The following sequential approach has been drafted in consultation with NRW with the aim of providing a mechanism to achieve delivery of such

off-site compensation, the details of which would be set out in greater detail within a legal agreement:

Stage 0:

- 8.30 A Phasing and Delivery Plan will be approved in advance of any works commencing on site/prior to the submission of any reserved matters applications. This plan will require approval by the Local Planning Authority to ensure no subsequent changes to the initial phases and thus the appropriate trigger point for Stage 1 remains appropriate having regard to the need to mitigate the impacts on the SSSI.
- 8.31 No development will be allowed to commence on site until such time as: -
- The detailed Phasing and Delivery Plan has been approved; and
  - All necessary pre-commencement conditions have been discharged, including those relating to the delivery of on-site compensation; and
  - All necessary land within the red line legally-secured for the necessary compensation for the initial phase (see Arsenal condition discussion at paragraph 9.10).
- 8.32 Thereafter, no development will be allowed beyond the agreed initial phases until the Council, in consultation with NRW, has been satisfied and confirmed in writing that they accept that reasonable endeavours have been made to identify and secure appropriate controls to deliver off-site compensation in line with the following sequential approach.

Stage 1

1. The Owners/Developer agree to undertake investigations (and report in detail on the nature of such investigations/discussions) to:
  - a. Identify land adjacent to the Rumney and Peterstone SSSI on which no less than 1500m of new field ditches can be created, with the aim of achieving SSSI standard and extension of the SSSI notification to cover the area;  
  
Then should it not be possible to comply fully or in part with approach (a)
  - b. Identify land adjacent to the wider Gwent levels SSSIs (with a sliding scale of preference for land closer to Rumney and Peterstone SSSI. e.g. St Bride's SSSI is the next SSSI unit moving east along the Gwent Levels) on which no less than the balance of 1500m of new field ditches can be created, with the aim of achieving SSSI standard and extension of the SSSI notification to cover the area

Then, should it not be possible to comply fully or in part with approach (a) and (b) (individually or in combination)

- c. Identify land within the existing Rumney and Peterstone SSSI on which no less than the balance of 1500m of new field ditches can be created subject to the owner/developer demonstrating the acceptability of such additional ditches, having particular regard to the existing capacity of the SSSI (in terms of water availability for Internal Drainage District to management the reen network).

Then, should it not be possible to comply fully or in part with approach (a) (b) and (c) (individually or in combination)

- d. Identify land where the balance of 1500m of existing ditches in 'unfavourable condition' can be reinstated/brought into 'favourable' condition

For purposes of clarity, the above approach is in order of sequential preference (with (d) being the least favourable), with a requirement to demonstrate that reasonable efforts have been made on each option in turn. However, provided all such efforts are made, it may be possible for a combination of two or more of the four approaches to be agreed, provided the compensation equates to no less than 1500m of ditches.

It is also emphasised that if only option (d) were applied, then NRW does not consider such provision to be 'compensation' for the loss of the dry ditches on site, and in this respect for any other option than (a) or (b) the 'planning balance' in favour of the development bites (see paragraph 10.7).

2. For whichever option of (a) to (d) (or in combination) is agreed, the owners/developer would:
  - (i) provide evidence of landowner agreement;
  - (ii) submit a site-specific plan identifying the extent of works necessary to provide such compensation;
  - (iii) demonstrate a legally binding management agreement with the landowner (which should extend for 25 years);
  - (iv) provide a programme of implementation with agreed timescales; and
  - (v) provide a monitoring framework, funded by the developer, to demonstrate that the works have been successful, and if not that any necessary additional measures required will be undertaken (such reports to be submitted to the Council every 5 years).
3. No development beyond the initial phases to commence until such time as the mechanism for delivery of the required off-site compensation has been secured through the above agreements.

For purposes of clarity, and having regard to the likely timescales for the development, it is currently anticipated that a period of up to five years may be

required for the developer to undertake the above rigorous process to identify off-site compensation.

## Stage 2

Stage 1 above places an onus on the developer to identify and deliver appropriate off-site compensation, and the Council will regularly engage with the developer to ensure progress is being made. However, should the developer be unable to secure sufficient sites to deliver a minimum of 1500m (or a proportion of) replacement ditches (or based on the sequential approach the reinstatement of existing ditches to a favourable condition) within 5 years of the date of the agreement, or 3 years from the commencement of the initial phase of development (whichever is the latter), then:

1. The developer will provide a financial contribution to the Council of: -
  - a. £145,000 to cover the costs of a minimum of 1500m new/recast field ditches (having regard to the sequentially preferable options at Stage 0), plus a 25 year management and monitoring strategy OR investigation into and delivery of alternative interventions to provide improvements to the special features within the SSSI.

plus

  - b. £75,000 to cover the costs of contracting administrative and/or ecological/professional support over the 25 year period in respect of all necessary work to facilitate agreements within the SSSI to deliver necessary compensation/interventions, together with appropriate monitoring and reporting to demonstrate SSSI improvements

8.33 In the event only partial off-site compensation site(s) have been secured under Stage 1 (i.e. less than 1500m), the financial contribution to be secured under part (a) of the above stage 2 sequential approach will be proportional to the extent of ditches not secured by stage 1.

8.34 Following these discussions, NRW have considered the sequential approach outlined above and are satisfied with Stage 0 subject to relevant conditions being discharged before works commence on site. They are also generally satisfied that Stage 1 could provide satisfactory compensation, subject to the drafting of the legal agreement and relevant conditions (although they express concerns that the entire 1,500m compensation could be provided by (d), and would prefer this to be in combination with (a) – (c)). However, they continue to have reservations that the fallback position outlined in Stage 2 will not ensure that the loss of field ditches will be appropriately compensated. As uncertainty remains, they maintain an objection.

8.35 The exact wording of the legal agreement will be confirmed in the event that this application is determined favourably, however officers consider that the



above approach establishes a framework setting out how NRW's objection can be satisfactorily overcome.

- 8.36 However, having regard to the above, it is nevertheless accepted that should the sequential approach progress to Stage 2 (i.e. the developer has been unable to secure control over sufficient land to deliver appropriate off-site compensation), that there is no guarantee that the Council will be able to deliver sufficient compensation to fully offset the identified impacts on the SSSI. In such a *backstop* scenario, therefore, there will be a need to consider such identified impacts as part of the 'planning balance', weighing up matters including the allocation of the site in the LDP and the strategic importance of the proposals.
- 8.37 Having regard to the s122 CIL tests, it is considered that the 'value' of the proposed financial contribution above appropriately reflects the amount of field ditches which are being lost. In addition, although being a 'last resort / backstop' payment (the initial options being sequentially preferable in their ability of fully compensate for the identified impact on the SSSI), the approach is also considered to be strictly necessary, and to fairly and reasonable relate in scale and kind to the development. In this respect, it is also noted that CPDL has also confirmed that they are satisfied that the inclusion of a planning obligation to make a payment relating to the offsite replacement of dry field ditches would satisfy the tests set out in the CIL Regulations.

#### *Grasslands, and Marshfield Site of Importance for Nature Conservation*

- 8.38 The loss of the Marshfield SINC to the development was accepted at an early stage by the then County Ecologist on the basis that compensation for this loss in the context of TAN 5 Section 5.5.3 would take place in the southern mitigation area south of the railway line. This paragraph requires any unavoidable harm to local sites to be minimised by mitigation measures to ensure no reduction in the overall nature conservation value of the area or feature. The amended application makes provision for this compensation.
- 8.39 However, the County Ecologist and NRW consider that an overall net loss to grassland habitats will occur and have expressed concerns in this regard. The classification of grassland habitat forms part of their concerns. The net loss of grasslands also potentially has a knock-on impact upon species e.g. ground nesting birds (breeding habitat) and the shrill carder bee. Whilst it is accepted some mitigation and compensation is proposed within the site (for example, the Wildlife Corridor), provision for which will be secured through conditions, the overall net loss leads to a conclusion that, overall, grassland impacts are considered to be adverse. This is ultimately a matter to be weighed in the planning balance.

#### *Ecosystem Resilience*

- 8.40 Planning Policy Wales 11 (PPW11) advises that planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means that development should not cause any significant loss of habitats or species, locally or nationally, and must provide a net benefit for biodiversity.

Planning Authorities must also take account of and promote the resilience of ecosystems, with particular regard to diversity between and within ecosystems, connections between and within ecosystems, their scale (extent), condition (including structure and functioning), and their adaptability (6.4.5).

- 8.41 Planning authorities must demonstrate that they have sought to fulfil the duties and requirements of Section 6 of the Environment Act by taking all reasonable steps to maintain and enhance biodiversity in the exercise of their functions (PPW11, 6.4.8).
- 8.42 The further environmental information submitted in December 2021 includes a 'Resilience Assessment' at Appendix E28. This table considers three main ecosystems within the site: grassland, semi-natural broad-leaved woodland, hedgerows, scrub and ruderal habitats and wetland (reens and field ditches). The assessment concludes that the resilience of each ecosystem can be expected to increase, subject to long-term management.
- 8.43 The Council's Ecologist and Natural Resources Wales (NRW) adopt a contrary view in respect of the impact upon grasslands, as set out in the preceding paragraphs. This is a matter to be weighed in the planning balance.
- 8.44 Neither the Council's Ecologist or NRW have disagreed with the applicant's assessment that the diversity, extent, condition and connectivity of woodland, hedgerow and ruderal scrub would increase as a result of the development. The assessment highlights that all three habitats would increase in their extent and size (net gain ratios of 2.27:1 for woodland and 1.28:1 for hedgerows). Subject to careful ongoing management secured through conditions their condition can reasonably be expected to improve from their current 'low to moderate' condition. Connectivity of woodland in particular will improve through the provision of the wildlife corridor running through the site. Diversity of species in both woodland and hedgerows will also increase through the compensatory planting that will be secured through relevant conditions.
- 8.45 The water bodies within the site (reens and field ditches) are subject to the SSSI designation and are therefore intrinsically important to the character of the area. The impacts of the development on this national designation have been considered earlier in this analysis from paragraph 8.24. There will be inevitable impacts upon the SSSI arising as a result of this development. Although the reens would be retained in the north of the development (and widened in the part of the Green Lane Reen), approximately 5.37km of field ditches will be filled in with 4.04km proposed by way of on-site compensation (a net loss of 1.33km). NRW have previously expressed concerns regarding this on-site compensation in respect of the density of field ditches in the southern mitigation area and the resulting impacts on the fields in between which contribute to the biodiversity of the area.
- 8.46 The analysis of the SSSI impacts beginning at paragraph 8.24 sets out a sequential approach to provision of off-site, to be secured through the completion of a Section 106 Agreement, to secure appropriate compensation for 1.5km of field ditches (an overall net increase of 0.17km). Beginning with

land adjacent to the Rumney & Peterstone SSSI, then land further afield within the Gwent Levels (starting from land closest to the Rumney & Peterstone SSSI), before returning to land within the Rumney and Peterstone SSSI, the developer will be required to provide the 1.5km of new field ditches with the aim of achieving SSSI standard and extension of the SSSI notification. If none of these steps generate a solution, either alone or in combination, the developer will be obligated to identify land where existing field ditches in an unfavourable condition can obtain favourable condition status (Stage 1 a-d). Finally, if this is not achieved, a financial contribution is payable to the Council (Stage 2) (detailed in paragraph 8.31).

- 8.47 NRW, having engaged in discussions with the Council and applicant, advise that their concerns regarding resilience are likely to be addressed if the provisions set out in stages a-c are fulfilled as this compensation would help increase the extent and diversity of the SSSI (see NRW letter dated 9 March 2022 appended to this report). It is acknowledged that a degree of risk remains that compensation could move beyond a-c to include, in full or in part, step d or Stage 2 (the financial contribution) and in such a scenario NRW would not be supportive, the sequential approach to securing has been carefully constructed to ensure that such a scenario is the last resort and would, in the Local Planning Authority's view, still ensure the resilience of ecosystems, having regard to NRW's concerns. Ultimately, this is a matter for the planning balance.

#### *Species*

- 8.48 Following the receipt of further information submitted in December 2021, NRW remained concerned with four aspects of the submitted Dormice Framework Strategy: hedgerow widths and habitat calculations, planting within the National Grid Corridor, shading from buildings and supplementary feeding. The applicant has provided further clarification on each of these matters such that NRW is satisfied that conditions, future consideration of reserved matters and their own EPS licencing application process provide robust mechanisms in which their concerns can be fully assessed at the appropriate time.
- 8.49 Bats, Water Vole, and Otter are also identified to be significantly impacted in the short term during construction activities when existing trees and hedgerows will be removed (and compensated for with new planting), re-enwidening works occur and field ditches are filled in and re-created in the southern mitigation area. The further information submitted has been accepted and relevant conditions are attached in line with NRW's advice.
- 8.50 Conditions are recommended to ensure that up to date surveys accompany future reserved matter submissions to determine whether any changes occur to species populations, mindful of the phasing of development. This will secure new or amended ecological measures where necessary.

## **Socio-Economic Impacts**

- 8.51 The effects of the development on the economy, labour market, and local communities are an important material consideration. 241 net Full Time Equivalent (FTE) jobs are anticipated to be generated during the construction period (2023 – 2031) and the completed development (B1, B2, B8 employment uses) when fully operational is expected to generate up to 6,000 gross new direct jobs (3,375 net direct jobs). In addition to these jobs, the proposed development would be expected to stimulate additional employment in the local economy by generating induced spend through increased local income and supplier purchases.
- 8.52 The development is expected to bring economic benefits to both the local and regional economy through facilitating higher employment productivity and GVA. The new station could widen labour market catchments that also give potential for cost reduction through improved proximity between businesses. The provision of the strategically important mainline railway station with improved links to the Cardiff Capital Region as well as connecting with London and Cardiff Airport is expected to bring increased investment opportunity.
- 8.53 Accessibility to and from the site will be increased with new and improved transport links for all modes, including the re-opening of a Public Right of Way through the site which is currently impassable. Enhanced active travel opportunities and public transport routes will encourage travel by sustainable modes through a range of accessibility options. Future occupiers and visitors to the site as well as the local community will benefit from opportunities to access new recreational routes within and through the site connecting to existing areas of recreational space (e.g. Hendre Lakes Park).
- 8.54 The socio-economic impacts of the proposed development were found to have a 'major beneficial' effect in the Environmental Statement and officers do not disagree with this conclusion. This is an important consideration for the overall planning balance.

## **Landscape and Visual Impact**

- 8.55 The site is located within the Wentloog Levels, designated as a Special Landscape Area in the Local Development Plan. Policy EN3 gives particular priority to protecting, managing, and enhancing such areas and development will not be permitted that would cause unacceptable harm to the character and quality of these landscapes. The policy exists to protect these areas from inappropriate development and to ensure these features continue to contribute to the character, value, distinctiveness, sense of place and quality of such areas.
- 8.56 The site is also located wholly within the Gwent Levels, a registered Historic Landscape and though this designation offers no statutory protection the impact upon the historic landscape must be taken into account when development proposals are made that directly affect them or their setting (Local Development

Plan Policy EN7 only permits development that preserves the asset's historic quality).

- 8.57 The Environmental Statement accompanying the application includes a Landscape and Visual Impact Assessment (LVIA) that considers the impacts of the development from a number of viewpoints. Significant negative effects were found to occur during construction and operation (up to 15 years from first operation) of the Estuary Saltmarshes, Hendre Lakes Park and the Wentloog Levels. The effects would remain significant at 15 years due to the permanent presence of the buildings in the landscape.
- 8.58 The LVIA also identifies that local residents to the south-west on the edge of St. Mellons as well as residents southeast on Heol Las and at Peterstone Wentloog will experience significant visual effects.
- 8.59 The LVIA points to these impacts being reduced through controlling construction activities and the provision of green infrastructure including replacement field ditches and publicly accessible green spaces within the development.
- 8.60 The amended submission reduces the building heights across the six development zones as follows (in response to concerns expressed by officers and as shown in the parameters plans at Figure 1, repeated below):
- 1A (The Station Zone): up to 12 storeys which would be a maximum of 40m, with an additional 4m plant at the top (44m).
  - 1B (The Station Zone): up to 15 storeys which would be a maximum of 60m, with an additional 4m plant at the top (64m) (unchanged from the original submission).
  - 2A (Edge of Main Area): up to 6 storeys which would be a maximum of 24m, with an additional 4m plant at the top (28m).
  - 2B (Main Area in the centre of the site): up to 12 storeys in height, which would be a maximum of 48, plus the additional 4m for plant (52m) (also unchanged from the original submission).
  - 3A & 3B (The Northern Parcels): up to 6 storeys in height a maximum height of 24m, plus 4m for plant (28m) (unchanged from original submission).



does restrict the maximum ground floor area in each of the development zones, (with the Station Zone for example proposing up to 50,000sqm), to ensure a distribution of the maximum 90,000 sqm across the site (in line with LDP Policy KP2(H)).

- 8.65 Notwithstanding this, while there is general support for a code/framework to be developed for each area which provides for the highest quality of building design and form, within an appropriately deigned landscape, concerns remain regarding the maximum heights of 12-15 storeys being proposed and their appropriateness for such a sensitive location. Notably because this would introduce buildings of much greater height than those which currently form part of the immediate context.
- 8.66 To ensure that the overall development can be established within a carefully managed landscaped environment, balancing development with biodiversity and historic character, it may be necessary in some areas to the minimise footprint of new development to provide such balance. Accordingly, while it is not specifically intended to preclude developments at such maximum heights through a restrictive condition, the first reserved matters submission for each zone/phase will nevertheless be required to demonstrate how the quantum of floorspace can be achieved in the most visually sensitive manner, and in this respect it is noted that development at the highest height parameters may not be supported without a clear demonstration of its acceptable impact and its highest design quality.

#### *Impact on Historic Landscape*

- 8.67 With specific respect to the historic landscape, the application has been accompanied by an ASIDHOL2 report (Assessment of the Significance of the Impact of the Development on the Historic Landscape).
- 8.68 The report identifies that the proposed development comprises an area of land measuring 0.802km<sup>2</sup> the entirety of which lies within the Gwent Levels Historic Landscape (which has a total area of 106.9km<sup>2</sup>). Accordingly the maximum overall area which could be directly affected by the proposal represents 0.75% of the entire area on the register (based on the red line boundary).
- 8.69 Specifically, the site is located within the Trowbridge (HLCA019) and Rumney (HLCA018) Historic Landscape Character Areas.



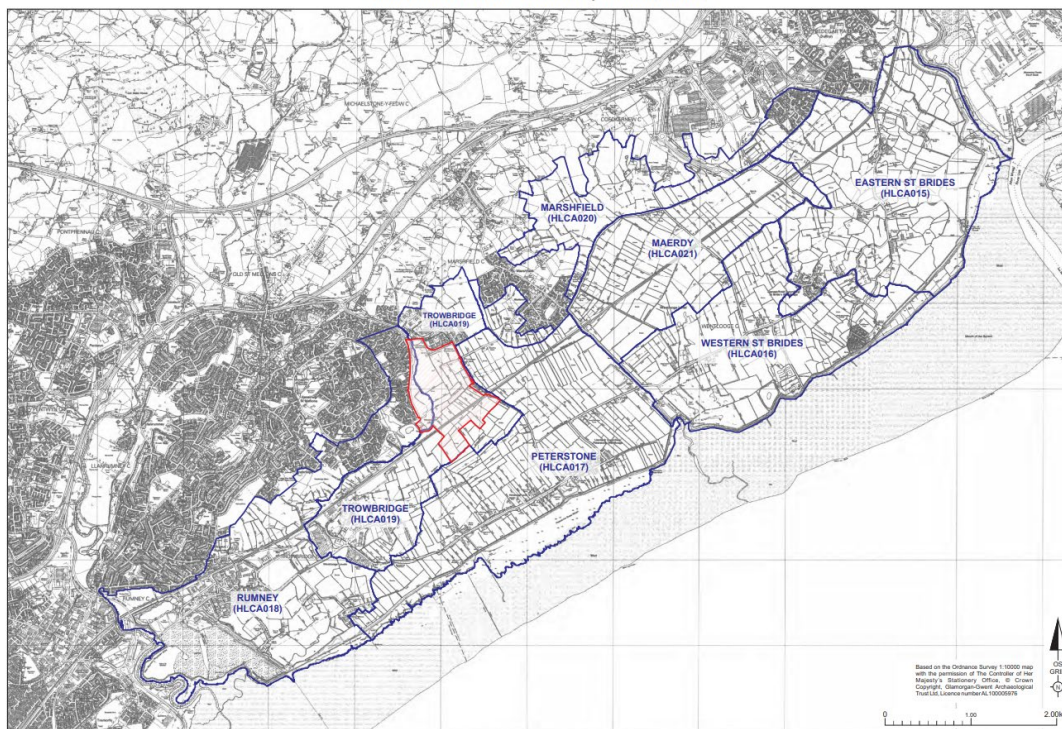


Figure 2. Location of development area (red) and HLCA's (blue).

Figure 7: Historic Landscape Areas

8.70 The report assesses the overall significance of the impact of the development on the Gwent Levels landscape of outstanding historic interest to be 'Slight' rather than 'Very Slight' as the scale of the development will have a disproportionate effect on six Character areas located in the west of the overall Registered Landscape.

8.71 The two Historic Landscape Areas (HLCA's) that will be directly affected are:

- Trowbridge (HLCA019)

The proposed development will involve a 'Severe' direct effect on HLCA019 Trowbridge. The development area represents over 22% of the landscape character area and little can be done to mitigate the loss of the landscape itself. However, the use of strategies such as historic hedgerow survey, geophysical survey, evaluation test pitting and archaeological watching brief will mitigate against the loss of the archaeological receptors in the area (as discussed in the accompanying ES Chapter).

- Rumney (HLCA018)

8.72 It is also assessed that the following four Historic Landscape Areas will be subject to an indirect effect:

- Peterstone (HLCA017) (abuts the eastern boundary of the development)
- Marshfield (HLCA020) (abuts the eastern boundary of the development)
- Maerdy (HLCA021)
- Western St Brides (HLCA016)



- 8.73 The remaining 15 Historic Landscape Character Areas (HLCAs) will be unaffected.
- 8.74 The report concludes that the overall indirect effect of the development can be partly mitigated by the use of appropriate screening measures to limit the indirect impacts. Some existing hedgerows will be retained and others will be planted to provide screening from the west, north and east. Combined with the flat topography of the whole area, such measures should limit the visual impact of the development from short to medium distances. Screening measures for the southern part of the development are, however, much more limited due to the relative openness of the Southern Mitigation Area (part of the Trowbridge HLCA) and the adjoining Peterstone Historic Landscape Character Area 017, which is relatively open in nature.
- 8.75 Although increasing distance and the relative lack of elevated vantage points within the landscape will partly reduce the visual impact, as might less visually intrusive designs, the scale and form of the development will still be visible from southern aspects.
- 8.76 Positive mitigation designed to reduce the impact of the development on the historic landscape has been recommended; this includes the suitable restoration and maintenance of characteristic historic landscape features, such as ditches and grips, and the securing of a management plan to restore and enhance the historic character of the historic landscape in the vicinity of the development.
- 8.77 These identified impacts reinforce the need, as stated above, for appropriate degree of control over the height and form of new buildings on each of the zones with careful consideration of the same required at reserved matters stage.
- 8.78 Late comments have been received from Newport Council suggesting additional viewpoints be assessed however the submitted LVIA is considered to be robust and the detailed designs will be subject to detailed approval following submission of reserved matters.

#### *Trees*

- 8.79 Existing trees make an important contribution to the site. Proposed losses are summarised in Section 1 and include, notably, the loss of 2 no. Category A oak trees and 47 no. Category B trees. Of the two category A trees, one has achieved 'veteran' status and the other is an emerging veteran tree. The Tree Officer opposes their removal, describing the Category Trees as "cultural monuments of huge importance." He considers that the removal of the A and B category trees to be contrary to Local Development Plan Policy EN8 (Trees, Woodlands and Hedgerows) in that unacceptable harm would arise and also KP15 (Climate Change) as trees act as carbon sinks and should be protected.
- 8.80 The applicant's further Environmental information contains an Arboricultural Technical Note justifying the removal of these trees due to the need to raise

land to create development platforms that satisfactorily address flood risk. It concludes that retention is not feasible for these trees as one Category A tree would require a re-design of the road swales and attenuation areas where it conflicts with the proposed access road. Other trees are located within development zones and retention with appropriate buffer zones would not be feasible mindful of the impact upon the developable area.

- 8.81 The note also makes reference to the significant planting proposals contained in the application. Although more than 50% of existing individual trees are proposed to be felled (79 of 142), the proposals do include circa 200 new trees, a net gain of 137. An estimated circa 5,000 new trees are also proposed to be planted in the circa 3.2 hectares of woodland areas within the site (subject to detailed approval at reserved matters stage).
- 8.82 The Council's Tree Officer maintains his objection having considered this technical note and considers that new planting cannot in numerical terms adequately compensate for losses of existing trees of high quality. These concerns are noted and, given that detailed matters are subject to reserved matter approval, a condition is recommended requiring that the first reserved matters application for each affected part of the site is supported by further work which explores options for the retention of existing A and B category trees, with specific consent required through such condition for their removal.

### **Impact on Residential Amenity**

- 8.83 There have been a number of objections raised in respect of the potential impact of the development on amenity. The wider landscape and visual impacts have been addressed above, and it is similarly considered that the introduction of the new development, while undoubtedly having an impact on such residents (due to the substantial change in the character of the site) would not have an unacceptable impact, noting in particular the incorporation of green infrastructure closest to the existing dwellings. The impact from specific buildings, in terms of privacy or noise, would also be protected due to distance, but in any event controlled through design at reserved matters stage
- 8.84 Noting the comments from SRS about potential for noise from the increased use of the highway, it is considered that the noise and air pollution impacts can be satisfactorily addressed through conditions. Notably, a series of mitigation options to reduce traffic speeds on Cypress Drive is highlighted in the ES as being an effective noise mitigation measure without the need for bunding or noise barriers. An appropriately worded condition is recommended.

### **Heritage**

- 8.85 LDP Policy EN9 (Conservation of the Historic Environment) states that development will only be permitted where it demonstrates that the architectural quality, historic and cultural significance, character, integrity and/or setting of the asset is preserved or enhanced. This policy applies to the Archaeologically Sensitive Area and the Registered Historic Landscape that the application is located within.

## *Archaeology*

- 8.86 The further information submitted in December 2021 includes a report on Archaeological Evaluation following 17 trial trenches that were dug during 2021. No features or deposits of note were encountered and timbers uncovered in the peat deposits were concluded to be naturally occurring. Glamorgan Gwent Archaeological Trust recommend a condition requiring a written scheme of investigation be attached to ensure for the continued protection of the archaeological resource for the duration of construction works, in line with the recommendations contained within the updated chapter of the Environmental Statement. CADW have also made similar conclusions and recommended an appropriate condition.

## *Registered Historic Landscape*

- 8.87 The preceding Landscape analysis considers the impact on the historic landscape. The assessment of the development's impact on the historic landscape has concluded that a significant effect will occur. CADW's consultation response notes that the area south of the railway will provide a mitigation area where field ditches will be created and maintained with the existing reens and ditches in this area. They also note the Environmental Statement suggests that information boards can be provided in appropriate locations within the development to explain the development of this historic landscape and, provided this mitigation takes place, they consider that the development's impact will not be significant. A relevant condition is attached.

## **Hydrology**

### *Flood Risk*

- 8.88 The proposed development constitutes 'less vulnerable development' for the purposes of Technical Advice Note 15 (Development and Flood Risk) and is almost entirely within Zone C1 (areas served by significant flood defence infrastructure) as defined in NRW's Development Advice Maps. It is also within the 0.5% (1 in 200 year) and 0.1% (1 in 1000 year) annual probability flood outlines.
- 8.89 Consequently, the Flood Consequences Assessment (FCA) accompanying the application proposes a series of flood management measures including raising of ground levels by circa 1-2 metres to achieve a minimum of 6 metres AOD to acceptably manage this risk. NRW acknowledges that raising the site to this minimum level will significantly reduce the flood risk from all potential sources (tidal, fluvial and surface groundwater).
- 8.90 To compensate for the raised development plateaus, in addition to retaining main reens through the site north of the railway, flood storage areas will be created in the southern mitigation area together with some smaller areas north of the railway line. The ground would be lowered in these storage areas to provide additional water storage in the event of an extreme event (ground to be

set to 4 metres AOD as per the FCA addendum). Furthermore, new field ditches would be provided within the southern mitigation area and Green Lane Reen would be widened by 3 metres to further manage flood risks.

- 8.91 NRW agree with the conclusions of the FCA that, during a 0.5% flood event (plus Climate Change allowance), the raised development plateaus will ensure compliance with TAN 15. They note that, for a 0.1% tidal event (plus Climate Change Allowance), the built development will be flood free as the maximum 0.1% flood level for the year 2095 is 5.05m (below the 6m development plateaus). Some localised flooding may occur to depths of around 140mm (average) and up to 480mm (maximum) however they note the flooding is deliberate and will maintain connectivity between the Faendre and Ty Fynnon reens and the area will only be used as public open space. In terms of residual flood risk, maximum depths of circa 310mm are anticipated within the built environment whereas depths in the area of green infrastructure (open space, park, wildlife corridors could exceed 1 metre).
- 8.92 They are satisfied that the FCA demonstrates that the proposed measures to manage flood risks and recommend a condition for the delivery of flood compensatory storage south of the railway line.

#### *Foul Drainage*

- 8.93 Following Hydraulic Modelling Assessments, Dwr Cymru Welsh Water have confirmed that they can support the application's proposed foul drainage strategy provided the point of connection to the existing network is to the point of connection identified in the assessment (a specified connection point 0.6km southwest of the application site). A relevant condition is attached.

#### *SuDS*

- 8.94 This proposed development is subject to Schedule 3 of the Flood and Water Management Act 2010. The development therefore requires approval of Sustainable Drainage Systems (SuDS) features, in accordance with the 'Statutory standards for sustainable drainage systems – designing, constructing, operating and maintaining surface water drainage systems'. The developer has engaged in pre-application discussions with the Local Authority, as the determining SuDS Approval Body (SAB), in relation to the proposals. The Drainage Strategy submitted in December 2021 contains an overview of how the proposed development will comply with the six SuDS standards.
- 8.95 Natural Resources Wales express concern that a discharge rate of 5 l/s could be used to reduce the risk of blockages, which they regard as a significant volume of water entering the reens, bringing risks of erosion and flooding on land south of the site. They do not consider it acceptable to remove silt from SuDS systems by discharging into reens. They advise that SuDS should be regularly monitored and maintained and silt should be appropriately disposed of. They advise that the applicant will need to obtain a Land Drainage Consent from their Internal Drainage District.

## **Climate Change**

- 8.96 Future Wales (February 2021) recognises that Wales is facing a climate emergency that is actively changing our environmental and directly affecting communities (p6). Planning Policy Wales 11 (PPW11) recognises the planning system plays a key role in tackling this emergency through, for example, the sustainable management of natural resources (3.30). PPW also recognises that protecting carbon sinks is an important part of reducing the causes of climate change.
- 8.97 Trees are a significant contributor to ensuring resilience to climate change is achieved. The impact of the proposed development on existing trees has been considered previously in this analysis.
- 8.98 The Gwent Levels are identified in Future Wales as an ‘ecosystem service hotspot’ (one of 9 identified nationally), one reason being its important role in providing carbon storage – significant peat deposits were uncovered during archaeological excavations on the application site (see the consultation responses of the Glamorgan Gwent Archaeological Trust and CADW in paragraphs 6.5 and 6.8 respectively). Whilst the development would inevitably impact, to a degree, upon these deposits, these impacts must be weighed against the scheme’s benefits in helping to tackling the climate emergency, such as the contribution it makes to promoting sustainable travel, and ensuring resilience of ecosystems

## **Third Party Representations**

- 8.99 In response to the third-party representations that have not already been addressed elsewhere in this report:
- (i) The Replacement LDP is at an early stage of preparation with formal consultation stages yet to commence. The Replacement LDP does not have any status in determining planning applications until it has been through these formal consultation stages and examined by an Independent Inspector and adopted by the Council which is some years away. Under the provisions of the Planning (Wales) Act, the adopted Cardiff LDP currently forms the statutory development plan for the Council. Together with the national plan Future Wales, its policies and proposals have the special status afforded by Section 38(6) of The Planning and Compulsory Purchase Act 2004, which requires that, in determining a planning application the determination must be in accordance with the LDP unless material considerations indicate otherwise.
  - (ii) This development does not fall within any of the prescribed criteria within the Developments of National Significance (Specified Criteria and Prescribed Secondary Consents) (Wales) Regulations 2016 (as amended).
  - (iii) The detailed design of buildings including their height and siting will be subject to detailed approval following submission of reserved matters.

Notwithstanding this, it is not considered that the development parcels shown on the proposed parameter plan would result in an unacceptable impact on the privacy of neighbouring properties mindful of the separation distances.

- (iv) Crime prevention and the creation of safe environments would be considered during the assessment of reserved matter submissions when detailed plans and layouts would be submitted.

## **9. SECTION 106 AGREEMENT**

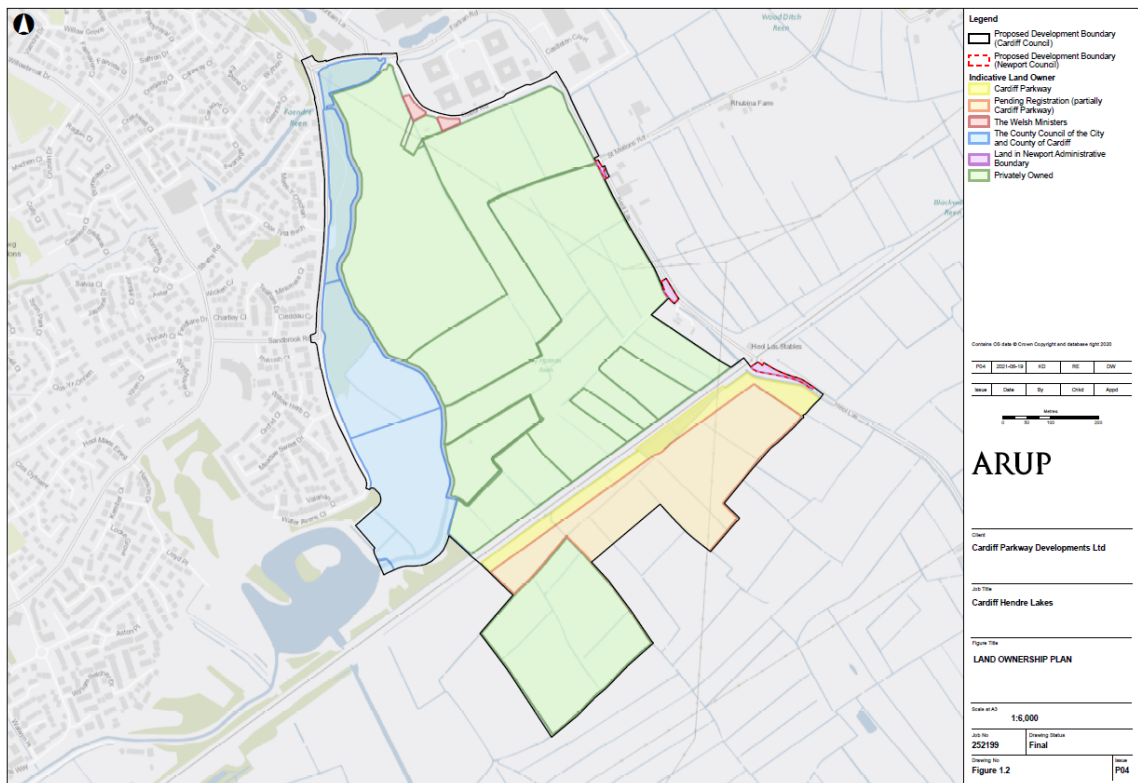
- 9.1 Policy KP7 (Planning Obligations) states that “planning obligations will be sought to mitigate any impacts directly related to the development and will be assessed on a case by case basis in line with Planning Policy Guidance”.
- 9.2 The supporting text emphasises that new development often generates additional demands upon existing services, facilities, infrastructure and the environment, with planning obligations being a means of seeking contributions from developers towards these demands, as well as negotiating benefits that improve the standard of development proposals by providing necessary infrastructure and community benefits.
- 9.3 The Planning Obligations SPG sets out the Council’s approach to planning obligations when considering applications for development in Cardiff, providing further guidance on how the policies set out in the LDP are to be implemented.
- 9.4 The Community Infrastructure Levy Regulations 2010 came into force on 6th April 2010 in England and Wales. They introduced limitations on the use of planning obligations (Reg. 122 refers), and state that a planning obligation may only legally constitute a reason for granting planning permission if it is: (a) necessary to make the development acceptable in planning terms; (b) directly related to the development; and (c) fairly and reasonably related in scale and kind to the development.
- 9.5 The need for planning obligations which are considered necessary to make the development acceptable in planning terms and to meet the policy and legislative tests for planning obligations has been assessed throughout the report, but in summary the proposed broad Heads of Terms for the required section 106 agreement are as follows (in line with the Planning obligations SPG):
- £10,000 financial contribution towards **Traffic Regulation Orders**
  - £100,000 financial contribution to address issues in the event of **Travel Plan Failure**
  - **Hard and soft landscape / Blue and Green Infrastructure (including biodiversity mitigation / compensation) / Open Space (including the extension to Hendre Lakes) / SUDS: Monitoring / Management Scheme, Management Mechanism and Service Charge regime.** To provide for management of the assets by a management company; community trust;

community interest company or other entity with step-in rights for the Council.

- **SSSI mitigation on-site** Mitigation to be laid out in accordance with an approved scheme reflecting the Framework SSSI Management and Monitoring Plan. Assets to be maintained in accordance with that approved plan. To provide for management of the assets by a management company; community trust; community interest company or other entity with step-in rights for the Council
- **SSSI off-site Compensation:** Sequential approach to off-site mitigation as per report including financial 'backstop' contribution (at appropriate time) of £220,000 to CCC to fund management agreements or such other matters as CCC shall consider necessary to offset the impacts of the development
- **Waste Management Contribution** - Value of contribution to be calculated with reference to Cardiff Waste Collection and Storage Facilities SPG

*Proposed Use of a Grampian 'Arsenal' Condition*

9.6 The applicant (CPDL) owns a strategically important part of the site to the south of the railway line (identified in yellow on the plan at Figure 8 below) which is required for key aspects of the development including access to the site from Heol Las. Other parts of the site are currently owned by other landowners under option agreements which the applicant has advised cannot be exercised by CPDL until it has secured outline planning permission.



9.7 The 'normal' practice for any such development with multiple landowners is that the legal agreement would be signed by all parties with an interest on the land, thus binding all of the land and any subsequent owners to comply with the terms of the legal agreement. However, the applicant has advised that there are a number of constraints which make it impractical to secure completion of a s.106 agreement for the entire site prior to the grant of planning permission:

- Some of the development site is owned by Cardiff Council.
- Compulsory Purchase Orders may be required to cleanse title and / or acquire small parts of the fragmented site.
- There are numerous landowners and given the nature of the development it is not possible for CPDL to complete its option agreements to acquire those freehold interests until planning has been obtained.
- CPDL has option agreements in place that obligate the site's landowners to enter into documents supporting the planning process such as s.106 agreements. However, the practical impacts of seeking the various landowners to enter the s.106 agreement will create significant delays with consequentially damaging impacts on the project (see below)
- The site includes several parcels of unregistered land which will take time to register with the Land Registry.

9.8 For the reasons described above, the applicant states that it is *"imperative that CPDL obtains its planning permission at the earliest opportunity to enable the delivery of a complex development site within the constraints of its rail and environmental interfaces"*.

9.9 Requiring all existing landowners to be signatories to the s.106 agreement would most likely extend the date by which planning permission could be obtained by (many) months with the applicants stressing that such a delay could potentially delay the delivery programme of the railway station by up to two years, given the complexity of rail planning processes and the timing of required environmental mitigation.

9.10 Within this context, the applicant proposes as follows: -

- That CPDL will bind its land within the development site with planning obligations under section 106 of the Town and Country Planning Act 1990 through a s.106 agreement with Cardiff Council;

And

- A negatively-worded '*Arsenal*' condition will be included in the planning permission to ensure that further confirmatory s.106 agreements will be entered into between CPDL and CC in respect of future phases of the development prior to the commencement of development for that phase. The confirmatory s.106 agreement(s) for those future phases would be in an agreed draft form appended to the s.106 agreement entered into by CPDL prior to the grant of outline planning.



- 9.11 The use of *Arsenal* conditions is (if not common) certainly not unique for complex developments involving the regeneration or development of strategic sites where landownership is fragmented. The condition is named after the approach adopted in the application relating to Arsenal Football Club's development of its Emirates Stadium.
- 9.12 The Welsh Government Conditions Circular 016/14, has no direct advice in respect of Arsenal conditions, but does (at para. 5.63) state the following in relation to Grampian conditions:
- “By their nature, Grampian conditions are drafted negatively and require that the development permitted should not be commenced, or occupied, until a specified obstacle to that development has been overcome on land that is not in control of the applicant. As with other conditions, Grampian conditions must be constructed having regard to the particular circumstances that exist and which affect or are affected by the development.”*
- 9.13 While such a negatively worded condition limiting the development that can take place until a planning obligation or other agreement has been entered into is unlikely to be appropriate in most cases, it is generally accepted that there may nonetheless be exceptional circumstances which might support its use. Notably, this can be in cases where there is clear evidence that the delivery of particularly complex development schemes would otherwise be at serious risk.
- 9.14 Having regard to the above, the applicant has stated that it will be lawful for the LPA to impose an Arsenal condition provided that it is consistent with relevant planning policy considerations, and effectively secures the planning obligations on which the planning decision is reliant. This is accepted. It is not, however, an approach that Cardiff Council has previously adopted, and therefore it is necessary to consider the acceptability of such a proposal, given that the starting point for any such development would normally be that all affected parties with an interest in the land are bound through the terms of a section 106 agreement.

#### *Timescales*

- 9.15 It is accepted that the issuing of a planning permission for the new Parkway station is critical in terms of timescales for the rail delivery programme, and that any delay in signing the legal agreement could also be critical to the commercial viability of the wider project. This is the primary driver behind the developer seeking to expedite the planning programme as far as possible, to avoid delays and maintain rail industry confidence in the prompt delivery of the station.
- 9.16 Within this context, it is also clear that the new parkway station is strategically important in the wider South East Wales region, having been expressly endorsed in the recommendations of the South East Wales Transport Commission of 26 November 2020 (the [“Burns report”](#)), which were endorsed by Welsh Government on 19 January 2021. The Commission's most recent Annual Report also emphasises that *“the private development plans for Cardiff Parkway ... are expected to be delivered first”*.

- 9.17 As identified earlier in this report, the development is also recognised in the strategic employment allocation KP2 (H) in the Local Development Plan, with the text emphasising that the site offers significant opportunities for a new station together with supporting sustainable transportation infrastructure. It is also recognised as an element of strategic transportation infrastructure in Policy T7.
- 9.18 Having regard to the wider concerns about deliverability and viability of the project, and the accepted exceptional circumstances that require the approval of planning permission at the earliest stage to ensure there are no barriers to financing and delivering the project to ambitious timescales, it is considered that the general principles behind adopting an Arsenal condition would be appropriate to this site.

*Proposed Wording / Triggers*

- 9.19 The applicant has requested that the 'Arsenal' condition require further confirmatory s.106 agreements to be entered into "*in respect of future phases of the development prior to the commencement of development for that phase*".
- 9.20 While the principle of the negatively-worded condition is accepted above, there are clearly significant complexities surrounding the development, notably relating to the environmental compensation/mitigation necessary for protected habitats and species. This complexity has been examined in detail earlier in the report, and requires such matters to be addressed through the legal agreement.
- 9.21 In this respect, it is noted that there are an extensive number of land titles that remain to be acquired (and/or owners signed up) before the majority of the development can proceed. This includes the majority of the titles north of the railway line that would be required before the station phase and wildlife corridor (GI mitigation) can be brought forward.
- 9.22 Accordingly, discussions with the applicant have centred on the wording of the Grampian condition, which are intended to seek (in general terms) that:

*No development authorised by this planning permission shall be commenced on the land shaded yellow on Figure 1.2 Indicative Land Ownership \_A3L\_P03 or any land south of the railway until all land south of the railway is subject to Section 106 of the Town and Country Planning Act 1990 substantially in the same terms as the draft section 106 agreement appended to the Section 106 Agreement of even date with this planning permission to bind any land south of the railway within the red line of the scheme, has been entered into by all parties with a relevant interest in that land.*

*No development authorised by this planning permission shall be commenced on the land shaded green, within the red line and north of the railway on Figure 1.2 Indicative Land Ownership \_A3L\_P03 until all that green land is subject to Section 106 of the Town and Country Planning Act 1990 substantially in the*

*same terms as the draft section 106 agreement appended to the Section 106 Agreement of even date with this planning permission to that land shaded green, north of the railway within the red line of the scheme, has been entered into by all parties with a relevant interest in that land.*

- 9.23 It might, however, be necessary for the precise terms of the Grampian condition to be amended prior to issuing the consent (following a resolution to grant at Committee) in conjunction with the Chair, and in accordance with Recommendation 2.
- 9.24 This approach has been agreed in principle by the applicant, with Condition 4 proposed to address the requirement for confirmatory s106 agreements, with the form of such agreements to be finalised following any resolution to grant planning permission in advance of the consent being issued.

## **10. OVERALL ASSESSMENT – ‘THE PLANNING BALANCE’**

- 10.1 PPW11 refers to the need to assess the Sustainable Benefits of Development and (at 2.27) emphasises that Planning authorities should ensure that social, economic, environmental and cultural benefits are considered in the decision-making process and assessed in accordance with the five ways of working to ensure a balanced assessment is carried out to implement the Well-being of Future Generations Act and the Sustainable Development Principle.
- 10.2 PPW11 further emphasises that there may be occasions when one benefit of a development proposal or site allocation outweighs others, and in such cases robust evidence should be presented to support these decisions, whilst seeking to maximise contributions against all the well-being goals.
- 10.3 Key factors in the assessment process include:
- *Social Considerations*, including: - who are the interested and affected people and communities; who will benefit and suffer any impacts from the proposal; what are the short and long-term consequences of the proposal on a community;
  - *Economic Considerations* including: - the numbers and types of long term jobs expected to be created or retained; whether, and how far, the development will help redress economic disadvantage or support regeneration priorities, for example by enhancing local employment opportunities
  - *Cultural Considerations* including: - how far the proposal supports the conditions that allow for the use of the Welsh language; whether or not the development protects areas and assets of cultural and historic significance; have cultural considerations and their relationships with the tourism industry been appropriately maximised;
  - *Environmental Considerations* including: - will important features of the natural and built environment be protected and enhanced; are the

environmental impacts of development on health and amenity limited to acceptable levels and the resilience of ecosystems improved;

- 10.4 At 2.29 it further refers to the need to have an integrated approach to balancing priorities against policy on an individual basis, which enables the full range of costs and benefits over the lifetime of development to be taken into account.
- 10.5 Section 5 of PPW11 provides further emphasis on the need to develop 'Productive and Enterprising Places' which promote our economic, social, environmental and cultural well-being by providing well-connected employment and sustainable economic development.
- 10.6 On a Strategic level it is clear that the proposed development will contribute towards the seven well-being goals within the Well-Being of Future Generations Act insofar as the development will:
- Increase economic activity and employment opportunities thus contributing towards a **Prosperous Wales**
  - Assist in creating a **Healthier Wales** through increasing opportunities to switch to more sustainable travel choices, as well as encouraging use of low carbon energy
  - Promote employment and enterprise opportunities for people to realise their potential, towards the goal of a **more Equal Wales**
  - Encourage a **Wales of Cohesive Communities** by creating local jobs for local people
  - Encourage a **Wales of Vibrant Culture and thriving Welsh Language** by seeking to ensure the development reflects local Welsh distinctiveness;

#### *Balancing Environmental and Economic Impacts*

- 10.7 As described earlier in this report, the proposed development will have adverse local impacts, notably in respect of the ecological / biodiversity impacts of introducing a development of this scale into the SSSI, including on grasslands and potential knock-on impacts on species, as well as wider Landscape and Visual impacts.
- 10.8 Set against these significant impacts, however, are the wider economic and sustainable transportation benefits that would arise from the project.
- 10.9 Technical Advice Note 23 (Economic Development) emphasises (2.1.2) that where economic development would cause environmental or social harm which cannot be fully mitigated, careful consideration of the economic benefits will be necessary.
- 10.10 It further notes that "there will of course be occasions when social and environmental considerations will outweigh economic benefit", but then emphasises the need to answer the following three questions in order to help clarity and balance the economic, social and environmental issues.

**1. Alternatives:** if the land is not made available (i.e. the application is refused), is it likely that the demand could be met on a site where development would cause less harm, and if so where?

10.11 By reason of the scale and magnitude of the proposals, and the specific nature of the proposed new Parkway station (in line with Burns Commission endorsement / recommendations) it is considered that there are no other opportunities that would exist which could meet the wider requirements or expectations for such development. Accordingly the development is considered acceptable within the context of this 'question'.

**2. Jobs accommodated:** how many direct jobs will be based at the site?

10.12 The socio-economic section of this report has already referred to the significant employment generating potential of the site once operational - namely the creation of up to 6,000 gross new direct jobs (3375 net direct jobs) across a mixture of B1, B2 and B8 use classes.

10.13 In addition to these jobs, the proposed development would be likely to stimulate additional employment in the local economy by generating induced spend through increased local income and supplier purchases.

10.14 Furthermore, these figures do not include the jobs during the construction period, which it is estimated would require an equivalent of 306 full-time equivalent jobs (172 retained in wider study area), increasing to 241 net FTE including indirect jobs.

10.15 The proposed development would also bring wider economic benefits beyond the jobs created on the proposed development site. These relate to enhanced transport links to Bristol and London, improved regional accessibility, and helping to facilitate Cardiff's role as a cultural centre. It is also considered that the focus on higher value-added functions within the vision for the proposed development site could result in higher employment, productivity and GVA, thus bringing benefits to the local and regional economy.

10.16 The ES found that the socio-economic impacts of the proposed development would have a 'major beneficial' effect in the Environmental Statement and officers do not disagree with this conclusion.

10.17 Accordingly, it is clear that the economic benefits weighs heavily in favour of the development.

**3. Special merit:** would the development make any special contribution to policy objectives?

10.18 The Burns Commission's [Final Recommendations](#) refer to a new 'network of alternatives' to include a rail backbone of new stations and passenger services which can be provided through improvements to the electrified South Wales Main Line (SWML) in combination with Crossrail in Cardiff.

- 10.19 The six new stations include the private development plans (proposed under this application) for Cardiff Parkway station, with the report emphasising that the site is located close to an area of high employment and population density with very limited access to rail. Beyond this local catchment, the station has the potential to connect a significant number of people in north-east and east Cardiff with the railway if properly connected to the bus and cycle network. If designed well, the station could function as a multi-modal transport interchange between Cardiff and Newport.
- 10.20 The station is expected to be delivered first with the recommendations in the report (it states) seeking to:
- significantly increase the number of new trains and additional seats available to passengers at peak times; and
  - Transform public access to the rail network through the addition of six new stations which can provide alternative rail journeys for the most frequent car commuting journeys between Cardiff, Newport and Bristol.
  - In combination, allow people to make a wider and quicker variety of journeys using the rail network, without needing to travel into city centres to access the main stations.
- 10.21 Having regard to the above, and noting also its allocation within the Council's LDP, it is clear that the proposed development will make a special contribution to wider policy objectives throughout the South East Wales region.
- 10.22 The proposal will also accord fully with Future Wales Policy 11 (National Connectivity) in helping to transform the rail network and improve the quality of rail services for passengers.
- 10.23 Accordingly, having regard to the detailed assessment of the environmental and other impacts of the development, it is necessary to make a judgement on the overall acceptability of the proposal, and whether the degree of change to the landscape, potentially significant impact on biodiversity habitat (in the event the impacts on the SSSI cannot be wholly mitigated), and other impacts identified within this report are individually or cumulatively outweighed by the benefits of the development.
- 10.24 In this regard, and having particular regard to the advice in PPW and TAN23, it is concluded that the socio-economic and wider sustainable transportation benefits of this development, are substantial, and outweigh the environmental harm that would be caused by the development, such that they justify a conclusion being reached that subject to the detailed conditions and legal agreement heads of terms that planning permission should be granted for the development.

## 11. CONCLUSION

- 11.1 The decision to recommend planning permission has been taken in accordance with Section 38 of The Planning and Compulsory Purchase Act 2004, which requires that, in determining a planning application the determination must be in accordance with the Development Plan unless material considerations indicate otherwise. The Development Plan comprises the Cardiff Local Development Plan adopted in January 2016. In addition, the Council, in accordance with Section 3(3) of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017, has taken all the environmental information into consideration. In addition, all the relevant European directives, legislation and regulations have been taken into account.
- 11.2 Regard has been had to National Policy contained in Planning Policy Wales together with National Guidance contained within TAN 5 Nature Conservation and Planning (2009); TAN 11 Noise (1997), TAN 12 Design (2016); TAN 18 Transport (2007), TAN 23 Economic Development (2014)) and Local Development Plan Policies KP2(H), KP4, KP5, KP6, KP7, KP8, KP9, KP12, KP13, KP14, KP15, KP16, KP17, KP18, EN3, EN5, EN6, EN7, EN8, EN9, EN10, EN11, EN12, EN13, EN14, T1, T2, T3, T5, T6, T7, C, C6 and W2.
- 11.3 Taking into consideration all the evidence and assessment undertaken, it is concluded that the development would have no unacceptable impacts on matters including the highway network and highway safety, drainage, land contamination and archaeology. While the development would (in the event off site compensation for impacts on the SSSI cannot be wholly secured) have identified residual impacts, including on the SSSI and landscape, these can be mitigated or compensated to a lesser or greater extent by legal agreement and conditions. In any event, however, the development of the land for a proposed new Parkway station and associated development would provide significant benefits to the wider region in terms of connectivity and sustainable travel, and would significantly benefit the aspirations and key principles for socio-economic growth in the region, to the extent that these benefits, subject to compliance with conditions and the signing of the required legal agreement, would outweigh the identified environmental impacts of the development.

## 12. OTHER MATTERS RELEVANT TO THE CONSIDERATION OF THIS APPLICATION

- 12.1 *Crime and Disorder Act 1998* – Section 17(1) of the Crime and Disorder Act 1998 imposes a duty on the Local Authority to exercise its various functions with due regard to the likely effect of the exercise of those functions on, and the need to do all that it reasonably can to prevent, crime and disorder in its area. This duty has been considered in the evaluation of this application. It is considered that there would be no significant or unacceptable increase in crime and disorder as a result of the proposed decision.
- 12.2 *Equality Act 2010* – The Equality Act 2010 identifies a number of ‘protected characteristics’, namely age; disability; gender reassignment; pregnancy and maternity; race; religion or belief; sex; sexual orientation; marriage and civil

partnership. The Council's duty under the above Act has been given due consideration in the determination of this application. It is considered that the proposed development does not have any significant implications for, or effect on, persons who share a protected characteristic.

12.3 *Well-Being of Future Generations Act 2015* – Section 3 of this Act imposes a duty on public bodies to carry out sustainable development in accordance with the sustainable development principle to act in a manner which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs (Section 5). This duty has been considered in the evaluation of this application. It is considered that there would be no significant or unacceptable impact upon the achievement of wellbeing objectives as a result of the recommended decision. It is also noted that section 2(5) of the Planning (Wales) Act 2015 affords protection to decisions taken under Part 3 of the 1990 Act, in that the Well-being of Future Generations (Wales) Act 2015 does not alter whether regard is to be had to any particular consideration under section 70(2) of the 1990 Act or the weight to be given to any consideration to which regard is had under that subsection. This means the provisions of the development plan, so far as material to the application, and any other relevant other material considerations remain the primary considerations when determining planning applications.

12.4 Section 6 of Environment (Wales) Act 2016 subsection (1) imposes a duty that a public authority must seek to maintain and enhance biodiversity in the exercise of its functions, and in so doing promote the resilience of ecosystems, so far as is consistent with the proper exercise of those functions. In complying with subsection (1), a public authority must take account of the resilience of ecosystems, in particular the following aspects:

- (a) Diversity between and within ecosystems;
- (b) The connections between and within ecosystems;
- (c) The scale of ecosystems;
- (d) The condition of ecosystems (including their structure and functioning);
- (e) The adaptability of ecosystems.

It is considered that the LPA has considered its duty under this Act and has met its objectives for the reasons outlined above.

12.5 Human Rights Act 1998 – The rights of the occupiers of the site under the Human Rights Act 1998 have been considered. Protocol 1 Article 1 states a person has the right to peaceful enjoyment of all their possessions including their home and other land. Article 8 identifies that everyone has the right to respect for his private and family life, his home and his correspondence. It goes on to say that there shall be no interference by a public authority with the exercise of this right except such as in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic wellbeing of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protections of the rights and freedoms of others



## APPENDIX A

## **CARDIFF HENDRE LAKES Transport Comments (21/00076)**

This Highway Authority response has been prepared with reference to the above application and has also been supplement with addition inputs in the form of suggested conditions to be attached to any consent grant.

In general, Transportation do not hold nor wish to convey a principled objection to the outline proposal from Cardiff Parkway Developments Limited (CPDL) to construct a business district and sustainable transport hub incorporating Cardiff Parkway Railway Station with some 650 P&R car parking spaces and transport interchange (Cardiff Hendre Lakes development).

### **Overview**

The application has been submitted in a form which seeks outline planning consent to be granted, which therefore reserves the need for more detail information to be submitted. The outline proposal includes a railway station (including Park & Ride), transport hub in addition to a modern business park. The applicant has provided an outline access strategy for the business park elements of the application which it states take account of the “*sustainable transport hierarchy*” giving “*priority to pedestrians and cyclists over other road users*”. This approach is welcomed as it concurs with both Cardiff Council and Welsh Government’s approach (to paraphrase);

- the avoidance of action which increases carbon emissions
- the reallocation of existing road space to the benefit of more sustainable modes of travel
- adaptation of existing road infrastructure to cope with climate change
- investment to maintain safety and serviceability of existing road networks
- the improvement of biodiversity alongside major transport routes.

Despite the outline nature of the application a level of clarity as to the status of the proposals and what is, and is not, committed within this application is required. In order to help provide this clarity and to work to secure and support the sustainable nature of the application, a number of planning conditions have been prepared and appended to this response.

A thorough understanding and agreement of the proposed phasing of all elements (especially on-site car parking provision) of development is considered paramount to supporting a successful and sustainable outcome. The implementation and timing of these will be a matter for detailed consent and will be secured through appropriate planning conditions and appropriate trigger mechanisms.

The nature of the proposed / indicative junction remediation measures needs to be understood. The applicant will need to undertake further investigations to take full account of the significant third party work underway in the vicinity of the site to improve both cycle and bus priority on the Cardiff to Newport corridor and also that which will be introduced on Cypress Drive as part of the Council’s East / West improvement scheme.

The control and management of any car parking within the site is considered critical to the success of the development and what it seeks to achieve as both a transport and employment hub. Significant collaborative work will need to be undertaken between the applicant team and the Council to develop a suitably robust car park management strategy for both the railway station Park & Ride and the prospective business park. The provision of some 1,800 car park spaces for the business park, as indicatively identified, is not considered practicable in terms of the traffic generation that could be associated with it. The capacity assessment modelling that has been submitted as part of the application appears to demonstrate that the local road network would not have the capacity to serve the business park car parking demand, as currently conceived.

It is considered that the detailed future phasing of each element of the development, associated car parking strategy and improved connectivity by public transport would be vital in securing the confidence needed to support the proposed development.

The applicant information submitted suggests that sustainable transport options could be improved as the railway station will be served, potentially, by up to 16 services an hour, and that within the site high-quality active travel routes would be provided alongside bus stops with high quality waiting facilities.

There appears little, if any, emphasis on a strategy for the supporting off-site service proposals, which appears to be limited to a willingness to explore ***“as part of the future mitigation strategy for Cypress Drive and the roundabout with the A48”***. Overall aspirations appear limited particularly given the site is ***“located on the edge of the city reducing the potential for a high proportion of journeys to be made by sustainable modes of transport”***, and that despite being ***“recognised that the sustainable transport hierarchy places bus above car, any solution needs to ensure there is appropriate access”*** and that the ***“existing corridor width is insufficient to provide an additional lane for buses and a new cycleway”***. It is therefore considered that significant and additional work, beyond that submitted at this outline stage, will be required to support the scheme during forthcoming detailed planning applications.

However, despite the above outlined concerns the applicant does appear to understand and accept that providing ***“an appropriate amount of car parking to encourage use of alternative sustainable modes”*** is required. There also appears to be an acceptance that car parking, would be delivered during a number of phases which will offer the structured opportunity ***“to monitor onsite parking demand and to adapt parking proposals”***.

#### **Comments:**

Cardiff Parkway Developments Limited (CPDL) is proposing to construct a business district and sustainable transport hub incorporating Cardiff Parkway Railway Station and some 650 P&R car parking spaces (Cardiff Hendre Lakes development). The proposed application seeks:

*“Outline planning permission, with all matters reserved, is being sought for: the construction of a business park (up to 90,000m<sup>2</sup> - Use Classes B1, B2 and B8), ancillary uses and infrastructure associated with; biodiversity; landscape; drainage; walking, cycling and other transport modes. Together with the construction of a new transport hub facility, comprising railway station buildings (up to 2,500m<sup>2</sup> – Use Class Sui Generis) including ancillary uses, 4 no. platforms, surface car park (up to 650 no. spaces), and associated infrastructure works at land to the south of St Mellons Business Park.”*

The development site is in the St Mellons area of Cardiff, some 8km to the east of the city centre and to the south of the M4 and A48(M). The outline proposals indicate primary vehicle access into the site would be taken from Cypress Drive. Additional site accesses are proposed via the Cypress Drive/Sandbrook Road junction and from Cobol Road. Part of the development boundary adjoins the authority boundary between Newport and Cardiff. There is a further site access south of the railway line (from Newport) which will provide maintenance access for the railway.

The application is supported by a Transport Assessment (TA) dated November 2020 by Arup and a subsequent TA Addendum (dated December 2021) in response to the written and verbal comments previously provided by CC. The TA and addendum support the outline planning application, along with accompanying Framework Travel Plans for the proposed business district (90,000m<sup>2</sup>), railway

station, with incorporated and public transport interchange. Pre-application discussions were undertaken with the Council (and Newport Council and WG) during the development of the scheme. The TA was informed by an agreed Scoping Report. The TA also appears to have taken appropriate policy advice (national and authority) issued prior to 2021 into account. In preparing the TA the applicant has undertaken a significant amount of collaborative work with Council transportation officers to develop an understanding of the current situation and to assist in building a picture of future use and demand in terms of traffic surveys.

However, a number of important pieces of policy have been published in 2021, namely the Wales Transport Strategy and the Burns Commission Report which have impacted on the Newport Road corridor linking Cardiff to Newport, in particular. As a consequence of which TfW/WG is developing proposals for changes in vehicle priority (introducing the introduction of bus lanes and cycle provision) allied with corresponding Cardiff Council objectives, therefore the premise of the original TA required re-visiting.

The development site could be accessed by a network of footways and cycleways, however the condition and suitability of the existing facilities required audit and require upgrade and extension both within and outwith the site. The proposed railway station and transport hub would undoubtedly improve the accessibility of the proposed business park. Proposals for the transport hub include a railway station with four platforms and a public transport interchange, including cycle parking, bus stops with waiting facilities and a 600 to 650 space long stay car park (650 in TA and 600 in updated DAS), short-stay and accessible car parking spaces. It is stated within the TA that there are ***“opportunities for others to make improvements to this network to realise the full connectivity benefits that could be provided by Cardiff Parkway railway station”***. It is unclear what this relates too and how it can be measured in terms of the assessment of application merits. The submitted TA appears to concentrate upon the development site and how end /beginning of journey facilities would be provided.

### **Proposed Development**

The documentation illustrates strong alignment to the aspirations of WG in terms of providing a sustainable destination in terms of the identified sustainable transport hierarchy. The aspirations of which seek ***“to reduce the need to travel; prevent car-dependent developments in unsustainable locations; and support the delivery of schemes located, designed and supported by infrastructure which prioritises access and movement by active and sustainable transport”*** (p5 TA). The sustainable nature of the development of the outline access strategy is again emphasised in Section 5.3 of the TA which makes further reference to the sustainable transport hierarchy, it states the ***“outline access strategy has been developed with reference to the sustainable transport hierarchy ..... This gives priority to pedestrians and cyclists over other road users within much of the site”***.

The documentation gives clear indication that Cardiff’s aspirational 50/50 modal split is fully endorsed and that consideration was given to how the site could connect to wider active travel network in both Cardiff and Newport. The proposals for the transport hub do work to achieve that modal shift. It is also clearly stated that on-site car parking for the business park would be carefully managed to ensure that whilst parking is accommodated, it does not dominate the development nor actively encourage people to drive, working to reverse the modal aspirations.

Within the site key active travel routes been carefully directed through the proposed open spaces and public realm where buildings will be orientated to provide ‘eyes on the street’ to instil a sense of safety. (Updated DAS P34 section 5.6.1)

The concept of mobility as a service appears to be embraced, where the traveller pays to use a service rather than personally owning a means of transportation. Options, identified in the documentation, for personal travel include car clubs, bicycle rental, and ride-hailing services such as Uber (all of which already operate within Cardiff). Whilst growth of the concept could lead to an increased number of vehicles on the road, and different patterns of traffic behaviour (seen to some extent by the advent of Covid-19) the changes may also result in a reduced need car ownership and subsequently reduce the need for on-site car parking.

In terms of vehicle access the site itself would be divided into a western portion (including the railway station, transport interchange and the majority of the business park) and a smaller north eastern portion (business units). The north eastern portion would be accessed via the existing business park and the larger south western portion via new access junctions from Cypress Drive.

Access into the site from the east will involve highway works on land within Newport, these include:

- Alignment of the existing PROW, directly south of the Heol Las/St Mellons priority-controlled junction;
- Alignment of the existing access into the site, located directly north of the gas pressure reduction station; and
- Proposed vehicular maintenance access south of the railway

This outline planning application seeks to establish the principles of development with the detail being reserved and to be the subject of full planning applications to Newport.

### **Phasing**

It is interesting to note that the planning documents detailed completion (middle and later phases to be complete by 2032 in response to market appetite), whereas the transport assessment assumes full buildout by 2028. However, disregarding the discrepancy the outline transportation elements have been reviewed in terms of overall provision with some regard for the build-out (if unclear construction phasing programme).

The TA indicates that phase 1 would supply the railway station, P&R car park and transport interchange and 22,500m<sup>2</sup> of the business park. If the phasing dates assumed in the DAS are taken as correct this phase would be implemented by 2025. Subsequent phases would lead to 90,000m<sup>2</sup> by 2032.

An understanding and commitment to the phasing is important as it would help develop an appropriate way forward in terms of traffic and car park management strategy.

### **Site Access Strategy (Cardiff)**

The site access details are reserved and the detailed access strategy will be developed in tandem with detailed development of the site as part of a future reserved matters application.

The application documentation does however indicate that the following infrastructure is to be delivered /upgraded:

- Active travel routes within the site, accessible from Hendre Lakes Park, Cypress Drive, the existing business park and St Mellons Road, enhance the existing PROW which is currently not walkable due to hedgerows and missing reën crossings;
- Pedestrian access from Heol Las to be secured via a separate planning application with NCC

- Provide a segregated cycleway within the site from the railway station to the planned Cardiff Cycleway on Cypress Drive;
- Cycle parking in compliance with CC adopted parking standards
- Explore the potential for introducing a cycle hire facility (currently Nextbike)
- A new railway station and transport interchange (including cycle parking, up to 650 spaces car parking, drop-off space, taxi rank and bus stops);
- A minimum of 10% of the total car parking provision would provided as EV spaces
- Bus stops throughout the site, all within approximately 400m walking distance;
- Provide a primary vehicle access into the site from Cypress Drive, south of the existing junction with Fortran Road;
- Introduce a secondary vehicle access from Cypress Drive/Sandbrook Road roundabout. The access may operate via a bus gate.
- Provide vehicular site access junctions for the north-eastern and north-western land parcel on to Cobol Road, which would result in the loss of informal on-street parking;
- Introduce traffic signals at the Fortran Road, Pascal Close and Willowdene Way junctions with Cypress Drive, allowing provision of signalised pedestrian crossings; and
- Deliver a mitigation scheme a the A48/Cypress Drive/Newport Road roundabout, **proposed to be secured via a planning condition**. Cardiff Council will ensure that amendments to the A48/Cypress Drive/ Newport Road junction are to be supplemented the provision of improved Active Travel facilities.

The TA also identifies a number of opportunities to be provided by third parties to facilitate the connectivity benefits provided by the proposed railway station. The applicant anticipates that Cardiff would:

- Introduce a footway/cycleway through Hendre Lake Park, including the provision of lighting subject to ecological constraints;
- With other relevant land owners enhance the provision of pedestrian infrastructure within the existing business park to provide a continuous route to the proposed station
- Extend existing and future bus services into the site

It is anticipated, by the applicant, that Newport Council would amend St Mellons Road to reduce traffic speeds, and potentially vehicular volumes, to improve conditions for pedestrians and cyclists. We would expect that to be confirmed, or otherwise, by Newport Council in any consultation response.

### **Cycling & Pedestrians**

The internal networks identified in the outline plans appear broadly acceptable in the context of an outline planning application. These routings would be accepted as walking and cycling parameter plans. The illustrative cross sections provided within the application material will need to be agreed with the council in terms of acceptable widths and construction.

Although the internal parameter plan and external links illustrated appear adequate the detail of the links is in part questionable. A review of the proposed active travel link (NCN88) to Heol Las and St Mellons Road (in Newport) illustrate that the proposed bridge is only 3m in width and the angled link to Heol Las, at 1.4m in width, is not considered suitable for pedestrians let alone cyclists.

The improved cycle and pedestrian links/routes identified outside the site (which all seem to be suggested as the responsibility of third parties) and those to be provided within the development are welcomed and will prove beneficial to all users of the site. However, it is disappointing that the

applicant makes no commitment to support the provision of or directly provide the identified local improvements.

Other identified pedestrian improvements are linked to proposals to introduce traffic signals at the Fortran Road, Pascal Close and Willowdene Way junctions with Cypress Drive. The junction improvements would include signalised pedestrian crossings, thereby improving permeability along Cypress Drive.

The provision of a segregated cycle route between Newport Road and the railway station is considered integral to providing a suitable active travel link to the station and business park.

### **Public Transport**

The TA rests heavily on the proposed provision of a railway station, bus interchange and park & ride facility. Additional bus stops are proposed within the site (although there appears no commitment to provide stops at a maximum walking distance of 400m). It is stated however, all bus stops will include; Real-time passenger information; electronic passenger information kiosks and information points; and clear signage. The applicant proposes all bus stops will accord with Inclusive Mobility design standards.

Other than the above, the applicant does not identify any potential bus connectivity or destinations to feed both / either the station or the business park, other than assuming these will be provided by third parties. It is important that the development contributes meaningfully to the support of bus services to serve the site.

### **Transport Interchange**

The applicant stresses that the transport interchange will be designed in detail during the reserved matters process. This is considered to be an acceptable approach.

A draft layout is however included, and this has been considered in the context of the above. It is indicated that the layout has been reviewed by the Network Rail Built Environment Accessibility Panel and progressed through the Governance for Railway Investment Projects (GRIP), stage 3 (at time of TA). The draft layout includes footways (exceeding 2m in width), a 100 secure and sheltered cycle parking spaces, cycle share facilities would be included, 2 or 3 bus stops and a taxi rank are also proposed.

The station will provide some 650 car parking spaces of which 50 appear to accommodate drop-off and blue badge parking with the remaining 600 offering long stay P&R facilities. It is stated that the station car parking would be managed by a Parking Management Plan to prevent use of the car park by employees / visitors to the business park. The plan would need to be conditioned within the grant of any consent and would be required to be comprehensive in the management of the 600 long-stay P&R space car park to deter employees at the business park from using the facility.

### **Vehicle Access**

The TA and TA Addendum indicate the highway arrangement and street hierarchy will be confirmed as part of the reserved matters process. The outlined highway network (included within the TA) to the western portion of the site would offer a primary access junction off Cypress Drive and a secondary access (at a modified Sandbrook Road junction) which although not required from a traffic capacity perspective, would offer resilience and could be designated as a bus only access (via a bus gate). The north western portion of the site would be accessed via the existing business park. There would be no vehicular link between the two portions of the site.

The primary access point would lead directly to a spine road through the site, to the railway station and P&R facility. All other identified traffic routes would be **“lightly trafficked”**. All routes within the site would operate at 20mph and therefore should be designed to ensure this is achieved.

Outside of the site (excluding access junction locations) **“traffic signals are proposed as part of the application on Cypress Drive at the junctions with Fortran Road, Pascal Close, Willowdene Way and the A48”**. The applicant proposes to deliver these amendments via Section 278 Agreements (Highways Act 1980).

The proposed changes would be expected to change the character of Cypress Drive by reducing vehicular speeds, providing signalised pedestrian and cycle crossings, making it more permeable and better able to facilitate active travel. However, despite the clear statement of intent to provide junction improvements on Cypress Drive the TA also states **“the detailed access strategy will be developed as part of the reserved matters. This outline strategy presents the general themes, aspirations and proposals indicatively”**. Some clarity as to the status of the proposals and what is and is not committed within this application is required. The nature of the proposed / indicative junction remediation measures needs to be understood.

To inform the more detailed future submissions, the Highway Authority confirms that it would seek the provision of bus gates on Sandford and Willowdene Way. It is anticipated that these would be required to operate during peak periods to exclude general traffic accessing Cypress Drive.

### **Internal Street Hierarchy**

The TA promotes an integrated **“design, prioritising pedestrians, cyclists and public transport users over the private car”**. Three street types are identified in the TA, a fourth street type is added in the DAS update. Illustrative cross sections are provided of each style. Although the cross sections are welcomed it needs to be stated that the illustrated vehicular and active travel routes may need to be amended during detailed consideration of subsequent planning applications to satisfy vehicle access requirements and WG Active Travel Act Guidance.

The DAS indicates that all key active travel routes within the site are directed through the proposed open spaces and public realm where buildings will be orientated to provide ‘eyes on the street’ to instil a sense of safety.

**Primary Streets** – offer a four laned internal vehicular carriageway (each lane being 3.5m in width); a 4m shared pedestrian/cycleway; a dedicated 2m footway, with verge placement and tree planting between. The TA indicates that a combination of traffic calming measures, controlled crossing points and signalised junctions may also be required within the site to maintain low traffic speeds.

**Secondary Streets** – offer two lanes of traffic (3.25m per direction in width), a segregated 3m cycleway, 3m footway and a 2m footway separated by verges. Running parallel to the secondary street (separated by SuDs feature) would be a 5m shared footway/cycleway.

**Tertiary Street** – offer two lanes of traffic (3.5m per direction in width), a segregated two 2m footways separated by verges. Running parallel to the tertiary street (separated by SuDs feature) would be a 3m shared footway/cycleway.

A “Main Spine” appears to have been added to the street types which replaces all or some of the secondary streets illustrated in the TA. The main spine would offer high quality public realm, with; carriageway between 5.5 and 6.5m; 2m footways either side, plus 3-4m wide segregated cycle route; landscape and SuDs are an integral part of the street. The street type would include non-standard



design and materials, subject to approval, facilitating very low traffic speed, pedestrian/ cycle priority and safe crossing for pedestrians along the length of the street.

Overall clarity of street style and the indicative cross sections within the site would need to be developed during future detailed planning applications. A number of the suggested design styles will need confirmation and approval, these include; the need for the dualled carriageways in the primary street; provision of bus priority measures, provision of appropriate vehicle tracking; demonstration of suitable carriageway width; internal traffic calming measures; active travel routes; adoption of public highway; lighting; etc. The overall premise of there being three or four street and corridor types is accepted as a positive way forward upon which to base the detailed design and anticipated usage.

It should be noted that the WG, via the active travel guidance, supports the provision of segregated (or separated) cycleways. Given the promotion of sustainable transport within the site, the aspiration to provide an integrated transport hub, taking full cognisance of the latest guidance would be anticipated. Accepting the outline nature of the application it is understood all aspects are still to be determined, however agreement on the fundamentals of design via movement parameter plans and detailed cross sections would be advantageous.

### **Parking**

In addition to the station car park the TA states that (which will be confirmed during reserved matters) the site would provide 1,800 secure and sheltered cycle parking spaces, 94 visitor cycle spaces and a maximum of 1,800 car parking spaces.

It is stated that ***“Subject to the land-use mix being refined in subsequent design stages, 1,800 parking spaces will be introduced for the business district”***. Thus, it appears to be accepted that the 1,800 spaces are not determined and is to be taken as a maximum, which could be reduced proportionately depending upon the establishment of the site uses. The applicant’s response to parking demand query in the Technical Note confirms that the anticipated quantum of car parking required is *“maximum/bespoke?”*, although this may be due to some confusion / lack of confidence in the parking numbers to be applied. No sensitivity work appears to have been applied.

It is however, welcomed that the applicant (in the TA addendum) both appears to understand and promote providing ***“an appropriate amount of car parking to encourage use of alternative sustainable modes”*** which would ***“play a part in managing travel to and from the development”***. The development, and associated car parking, would be delivered during a number of phases these offer the opportunity ***“to monitor onsite parking demand and to adapt parking proposals”***.

In all instances (railway station and business park) EV charging would be provided for long-stay parking spaces with passive provision proposed at the remainder of the spaces.

There is no clarity in the style of the car parking to be provided, this will be required to be set out clearly. A preferred style would be centralised shared provision which would need to be phased across the site in accordance with the development of the business park.

The parking accumulation figures provided in Table 13 illustrates that in excess of 1,800 vehicles are anticipated. The maximum permitted usage (1,800 spaces) would be full by 9.30am. The highest number of vehicles arriving would be between 8.30 and 9.30am.

The Technical note confirms that ***“A Parking Management Plan is proposed to be secured via a planning condition to monitor”*** car parking.

The car parking demand and on-street parking in the vicinity of the development (station and business park) would be controlled through appropriate design and then managed by the Parking Management Plan. The plan will be required to be provided in such a manner that would see on-site parking demand monitored and reported. This will include any on-street car parking near the site during construction of the different phases from the time when the station or business park is first operational (whichever ever the first) until two years post construction. The car park management plan will be required to demonstrate an appropriate level of parking provision by phase, to include full details of how this provision and the demand would be monitored.

Whilst it is accepted that the car parking for the station (and P&R) can be treated separately from the business park, the overall additional traffic demand must be taken into account. Although the current SPG would allow up to a maximum of 1,800 car park spaces for the business park (once fully constructed) it is noted that such parking provision would constitute a major traffic generator. The provision of car parking would need to be phased and tailored to the accessibility of the business park and station. Given the intended sustainable supportive nature of the application, in terms of sustainable travel hierarchy, the management of vehicular movement and support for alternative modes, would be integral to the success and development of the site. In these terms management of the car parking provision therefore appears vital to the sustainability of the proposal.

### **Traffic Generation**

The applicant stresses that although the TA is in support of an outline planning application it provides a comprehensive review of the transport impacts of the proposed development. The applicant also states that should any subsequent assessment be prepared in support of the reserved matter applications it would concentrate on ***“a smaller study area including Cypress Drive and the junction with the A48”***. We do not consider that this is an appropriate restriction to be made for any future assessments. The application has been made in outline without the level of detail required for full planning permission. The proposals could change significantly due to market and economic factors, therefore we would confirm that the detailed scope of such assessments would need to be agreed with CC in advance of any future application.

The future year assessment scenarios were assessed applying approaches agreed through consultation with CC. It was agreed (as part of the TA Scoping Note) that background traffic growth factors would be derived from the Department for Transport's Trip End Model Presentation Program (TEMPPro v7.2). It was accepted that two future years would be assessed within any junction capacity analysis. At the time of the agreement the years of assessment were; 2023 (when the station and Phase 1 of the development was anticipated); and 2028, representing the year when the site was expected to be fully built-out and operational. It should be noted that despite agreement on the way forward Council officers have reservations concerning the traffic analysis and conclusions, especially with regard to the capability of both the A48(M) and its slip roads to adequately cater with the projected growth in traffic during the peak periods.

It was always understood that the final construction programme would be subject to market conditions and the station programme subject to agreements with Network Rail/TfW. Changes in the delivery programme are therefore possible but are unlikely to have a significant impact on this assessment. However, it is noted that the TA and TA addendum quoted dates are no longer applicable, but the assessments have not been updated despite the anticipated phasing having changed (and clearly stated within planning documentation). Therefore, at the next stage of submission, it is recommended that a further scoping exercise is undertaken to determine the extent of changes and the appropriate level of supporting information that will be required.

Since the submission of the original application, the South East Wales Transport Commission (SEWTC) published recommendations which include significant new cycling infrastructure between Cardiff and Newport, as well as a rapid bus corridor between Newport and Cardiff, via Cardiff Parkway. 'A major cycleway between Cardiff and Newport has the potential to offer an attractive, competitive alternative for commuters accessing large employment sites. Direct links to the Cardiff Parkway station in St Mellons and our proposed Newport West station would also support effective multi-modal trips from within and outside the region.' It is accepted by the applicant in the TA addendum that ***"the future form of the A48/Cypress Drive/Newport Road roundabout will need to safety and directly incorporate the east-west movement of cyclists. In addition to a cycle route, a rapid bus corridor is proposed between Newport and Cardiff via Cardiff Parkway"***.

Although noted that the applicant references a ***"rapid bus corridor is proposed between Newport and Cardiff via Cardiff Parkway"***, it is concluded that without the complimentary bus priority measures provided on Cypress Drive to the site, the corridor would certainly not offer the advantages of being rapid at this juncture.

Following this, and comments from Cardiff Council, it was agreed that an alternative future travel demand forecast would be developed informed by the sustainable transport interventions identified in the SEWTC Final Recommendations report and potential long-term changes to travel behaviour and thus demand.

### **Railway Station and P&R**

The traffic demand assessment for the Park & Ride facility has been accepted, in principle. However, should the car park become occupied by the end of the peak hour, the applicant appears to assume that the car park could be expanded. This would, of course, be subject to a separate planning application in which the traffic impact would be assessed and require appropriate mitigation measures. The safeguarded expansion areas must be clearly shown and assessed in terms of the level of provision they could provide, in addition to the initial facility.

### **Business Park**

It is anticipated that the full 90,000m<sup>2</sup> could deliver some 6,000 jobs. The development proposals are estimated to generate 1,168 vehicle trips in the AM peak hour and 1,080 trips in the PM peak hour.

The applicant indicates that the Framework Travel Plan presents a range of potential measures which could be introduced to reduce the proportion of journeys made by car. The Council would anticipate that all the potential measures are implemented to assist with the required mitigation measures. CC anticipate that the target modal split aligns with the LDP aspiration of 50:50 target. It is estimated, by the applicant, that travel plan measures would reduce traffic demand to 957 vehicle trips in the AM peak hour and 885 trips in the PM peak hour. Although in making these assumptions, it does not appear that they have not been used to inform the TA highway capacity assessment.

Detailed capacity assessment was undertaken at an agreed number of offsite junctions, the findings of which recommend mitigation is provided at of the following locations:

- Cypress Drive/Fortran Road priority junction;
- Cypress Drive/Pascal Close priority junction;
- Cypress Drive/Willowdene Way priority junction; and
- Cypress Drive/A48/Newport Road roundabout.

Further assessed offsite junctions are forecast to exceed practical capacity in the future year scenarios, however the traffic impact of the development proposals upon these is limited and therefore mitigation is not deemed to be required or appropriate.

It is noted that although the A48 Slips (St Mellons Interchange) merge and diverge arrangements have been reviewed with reference to DMRB guidance (TD 22/06). The guidance indicates that the A48 should be widened to three lanes in both directions, south-west of the St Mellons Interchange. However, the introduction of a third lane on the A48 is considered to conflict with local and national policy and is therefore not considered to be appropriate. Concerns have been raised with the applicant that the projected level of traffic using the A48 Slip roads to access and egress the site during the peak periods would cause a significant and detrimental impact on the operation of the slips and the A48.

It is acknowledged that the Covid-19 health crisis may have had some long term impact on both travel behaviour and our ways of working. Any long term changes in behaviour will be required to be reviewed within future reserved matters transport assessments. This is in addition to commitments that will be need to account for on-going parking and traffic monitoring by the applicant.

The illustrated site access junctions (off Cypress Drive and Fortran Close) are estimated to operate with spare capacity, in the indicative form presented. The detail of any access proposals is reserved for a more detailed application. Following any grant of reserved matter consent the detailed design of the site access junctions will be conditioned and approved via a S278 agreement.

### **Mitigation**

The TA technical addendum makes it clear that sustainable transport interventions will be reviewed as part of the future TAs that will be prepared in support of forthcoming phased reserved matters applications. The note does however appear to rely on the recommendations outlined in the SEWTC Final report, as confirmation that there is potential for the 50:50 target to be achieved.

The TA made recommendations to mitigate the traffic impacts, in addition to the new junction arrangement at the access points. Proposals are identified at the following junctions:

- Cypress Drive/Fortran Road priority junction (junction 5);
- Cypress Drive/Pascal Close priority junction (junction 6);
- Cypress Drive/Willowdene Way junction (junction 7); and
- Cypress Drive/A48/Newport Road roundabout (junction 8).

Traffic signals, including bus gates, would be required at junctions to mitigate against the increase in vehicle trips on Cypress Drive associated with the proposed development, and to formalise pedestrian and cycle permeability with controlled crossings. These mitigation proposals would change the character of Cypress Drive to reflect a more urban environment. It is anticipated that the detailed design and approved signalised junctions would be linked by SCOOT (Split Cycle and Offset Optimisation Technique) to help improve junction performance. The TA indicates SCOOT can realise delay reductions of around 15% through software based network operation efficiency.

The applicant clearly relies upon Transport for Wales to redirect existing and new bus services to the proposed development site, in combination with Cardiff Council's ambitions to establish a series of Core Bus Corridors around the city centre and between the centre and the outskirts. The advent of radial routes connecting to Newport Road and Cardiff Parkway would facilitate better bus journeys both within and beyond the region.

Although planning approval is not being sought for a junction improvement at Cypress Drive/Newport Road the applicant has provided assessments for three potential approaches to demonstrate that improvements could be achieved. The TA note confirms that the extents of any ***“mitigation required at this junction will be subject to the success of the sustainable transport interventions delivered as part of the proposed development alongside those being explored by CC and the Welsh Government (SEWTC)”***. The applicant therefore concludes that any additional mitigation be secured via planning conditions to be reviewed as part of subsequent phased reserved matter applications.

## **Conclusion**

As advised within this consultation response, in general, Transportation do not hold nor wish to convey a principled objection to the outline proposal to construct a business district and sustainable transport hub incorporating Cardiff Parkway Railway Station with some 650 P&R car parking spaces and transport interchange (Cardiff Hendre Lakes development).

The proposals are deemed to be a strategic development in terms of creating a transport interchange hub. The rail facility, park and ride and bus interchange will support sustainable travel for future employees of the new business district and for the wider local populace.

The application has been submitted in outline and therefore does not present the detailed information to seek a full planning permission. The application, as a whole, is to be the subject of future reserved matters applications. The principles of what has been submitted have generally been found to be acceptable (subject to planning conditions), although certainty and clarity are perhaps not as evident as they could be.

The Highway Authority has considered the full suite of documents that have been submitted and also determined the extent of further information that may be required. The applicant has been shown in this response the areas which will require further assessment, analysis, monitoring or mitigation measures. Where possible, this will be secured and imposed through appropriate use of planning conditions, attached to each stage of consent including outline.

In this approach, the required level of certainty to enable a positive outcome will be established and fixed through planning obligations and as the applications become more detailed.

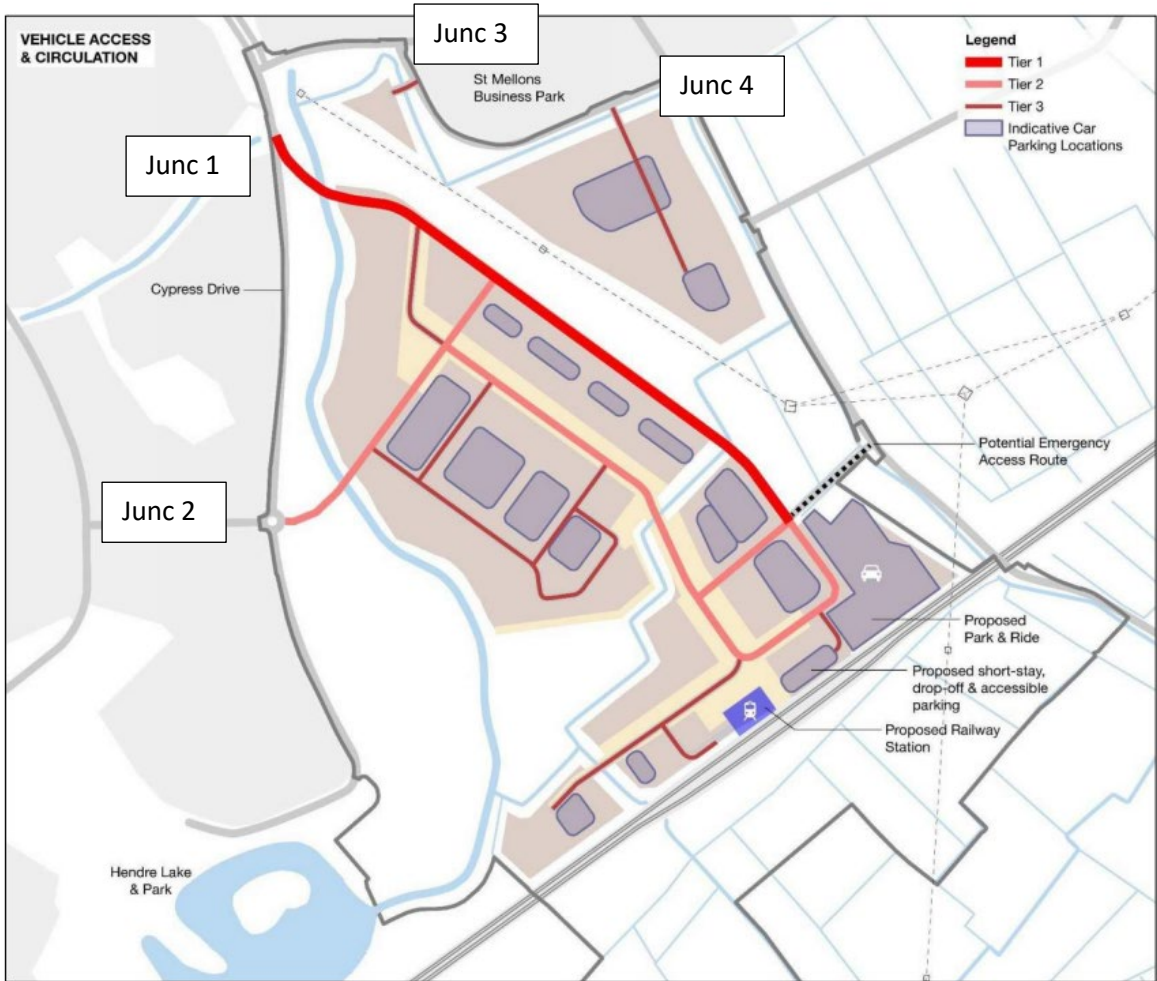
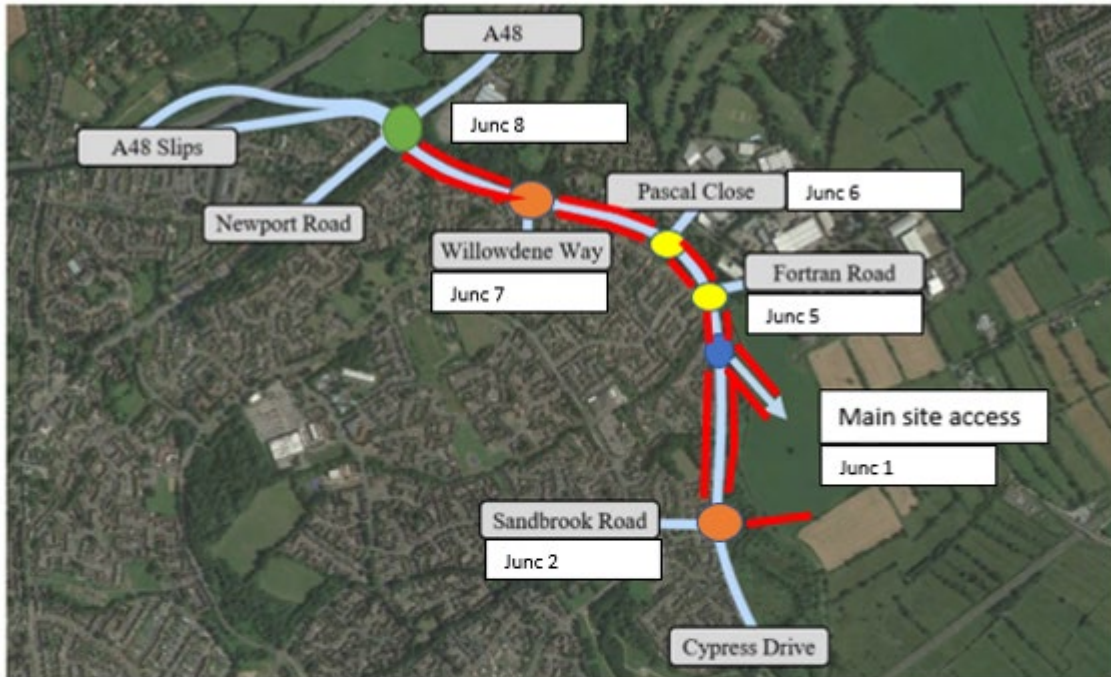


Figure 30: Vehicle Access Strategy



- Signalised junction with bus priority (bus gate to/from Willowdene Way & Sandbrook Road) and cycleway.
- Main access to site – priority to/from site
- Signalised junction with bus priority and cycleway
- Signalised (advanced / pre signals) junction incorporating bus priority |
- Cycleway & bus priority Provided by third party

## APPENDIX B1



Cardiff City Council,  
Development Control,  
County Hall,  
Atlantic Wharf,  
Cardiff,  
CF104UW

ebost/email:  
southeastplanning@cyfoethnaturiolcymru.gov.uk  
Ffôn/Phone: 03000 65 4959

01/04/2021

Annwyl Syr/Madam / Dear Sir/Madam,

**BWRIAD / PROPOSAL: CONSTRUCTION OF A BUSINESS PARK (UP TO 90,000M<sup>2</sup> - USE CLASSES B1, B2 AND B8), ANCILLARY USES AND INFRASTRUCTURE ASSOCIATED WITH; BIODIVERSITY; LANDSCAPE; DRAINAGE; WALKING, CYCLING AND OTHER TRANSPORT MODES. TOGETHER WITH THE CONSTRUCTION OF A NEW TRANSPORT HUB FACILITY, COMPRISING RAILWAY STATION BUILDINGS (UP TO 2,500M<sup>2</sup> - USE CLASS SUI GENERIS) INCLUDING ANCILLARY USES; 4 NO. PLATFORMS; SURFACE CAR PARK (UP TO 650 NO. SPACES) AND ASSOCIATED INFRASTRUCTURE WORKS**

**LLEOLIAD / LOCATION: LAND SOUTH OF ST MELLONS BUSINESS PARK AND BOUNDED BY FORTRAN ROAD/COBOL ROAD TO THE NORTH, CYPRESS DRIVE TO THE WEST, ST MELLONS, CARDIFF**

Thank you for consulting Cyfoeth Naturiol Cymru / Natural Resources Wales about the above, which we received on 02/02/2021.

We provided comments to the statutory Pre-application consultation by Arup in our letter reference CAS-121090-H9N3, dated 18/09/2020. A copy of our advice is attached for your information. We note amended information has been submitted for this application.

We appreciate this is a large strategic employment site and multiple parameters come into consideration, we are happy to meet with the applicant and expand on our advice.

**We have significant concerns with the proposed development as submitted. We recommend you should only grant planning permission if the following requirements are met and you attach the following conditions to the permission. Otherwise, we would object to this planning application.**

Requirements 1 – 3: Protected Species - Further information is required to demonstrate that the proposal will not be detrimental to the maintenance of the favourable conservation status of Dormice and Otters (European Protected Species) and demonstrate a net conservation benefit for Water Vole (Fully Nationally Protected Species)

Requirement 4: Designated Sites (Special Protection Area (SPA)) – Further information is required to enable the LPA to carry out a Habitats Regulations Assessment (HRA) under regulation 63 of the Conservation of Habitats and Species Regulations 2017 prior to the determination of the planning application.

Requirement 5: Designated Sites (Site of Special Scientific Interest (SSSI)) - further information on the following matters is required to demonstrate that there will be no adverse effects to features of the SSSI:

- Loss of field ditches and reens, both temporary and permanent
- Runoff rates and water quantity
- Construction Environmental Management Plan
- Design and Connectivity of the Drainage System
- Shril Carder Bee Habitat
- New Planting
- Air Quality
- Appropriate Management

Requirement 6: Land potentially affected by contamination – clarification on the nature of volatile organic compounds found across the site

Condition 1: Nationally Protected Species – Water Vole – Inclusion of a condition requiring submission of a Method Statement to ensure the development will not be detrimental to the maintenance of the favourable conservation status of fully nationally protected species

Condition 2: European Protected Species – Otter – Inclusion of a condition requiring submission of a Method Statement to ensure the development will not be detrimental to the maintenance of the favourable conservation status of European Protected Species

Condition 3: European Protected Species and Nationally Protected Species – Otter, Dormice, Bats and Water Vole - Inclusion of a condition requiring submission of a Lighting Plan to ensure the development will not be detrimental to the maintenance of the favourable conservation status of European Protected Species and fully nationally protected species

Condition 4: European Protected Species and Nationally Protected Species – Otter, Dormice, Bats and Water Vole - Inclusion of a condition requiring submission of a Landscape Ecological Management Plan to ensure the development will not be detrimental to the maintenance of the favourable conservation status of European Protected Species and fully nationally protected species

Condition 5: Inclusion of a condition requiring submission of a Landscape and Ecological Management plan to ensure the development will not be detrimental to the maintenance of the favourable conservation status of European Protected Species, fully nationally protected species and the Protected Site

Condition 6: European Protected Species and Nationally Protected Species – Otter, Dormice, Bats and Water Vole - Inclusion of a condition requiring submission of pre-commencement surveys to ensure the development will not be detrimental to the maintenance of the favourable conservation status of European Protected Species and fully nationally protected species

Condition 7: Protected Site - Site of Special Scientific Interest – Inclusion of a condition requiring submission prior to commencement, long-term monitoring plan for protected sites and associated habitats to manage any potential adverse impacts as a result of development on protected sites.

Condition 8: Protected Site - Site of Special Scientific Interest – Inclusion of a condition requiring submission prior to commencement, water quality monitoring and management plan for the protection of water quality in the watercourses on site manage any potential adverse impacts as a result of development on protected sites.

Conditions 9 to 12: Land potentially affected by contamination - Management of unidentified contamination.

Conditions 10 to 12: Contaminated Land - Scheme to deal with potential land contamination.

Condition 13: Flood Risk – Provision of flood compensatory storage to protect third parties from flood risk.

### **Protected Species: Requirements 1 – 3 and Conditions 1 – 6**

We note from the Environmental Statement (ES) submitted that dormice, water vole, otter and a variety of bat species are confirmed to be using the habitats within the redline boundary of the development site and are likely to be impacted by the proposed scheme.

#### *Legislation and Policy*

Dormice, otter and all species of British bats are European Protected Species, legally protected under The Conservation of Habitats and Species Regulations 2017. Legal protection relates to the animals themselves and the places they use to rest and breed.

Where a European Protected Species is present and a development proposal is likely to contravene the legal protection they are afforded, the development may only proceed under licence issued by Natural Resources Wales, having satisfied the three requirements set out in the legislation. One of these requires that the development authorised will 'not be

detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range’.

These requirements are translated into planning policy through Planning Policy Wales (PPW) Edition 10 December 2018, section 6.4.22 and 6.4.33, and Technical Advice Note (TAN) 5, Nature Conservation and Planning (September 2009). The planning authority should take them into account when considering development proposals where a European Protected Species is present.

Water vole are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Protection relates to the animals and any place used for their shelter or protection. You may apply to NRW for a conservation licence for this species, providing you are able to demonstrate a net conservation benefit.

### Requirements 1 – 3

Whilst we welcome the information submitted to date, we advise you that you should only grant planning permission if additional information is provided, as set out below.

This information is required in order to fully assess the likely impacts on European Protected Species (Dormice, Otter and Bats) and fully nationally protected species (Water Vole).

#### European Protected Species - Dormice - Requirement 1

We note the information relating to dormouse conservation in the ES and Dormouse Strategy.

We note the loss of habitat to the scheme and welcome the commitment to create new habitats for this species at the outset of the development by undertaking planting within the ‘Wildlife Corridor’ and to the south of the railway corridor. However, there are a number of areas on which we advise further information is sought with respect to this species. These are as follows:

Where references are given, these are to the dormouse strategy ‘Cardiff Parkway Developments Ltd Cardiff Hendre Lakes’, Appendix E22 - Dormouse Strategy, dated 30 November 2020, Arup.

#### Habitat Creation and Management.

As indicated above, we welcome the commitment to the creation of new habitats for this species by undertaking planting within the ‘Wildlife Corridor’ and to the south of the railway corridor and at the outset of the development. However, the following issues arise which we wish to address at this stage;

- We note that there will be two main blocks of ‘habitat creation’ in the ‘Wildlife Corridor and the Main Park.’ (Section 5.2. DMS Habitat Creation, page 22). Whilst it is clear that the wildlife corridor is to be planted at the outset, we seek clarification as to the timescales for the planting of hedgerows and trees

associated with Main Park. Currently reference is made to earthworks commencing in summer 2023 and elsewhere to its creation in April 2022.

- In terms of the details of the planting we note the schematics for both the Wildlife Corridor and Main Park within the DMS and feel that the detail of these can be captured by suitable conditions on any consent to be granted.

However, with respect to Paragraph 7.10.14, we note that 'Further woodland and hedgerow planting and / or translocation will occur south of the railway line, as shown on Figure 3.4'. Also that 'Species-rich hedgerow will be created within the south connecting into existing hedgerow habitats and away from both existing and created reens to avoid shading of the reens. Woodland strips will also be created to enhance the habitat south of the railway line for dormice'.

In this context, whilst we note the provision of the 'Biodiversity Strategy' Drawing in Appendix G of the DMS, we advise that this is too schematic in nature to understand the enhancements south the railway line as set out above. We advise that a more detailed drawing is provided for this area which clearly sets out the habitats to be created such that we can consider the proposals in the light of the variety of nature conservation interests this area is to protect and provide for.

#### Long term Habitat Management (Section 5.4 of the DMS)

We note the commitment to manage and monitor the habitats associated with the site for 15 years. NRW advise that habitat management may be required for the lifetime of the development, underpinned by monitoring of habitat development and species monitoring at agreed intervals. These latter proposals will be required to support periodic reviews of the management plan at 5 yearly intervals. Note that we would be content for monitoring to be less frequent after the first 15 years.

Whilst the management of habitats could potentially be achieved via an obligation such as a Section 106 agreement and associated Habitat Management Plan, at this stage we are seeking this long-term commitment from the applicant and clarification of the mechanism to deliver it.

#### Displacement

We note that displacement is proposed as a technique following a translocation of animals from the site (see below). We advise that further consideration of measures is made to support displacement. The issues identified within the Dormouse Strategy could potentially be addressed, for example through provision of suitable temporary crossing points along the main reens coupled with habitat enhancement prior to displacement. We advise that this is considered and included within the Dormouse Strategy.

#### Translocation

In our pre-application response, we stated that '*We are unable to give 'in principle' agreement to consent translocation based on the current submission, as we are concerned*

*that translocation may be detrimental to the viability of the local population. We therefore advise that at this stage you focus on proposals which contribute to the viability of a local population capable of utilising the habitats to be created, as per the advice above.'*

We remain concerned that the proposed translocation of animals away from the site will have negative implications for the local population of the species such that it would be difficult to satisfy the licensing test that the 'action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status'.

As a result, we are unlikely to licence the translocation of dormice away from the site as currently proposed. We would advise that the applicant proposes an alternative approach which seeks to maintain more of the animals to be affected by the proposal within the local area. This might involve for example, a combination of displacement, local habitat enhancement and potential local relocation. In principle, such an approach would allow us to take a more favourable view.

It would be likely that any local areas subject to enhancement or to be in receipt of animals would also be subject to the requirement for short and long-term management and as such covered by suitable planning obligation.

#### Protected Species and European Protected Species - Details for the provision of safe crossing points - Requirement 2

We note the proposals to retain two main reens in the northern section of the site, Ty Ffynnon reen and Fendre reen and to create a wildlife corridor linking the two. We also note that these areas will be crossed multiple times by roads, cycle paths and pedestrian access (Section 7.10.39).

We note the proposals within the information provided that the structures will comply with best practice to provide suitable structures to facilitate passage by otter, dormice, water vole and bats. However, no specific details have been provided as to the culvert size, design or specific ecological enhancement measures. We note that a number of culverts are proposed to accommodate a number of species to allow movement throughout the site and so additional information must be provided to ensure this is adequate.

We advise that the principles of their design are set out at this stage to demonstrate that these are achievable and to inform subsequent detailed proposals. We advise that these principles include provision of box culverts and/or bridges in place of pipe culverts. Note that in terms of bats, evidence suggests culverts a minimum 3 m x 3m are required to allow safe passage for most Pipistrelle, Plecotus and Myotis species and culverts this size will increase the likelihood that they may also function for dormice.

We advise that 'in principle' drawings of the culverts which are to facilitate otter, bat and potential dormouse crossing of reens and roads are included in the ES.

#### Protected Species - Monitoring and Management – Requirement 3



As indicated in the section on dormouse above, we note that the current habitat management and monitoring is proposed for 15 years.

NRW advise that habitat management may be required for the lifetime of the development, underpinned by monitoring of habitat development and species monitoring at agreed intervals.

Species specific monitoring together with habitat monitoring will also be required to support reviews of the management plan. We would advise 5 yearly intervals.

Although we are of the view that the management of habitats could potentially be achieved via an obligation such as a Section 106 agreement and associated Habitat Management and Monitoring Plan delivered by condition, we advocate that the ES includes a commitment for longer term management and monitoring. At this stage we would not rule out management and monitoring for the lifetime development. The ES also needs to establish who will manage the habitat and how management and monitoring will be funded.

#### Protected Species – Condition 1 – Water Vole

We note that surveys carried out in 2017 and 2019 have identified water vole in a variety of locations throughout the site.

We welcome the proposals outlined within the ES chapter (ES- Chapter 7- Biodiversity), including the retention of the two main reens in the northern section of the site, Ty Ffynnon reen and Fendre reen. In addition, we note that additional reens will be created within the southern mitigation area below the railway line where water vole presence was identified during the 2017 surveys.

We note that current suitable habitat available to water vole in the northern section will be lost or significantly altered and that habitat loss and severance is likely to occur in the short and long term with increased disturbance during operation.

We welcome the draft method statement provided and note the proposals put forward for pre commencement surveys, phased working, displacement and enhanced habitat creation on site together with a proposal to manage mink populations.

In light of the information provided to date we would advise that, where relevant, the following is included as a condition to any permissions you are minded to grant subject to the following requirements being addressed:

- The principles of the vegetation clearance strategy should include maximum dispersal distances and options for water vole conservation should it be necessary for these distances to be exceeded;
- Detailed information on the proposed enhancements for water vole to be undertaken in retained habitats including Ty Ffynnon reen and Fendre reen to

- include drawings of culvert crossing points, green infrastructure design and the likely timings of enhancement proposals and;
- Principles of species-specific management proposals including reed management for the lifetime of the development.

### European Protected Species – Otter - Condition 2

We note from the ES- Chapter 7- Biodiversity that habitat on site currently supporting otter will be lost to facilitate the development, particularly in the northern section of the site. We also note that the phasing of the proposed works, and the duration and extent of works for each phase cannot be fully set out to date.

We welcome the green infrastructure to be retained/created particularly around the two main reens in the northern section of the site (Ty Ffynnon reed and Fendre reed) and the creation of additional mosaic habitat to the south of the site and the proposals for the addition of suitable crossing points for otter where commuting routes will be bisected by the scheme.

However, we have noted no detailed information has been submitted to enable otter to move safely within and outside of the proposed development site and recommended this information for inclusion as a requirement (see above – Requirement 2).

We welcome the draft otter method statement and note the intention to provide a detailed mitigation strategy for otter and to obtain an EPS licence where necessary. In light of the information provided to date we would advise that the following is included as a condition to any permissions you are minded to grant subject to the above requirements being addressed:

- Specific information on the design of the green infrastructure to show how suitable habitat to support otter will be delivered both during construction and operational phases to include enhancement proposals along Ty Ffynnon reed and Fendre reed specifically;
- Details of temporary and permanent fencing to demonstrate how retained habitat will be protected from disturbance to allow safe movement of otter throughout the site during construction and operation;
- Detailed drawings of culverts to be included detailing safe otter crossing infrastructure;
- Design of proposed otter holt
- Details of a species-specific monitoring and management proposals including reed management for the lifetime of the development.

### Protected Species and European Protected Species – Lighting - Condition 3

We note the proposals for light spillage of below 0.5 lux to the wildlife corridors, ditches, reens and hedgerows on site, and that the areas to the south of the railway embankment



will remain unlit. However, we note the proposals to include a variety of travel networks throughout the site (Figure 3.7) both bisecting and alongside the Faendre reen and the wildlife corridor specifically.

We would therefore recommend the preparation of a lighting scheme to ensure that lighting measures do not conflict with use of the site by protected species. This should include the following;

- Details of the type of external lighting to be used,
- Proposed siting of lighting,
- Light modelling to show light spill from existing and proposed lighting to demonstrate that dark corridors will be maintained for commuting and foraging species such as bats, otter and dormice throughout the northern section of the site particularly and that these areas allow movement throughout the site and to off site areas.

#### European Protected Species - Addressing Severance - Condition 4

We note that crossing points for dormice and otter will be created over the Faendre Reen and other locations and note references to this in the ES including the use of Animex design crossing points for dormice.

We advise a condition requiring a scheme setting out the detail of how severance will be mitigated for the species present on site, including the inclusion of appropriate drawings demonstrating the size, design and integration into adjacent vegetation of crossing points.

#### Protected Species - Landscape Ecological Management Plan -Condition 5

We note the proposals for green infrastructure as outlined in Figure 7.4 Biodiversity Strategy and those detailed within the Section 7.14 of the ES.

However, we advise that a condition is attached to any consent to ensure necessary landscape and environmental management measures are agreed prior to commencement and implemented to ensure the site's landscape and environmental features are adequately managed long term, as follows;

##### Condition 5

No development shall commence until a Landscape Ecological Management Plan (LEMP) for the provision, management and maintenance of the landscape and ecological features at the site has been submitted to and approved by the Local Planning Authority. The LEMP should include:

- The principles of appropriate long-term management and monitoring commitments to ensure the ongoing suitability of habitats on site for protected species.
- Details of habitats, landscape, environmental and ecological features present or to be created at the site
- Details of the species and age of stock to be planted

- Details of the desired conditions of features (present and to be created) at the site
  - Details of scheduling and timings of activities
  - Details of short and long-term management, monitoring and maintenance of new and existing landscape, environmental and ecological features at the site to deliver and maintain the desired condition
  - Details of monitoring of landscape and ecological features
  - Details of remedial measures should any landscape or environmental features fail to establish, be removed or become seriously damaged or diseased within 5 years of completion of development
  - Details of management and maintenance responsibilities, including details of how the plan will be financed and secured in the long term.
  - Details of timescales, length of plan, the method to review and update plans (informed by monitoring) at specific intervals
- The plan should cover and be implemented for a long-term period to be agreed.

The LEMP shall be carried out in accordance with the approved details.

Reason: A LEMP should be submitted to ensure necessary landscape and environmental management measures are agreed prior to commencement and implemented to ensure the site's landscape and environmental features are adequately managed long term.

#### Protected Species and European Protected Species - Pre-commencement species survey - Condition 6

We advise the following condition to secure a pre-construction check for the Otters, Dormice and Water Vole in advance of any clearance works or other activities on site. The survey should confirm if new breeding sites or resting places (or expansions to existing sites and places) have been established since the permission.

#### Condition 6

No development or phase of development, including site clearance, shall commence until pre-construction species surveys has been carried out for the phase of development. If the survey confirms the presence of protected species the results of the survey together with proposed mitigation measures shall be submitted to and approved in writing by the Local Planning Authority. The measures shall be carried out in accordance with the approved details.

Reason: To ensure the potential presence of Otters, Dormice and Water Vole is confirmed prior to construction and where necessary remedial measures are implemented for their protection.

On receipt of appropriate information to satisfy the above requirements we will be able provide advice on any further conditions/planning obligations we would advise are attached to any planning permission.

## **Designated Sites – Special Protection Area (SPA) and Ramsar - Requirement 4**

We have significant concerns that an adverse effect from the proposed development on the integrity of the Severn Estuary Special Protection Area (SPA) and Ramsar cannot be ruled out. The application is located just over 1 km away from the SPA.

We note the submission of the Wintering Birds Survey Report (2017-18). We advise that the Wintering Bird Survey was carried out for only a single season, which we consider is not sufficient to fully represent the use of this site by qualifying features of the Severn Estuary SPA or Ramsar site, which will vary from year to year. The CIEEM (2018) guidance, as referenced within Environmental Statement Chapter 7, states that “Variation in populations, habitats or ecosystems over time in the absence of the project should always be considered. This may require more than one year or one season of data to give an accurate reflection of the situation.” We advise that the current single year of Winter Bird survey is inadequate to provide a representation of the current situation and therefore to allow a full assessment of the potential impacts of the scheme. Additionally, the Wintering Bird Survey was carried out three years ago (2017/2018), and therefore a more recent repeat survey would also be advantageous to update this data.

We note there is currently no mention of the timings of the surveys in relation to the tide state, as no survey times are provided. Although within correspondence with NRW the wintering surveys have been described as being conducted through a “range of tidal state”, the proportion of surveys undertaken during high tide (when species from nearby designated areas could be using these fields) is not currently provided. Ideally, surveys should be undertaken in the two hours either side of high tide to ensure this key period is adequately covered.

We advise that nocturnal surveys are undertaken to accompany the application to assess the use of the development site by SPA/Ramsar feature species. The state of tide would also need to be considered during these surveys to ensure coverage of nocturnal surveys across the tidal range.

We welcome the inclusion of Wentlooge - Renewable Energy Hub within the Cumulative Effects Assessment, as previously advised.

We continue to have concerns regarding the comment in Section 2.2 that “the number of wintering birds reported on site may therefore be an under-estimation”. We believe that the size of the site should not be a factor in determining the coverage of the survey in this case. If complete coverage of the site could not be achieved, then it would be advisable to provide a correction of the survey result to estimate the numbers across the site, including outside of the transect area. This was not undertaken, for reason of “the number of variables associated with wintering birds, e.g. variability in foraging behaviour and habitat quality”. Either full-site survey coverage or a correction for partial coverage needs to be undertaken.

Features of the nearby designated sites using the fields surrounding the development could also be disturbed by construction and operation of the development. We would recommend future surveys are extended to include a buffer area around the site.

The list of target species presented in Section 3.2 that were considered to be within the waterbird assemblage for the designated sites of Severn Estuary SPA and Ramsar includes all birds “being ecologically dependent on wetlands”. However, this definition exceeds the specific species which contributes to the assemblage feature qualification of both the Severn Estuary SPA and Ramsar. Specifically, the following do not need to be considered within assemblage calculations: Mute swan, Canada goose, goosander, little grebe, great crested grebe, cormorant, grey heron, moorhen, coot, kingfisher, golden plover, jack snipe, common snipe, green sandpiper, black-headed gull, herring gull.

We advise that the Breeding Birds Survey Report (2017) is now over three years old and also did not provide complete coverage of the site.

### Summary

Given the scale and nature of the development and its possible impacts on the designated sites, we advise that two years of contemporaneous data are required to account for inter-annual variation. This is consistent with our advice that has been provided for comparable developments within the Gwent Levels.

### **Designated Sites - Site of Special Scientific Interest (SSSI) Requirement 5 and Conditions 7 to 8**

The development site lies within the boundary of the Gwent Levels – Rumney & Peterstone Site of Special Scientific Interest (SSSI).

The SSSI is notified for its range of aquatic plants and invertebrates associated with the interconnected reens and ditches of the drainage system. In summary, the special interests of the SSSI are dependent on the water quality, water quantity, the existence of the interconnected drainage system and its continued management. Any development which has an adverse impact on any of these factors will have an adverse impact on the wildlife for which the area was notified (full details of the nature conservation interests of the Gwent Levels can be provided if required).

We consider that the development, as currently proposed, would place the features for which the Gwent Levels – Rumney & Peterstone SSSI has been designated at risk and as such, we have significant concerns about the development’s potential to cause adverse impact.

There are potential impacts from the proposal upon the designated site from changes in water quality and quantity, pollution, alterations to present management techniques and aerial emissions. These potential impacts are summarised below and relate to both the construction and operation phases of the proposals:

- Direct loss of /damage to the features of the SSSI from: construction and operation activities (including from any temporary, or permanent infrastructure required to support the development); pollution events; and poor quality surface water runoff;
- Indirect loss/damage to the features of the SSSI from poor quality surface water runoff, due to the interconnected nature of the drainage system. Impacts at this location could affect a large area of the SSSI;
- Reduced access to ditch and reed edges, with potential adverse impacts on their management and the SSSI features;
- Inadequate long-term management of field ditches;
- Loss of grassland habitat and flora that supports the shrill carder bee, which is a qualifying feature of the Gwent Levels SSSI's;
- Alterations to grazing levels and poaching levels within the SSSI;
- Hydrology of the site;
- Poor connectivity and design of the proposed replacement reed and ditch network.

In consideration of the above, we require further information to be submitted, as follows:

Loss of reens and watercourses, both temporary and permanent

We note that the ES sets out reed and ditch replacement proposals, on a 1:1 equivalent basis and we accept the principle of replacing Gwent Levels SSSI drainage network at a 1:1 length ratio. We welcome Figure 21 which now correctly identifies reens and ditches across site.

We note ES Section 7.8.4 refers to habitat loss and includes Table 7.11 and Figure 69 identifies where ditches are retained in the north but not connected to systems or are blind/dead-end ditches. We note that the 'primary reens' are being retained and enhanced where possible. However, we do not agree that there is no loss of reens as building new culverts and/or extending existing culverts and bridges represents a permanent loss due to the SSSI features being unable to utilise the section of watercourse that is lost.

We advise that, to fully understand the loss of field ditch and reed lengths both temporary and permanent, a detailed breakdown of the exact loss of reens and field ditches in metres. The breakdown should detail infilling and loss of viable habitat from installing culverts, roads, installation of bridges and any blind (deadend) reens and field ditches. We advise the information is submitted in table form, or similar to that contained in Table 3.1 Key Elements, and is cross referenced with plans identifying the location of the proposed alterations and any new habitats.

We advise that culverts can reduce the hydraulic efficiency in ditches. Culvert design should minimise the likelihood that capacity is exceeded during periods of higher flow, to enable flow and reduce flood attenuation and to achieve connectivity between ditches to support the SSSI features. We advise that culverts are oversized so the watercourse is not restricted and there is sufficient space for the watercourse to form its own path through a culvert. The natural gradient and channel capacity should be retained and respected. We recommend natural bed retention or replication using local bed materials matching size and clast size to retain natural bed condition. The invert of any culvert should be at least

150mm below and parallel to the natural bed of the watercourse. IDD main ditches require minimum 1200mm diameter culvert, like for like or bigger.

We advise that all documents and supporting information use the same terminology for reens, field ditches and grips. Clarity is also required between the watercourse type as they are managed by different organisations, have different management regimes and replacement lengths should ensure like for like.

We refer to our response to the statutory pre-application consultation and its Annex 1 for a detailed explanation of the types and names of watercourses which traverse the site.

We seek clarification on a statement in ES section 5.7.10 regarding biochemical oxygen demand being likely to be naturally higher due to the widespread diffuse pollution that is experienced across the reen system. We cannot find any correspondence regarding this matter and would be grateful for clarification.

#### Runoff Rates and Water Quantity

We have concerns regarding detriment to the SSSI's features caused by inappropriate management of water quantity. The site is largely flat lying and the Gwent Levels has a high-water table and is prone to flooding, especially in the winter. The soils on the Gwent Levels are poorly draining clay soil with high groundwater levels and water cannot easily flow off site after periods of rainfall, leading to a build-up of surface water. During the summer months when lower rainfall is experienced, the system has to be effectively managed to ensure sufficient levels of water are maintained.

The proposed lowering, widening reens and their banks at several locations across the site, will likely impact integrity and functionality of the reens and impact the on the depth of water. Water depth is a key requirement for many flora and fauna of SSSI and inappropriate fluctuations in water levels must not occur during the construction or operation of the development and the runoff rate must remain at the recommended greenfield run-off rate of 3.5 litres/sec/hectare.

We note ES Section 5.10.30 provides some information on surface water runoff during the operation of the proposal. We note the proposed construction of settlement/treatment ponds (either dry pond/wet pond/swales) to collect, allow sediment to settle out and then discharge to a reen or ditch. Our strong preference is for discharge to Reens only as there is greater dilution and dissipation capacity.

We require more detail on how the approach to achieving the recommended greenfield run-off rate of 3.5 litres/sec/hectare will be achieved and how construction will be managed and operation designed to ensure there are sufficient quantities of water throughout the year.

#### Construction Environmental Management Plan



We note that an Appendix A2 contains an outline Construction Environmental Management Plan (CEMP). A robust and properly implemented CEMP and water quality monitoring plan should address likely significant effects on water quality from construction. We note that the revised CEMP incorporating a site drainage plan will be prepared in advance of construction works. The CEMP must identify all watercourses/drains/drainage paths and provide specific detailed mitigation measures that protect the water environment from pollutants from the development.

We note the outline CEMP includes the provision of cut-off ditches as a tool to prevent contaminated water entering the watercourses on site. We advise that, whilst we agree to the principle of using this technique, the location and construction of cut-off ditches must be carefully considered. This approach needs to incorporate methods to ensure sufficient quantity of water remains available throughout the site. The cut-off ditches must be located outside of any buffer zone of any SSSI field ditch or reen.

We note that the provision of appropriate buffer zones for reens of 12.5m where possible has been referred to. Later in the document there is reference to fuel being stored no less than 10m from a water course. Any reduction to the 12.5 m reen buffer will have to be identified, be fully justified and methods to protect the reen and banks will need to be approved.

We advise that in instances of heavy rainfall which could lead to surface water run-off containing a high sediment loads and water crossing are high risk areas of sediment to enter watercourses. It may be necessary for water to be discharged to ditches rather than to ground however this would require careful management, including regular water quality testing to check water quality is below the trigger levels. The CEMP will also need to incorporate detailed management for each phase of the development before works commence. It is considered appropriate that the CEMP is a 'live' document which includes monitoring and review of impacts caused by previous phases and incorporates details of appropriate management.

### Design and Connectivity of the Drainage System

The existing Gwent Levels drainage network is not uniform in its physical form. Variation arises from differences in the dimensions of water channels (both reens and ditches) and their banks alongside variations in water depth and substrate type. This physical variation gives rise to a range of environmental conditions which provide different habitat niches which collectively support the diverse range of specialist wetland plants and animals for which the SSSIs are of special interest. This connectivity is an important aspect and it provides resilience to changing environmental conditions including natural habitat succession and enables the features of interest to recolonise areas following management operations.

We note and welcome that the ES states replacement lengths of reen construction will follow best practise methodologies. However, we advise that further detailed design is required with respect to the construction methodology for undertaking the initial habitat creation/restoration works.

We note ES section 5.9.1 states that the provision of 5.62km ditches to the south of the railway line will be created to mitigate the loss of ditches to the north of the railway line and that this has been agreed with NRW (see also Chapter 7 – Biodiversity, Section 7.4). Fig 37 opportunities – the reworking of land south for mitigation has not been approved.

We have significant concerns about the location and frequency of the replacement field ditches to the south of the railway, as currently proposed. We are of the opinion that this area is already at capacity and we also seek evidence that there will be adequate water availability to these ditches especially at Summer Penning Levels in order for them to function within the capacities of the SSSI network.

We do not agree with ES Section 5.10 which states that due to the artificial nature of the reed system it is considered that the replacement ditches would quickly re-establish to their original form. We note Figure 69 and where field ditch mitigation in the south is mapped it appears the existing grip system for the fields is being followed. We advise an alternative compensation measure for loss of ditches as it is not appropriate to create field ditches in place of grips.

NRW, and previously CCW, has experience of providing advice on a range of development proposals across the Gwent Levels over the past 25 years. Initially CCW considered, given the historical man-made nature of the drainage network, that it could be possible to recreate the physical environment necessary to support the SSSI features of interest. Experience gained over this period has shown how difficult it is to replicate the complex drainage system with its niche habitats.

We note a Flood Compensation Area of 3ha is located south of the railway line has a dual use as a species rich wet grassland and the majority of the reed and watercourse replacement are located south of the railway line. We are concerned that the southern mitigation area will contain the mitigation area for all compensation needs and advise this may not be appropriate as the area cannot support all habitats and there is a limit to how much 'new' habitat can be created. We advise there is further detail on how this area will be created, i.e. as flood storage and species rich wet grassland and how proposed dual uses will impact the SSSI features.

We advise that the road and associated infrastructure that are proposed to be constructed below the railway line area is to be used for emergency purposes. The proposal should look to be minimising land take within the Gwent Levels Sites of Special Scientific Interest and, where practical, avoiding land take completely to the south of the line of the railway which has been promoted as an area to provide mitigation for impacts on the SSSI north of the railway line. All development south of the railway line should be fully justified.

### Shrill Carder Bees

Shrill carder bee is a feature of the SSSI and the rarest bee in the UK. Metapopulations of Shrill carder bee are now limited to five key areas across the UK. We consider there are opportunities within Rumney & Peterstone SSSI, including on this site, to provide habitat to



support the expansion of the Shril carder bee range and increase its abundance within this SSSI to provide resilience.

Although ES reports that the invertebrate survey did not record any Shril carder bee on site. However, it is likely the site is used for foraging and there are records for this site that are available from Local Records Centre.

We advise submission of details of mitigation and proposed management of mitigation areas including provision of appropriate flowering species. Undertaking habitat management of the ditches, buffer zones and the compensation hay meadows could also support Shril carder bee foraging and nesting.

### New Planting

DAS section 6.4.2 and 6.4.4 refers to species planting for wildflower meadows, tree/hedgerows for the various locations within the development. We advise that all planting should be native to the UK and of local provenance.

We advise plants should be of UK native provenance (preferably grown in British nurseries) to remove the risks of importing diseases that our plants have no resistance to and pests that have no natural predators in the UK. British grown plants are far more likely to do well in our conditions than those that have been imported. British species of native plants are unique to these islands and have adapted to our climate and conditions.

We advise that the new hedge planting that is proposed across the site is appropriately located to maintain the functionality of the SSSI and does not impede the ability to manage the ditch or reën in the long term nor cause over-shading.

We note ES section 7.10.19 and the restoration/creation of hay meadows. We advise that in the 'drier' species-rich grassland area in the southwest the proposed removal of top-soil does not take place and the land is allowed to regenerate naturally from the existing soil seed bank or colonisation from plants in adjacent areas. This method helps to safeguard and enhance the distinctiveness of local flora.

We welcome the proposed land profiling to recreate the historic landscape of a series of undulating levels with grip formation and this approach which will provide conditions to support a mosaic of habitats within each field.

In summary, we advise the ES is updated to include the proposed design of replacement habitats in order to assess the impacts on and viability of the SSSI features. We consider the following is required in the ES :

- Method statements and a comprehensive management plan that set out the detail of the replacement habitat work including methodology and timetable for undertaking the replacement habitat works and any restoration
- Details on management of possible habitats on site as enhancement for the SSSI Shril carder bee features and wider biodiversity.

- Methodology for the surveys proposed on site post construction so they are robust and repeatable for aquatic invertebrates, ditch flora, Shrilc carder bee, meadows

If the ES demonstrates the replacement habitats are acceptable, the LEMP can contain the further details as required, which can be agreed prior to commencement of development.

### Appropriate Management

NRW support the principles of DAS section 6's overarching principles of the master plan. However, it must be highlighted that multi use environments are not always possible or preferable and it is also harder to manage a wildlife area for biodiversity when in a public setting.

Whilst we promote access to the natural environment for health and mental wellbeing 'Integrated Access' to the wider area including the SSSI can incur problems including increased disturbance (physical, traffic, noise, and light), flytipping and littering, predation by cats, and dog fouling. It is vital to balance the impacts from recreational use on the SSSI features particularly trampling and erosion of habitat and details contain in a management plan.

There is the potential for the proposed development during construction and at operational phases to cause adverse impacts to SSSI due to changes and/or limiting options available for management regimes. We advise public areas will require at least annual maintenance to stop succession and keep water management functions. We advise that we will continue to require unhindered access for maintenance activities pre and post construction.

All reens (Main River and IDD) will continue to be managed as per NRW/IDD maintenance programme under our permissive powers. We will not manage field ditches as they are the responsibility of the landowner, hence the need for watercourses to be correctly identified.

We note DAS Section 6.4.7 details the landscape maintenance principles. These principles are a key component of the future success of the development in terms of enhancing and maintaining biodiversity through the site. We advise that this section should be based on formal instruction and should present methods of managing areas rather than referring to 'possible ways'.

We advise a condition is imposed to ensure a comprehensive monitoring plan is developed and linked to a defined criteria which describes a state of desired success for the habitat. The monitoring must be such that if success criteria are not met, then specific remedial action and associated contingency monitoring is triggered. For example, we advise that silt should be prevented from entering the reen system and in the event an incident occurs, the silt must be stopped from moving down stream and affect wider habitats.

A comprehensive monitoring plan must be developed and linked to a defined criteria which describes a state of desired success for the habitat. The monitoring must be such that if success criteria are not met, then specific remedial action and associated contingency monitoring is triggered.

Therefore, we would recommend to the LPA that the below condition is included on any permission afforded to the scheme:

#### Condition 7

Prior to the operation of any phase of development, a long-term monitoring plan for protected sites and associated habitats shall be submitted and approved in writing by the Local Planning Authority. The long-term monitoring plan should include:

- Details of the methods and triggers for action to be undertaken
- Timescales for the long term monitoring and curtailment mechanisms
- Timescales for submission of monitoring reports to the LPA
- Details of any necessary contingency and remedial actions and timescales for actions
- Details confirming that the contingency and remedial actions have been carried out

The monitoring plan shall be carried out in accordance with the approved details, within the agreed timescales.

Reason: A protected sites long term monitoring plan should be submitted prior to operation, to ensure necessary monitoring measures are approved to manage any potential adverse impacts as a result of development on protected sites.

The above condition could be incorporated into the LEMP.

#### Air Quality

We note Appendix F '*Air Quality*' provides data on the operational phase of the development and two routes (Option 1 and Option 2) which are being considered in relation to construction phase of development.

- Option 1 indicates construction traffic will enter the site from the east via Heol Las Road.
- Option 2 indicates construction traffic will enter the site from the west via Cypress Drive.

We provide the following advice in respect of the data provided for the Options presented for the construction phase.

We note Table 22 'Predicted NO<sub>x</sub> Concentrations for the Construction Scenario in 2022 with Route Option 1' indicates that NO<sub>x</sub> levels are, overall, greater in Transects 4 and 5 than Transects 1, 2, and 3. Table 22 indicates only transects 1, 2 and 3 (receptors E7\_A, E8\_A and E9\_A) appear to have NO<sub>x</sub> contributions above 1% but do not exceed the critical level. We note that when comparing Table 22 with the equivalent for Option 2 (Table 27), the route for Option 1 will result in vehicles travelling a greater distance along

the boundary of and into the SSSI. Therefore, a wider area of the SSSI is predicted to be affected. However, we note the overall increases would be less, in comparison to Option 2.

In respect of NO<sub>x</sub> contribution, we note that the modelling output tables within Appendix F indicate that Option 1 offers the least impact on the Gwent Levels Rumney & Peterstone SSSI.

Changes in air quality during the construction phase is usually temporary, however the levels of contribution during the operation of the development need to be taken into account.

We note Table 32 provides data on the predicted NO<sub>x</sub> concentrations for the operation scenario in 2028 and indicates that the 'do something' model contributes an additional NO<sub>x</sub> but will be below the 30µg/m<sup>3</sup> critical level for the protection of vegetation in the SSSI.

Table 33 provides data for the predicted annual nitrogen deposition rates for the operational scenario in 2028 taking into account Option 1. We note there is no equivalent table relevant for operational scenario in 2028 for Option 2.

The data provided in Table 33 indicates that the nitrogen contribution will be an additional amount of 0.6kgN/ha/yr which is 5.8% at receptors E10\_A and at E11\_A. We advise that this increase is not a negligible amount and advise that appropriate management will be required.

Table 42 provides the sensitivity tests for Option 2 and appears to indicate higher concentrations at receptors E10 and E11. Although construction traffic will be temporary at this location the knock-on effects of the operational impact will need to be considered.

The operational sensitivity analysis for NO<sub>x</sub> as contained in Table 47 suggests that the NO<sub>x</sub> concentrations at Receptors E10 and E11 will be in excess of 42µg/m<sup>3</sup>. We note that this is 140% of the NO<sub>x</sub> critical level and advise that appropriate management will be required.

Table 48 presents the nitrogen sensitivity analysis with route option 1 for 2022. We note there is no equivalent table relevant nitrogen sensitivity analysis for Option 2.

Table 48 suggests that the additional nitrogen is between 11.8% to 1% respectively between receptors E10\_A to E10\_I with only E10\_J being below 1%. At receptors E11\_A to E11\_H the nitrogen deposition contribution range is between 11.7% to 2.2% respectively. These increases in nitrogen loads cannot be ignored and advise that appropriate management will be required.

In summary, we advise that the increases in NO<sub>x</sub> and nitrogen deposition could result in a loss of terrestrial habitat which in turn results in damage to the reens which are essential to the SSSI features in the Gwent Levels. We advise a scheme of habitat management is

proposed which will offset the risk of damage due to pollution caused by the operation of the proposed development.

#### *Further Comment*

We note that the *Environmental Statement Chapter 4 Traffic & Transport* does not include any ecological assessment.

We note *Appendix F Air Quality* uses units of  $\mu\text{g}/\text{m}^3$  for  $\text{NO}_x$ , however,  $\text{NO}_x$  units of  $\text{g}/\text{m}^3$  are used in the following paragraphs of the *Environmental Statement Chapter 8 Air Quality*:

- 8.10.15,
- 8.10.26,
- 8.10.41,
- 8.10.52

Please clarify which unit is correct.

#### Water Quality

The proposed urban environment will increase the area of impermeable surface and this will lead to an increased run-off rate to the Gwent Levels drainage network, however to mitigate the increase run-off a surface water strategy is proposed.

We note that ES section 5.7.8 refers to baseline water quality monitoring for the site and monitoring was carried out between June - September 2019. We consider that this is a limited timeframe for water sampling and advise that it does not provide a good baseline for such a large development and does not extend across summer to winter penning levels. The monitoring should be supported with a map that identifies the sampling locations which should include points upstream, downstream and within the site.

We note ES section 7.9.8 identified key risks including increased sediment from construction and we concur with these. Construction can disturb contaminants within the soil, this will be an important determinant to have when preparing the ongoing Water Quality monitoring package. We note use of our 2016 Water Quality Standards for monitoring standards.

Given the sensitive location and risk to the SSSI through construction and during operation, a water quality sampling survey should be undertaken across the site, using NRW methodologies, to provide a robust baseline data set that will inform a water quality management / monitoring plan during and post construction.

We would therefore advise that a condition to secure the submission of a water quality monitoring and management plan is included on any future permission afforded to the scheme, as follows:

### Condition 8

No phase of development shall commence until a water quality monitoring and management plan for the protection of water quality in the watercourses on site has been submitted to and approved in writing by the Local Planning Authority. The water quality monitoring plan should include:

- Details of the water quality monitoring methods to include monitoring both pre, during and post construction
- Timescales for construction
- Timescales for submission of monitoring and interpretative reports to the LPA during construction
- Details of triggers for specific action and any necessary contingency actions that will be in place in the event that water quality standards are not being met.

The water quality monitoring and management shall be carried out in accordance with the approved details during the site preparation, construction, operation and post-construction phases of the development.

Reason: A water quality monitoring plan should be submitted, to ensure necessary monitoring measures are approved prior to commencement of development or phase of development and implemented, to manage any potential adverse impacts on water quality.

We advise that sampling points upstream, downstream and within the construction site must be monitored pre, during and post construction. We recommend at least 1 year pre-construction sampling is undertaken on a quarterly basis. This will ensure the samples cover the full range of seasons and winter/summer penning levels. Sampling points must be ground truthed in advance, to check they are suitable and agreed with NRW before commencement. This will ensure that an accurate reflection of the site can be obtained.

We advise that post construction surveys should be undertaken for a minimum of 5 years, to fully assess the success or otherwise of any mitigation and/or remedial works. If water quality standards are not being met, post construction surveys should be implemented until it can be demonstrated that remedial measures have addressed the causes and water quality standards are being met. We welcome the opportunity to work with the developers and/or consultants to determine the best sites for sampling locations.

Please note, we have developed a full remit view on acceptable water quality across a range of determinants, that can be discharged into the Gwent Levels SSSI drainage system. The list of determinants and their target values have been reviewed and amended in combination with the current Water Framework Directive (WFD) standards, JNCC guidance and other relevant evidence. Our advice is that the design of any discharge needs to either (i) meet or exceed new water quality standards or (ii) if these standards are already met, discharge water of equivalent quality to the measured values in order to avoid deterioration.

Our advice on water quality sampling within the Gwent Levels can be found within the following documents which we have attached to this letter:



- Interim Guidance Note 4: Water quality monitoring
- NRW Advice on Water Quality Standards to be used for Impact Assessment of Developments on the Gwent Levels Ditch System
- Technical Appendix – Water Quality Standards for the Gwent Levels

This is required to ensure no adverse impacts from construction and operation on water quality in SSSI watercourses.

## **Land Contamination – Requirement 6 and Conditions 9 - 12**

We note section 5.5 states “Ground gas monitoring indicated elevated concentrations of VOCs across the site in the majority of the monitored locations across the monitored strata. As no indication of a widespread significant contamination with hydrocarbons has been identified, the source of the VOCs is unclear. Therefore, as a precaution, three additional rounds of fortnightly gas monitoring are required to further inform on the risk posed by VOC’s at the site.”

We advise the term VOCs (volatile organic compounds) is used somewhat ambiguously in the submitted documents. In some cases the reports refer to data obtained using a field photo-ionisation detector (PID) and in others specifically to methane concentrations. We request clarification on the nature of the VOCs, along with full Gas Chromatography Mass Spectrometry VOC analyses prior to the determination of the planning application.

In respect of unsuspected contamination, we note Section 5.5 of the Ground Investigation Report and advise the following conditions are imposed on any consent:

### Condition 9:

If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until a remediation strategy detailing how this unsuspected contamination shall be dealt with has been submitted to and approved in writing by the Local Planning Authority. The remediation strategy shall be carried out as approved.

Reason: To ensure the risks associated with previously unsuspected contamination at the site are dealt with through a remediation strategy, to minimise the risk to both future users of the land and neighbouring land, and to ensure that the development can be carried out safely without unacceptable risks.

We note section 5.5 of the Ground Investigation Report also refers to an additional phase of ground investigation being required within the land owned by Network Rail to investigate the potential presence of contamination with the railway embankment. This is set out in the “Phasing of proposed ground investigations” and it is recommended that this ground investigation is undertaken when possessions are obtained to allow the embankment

widening and sluing of the railway lines.

We agree with this statement and recommend the inclusion of the following conditions to ensure that the work is conducted and reported satisfactorily:

Condition 10:

No development shall take place on land owned by Network Rail and / or suspected to be contaminated until the following components of a scheme to deal with the risks associated with contamination at the site, has been submitted to and approved in writing by the Local Planning Authority.

1. A preliminary risk assessment which has identified:
  - all previous uses
  - potential contaminants associated with those uses
  - a conceptual model of the site indicating sources, pathways and receptors
  - potentially unacceptable risks arising from contamination at the site
2. A site investigation scheme, based on (1) to provide information for a detailed assessment of the risk to all receptors that may be affected, including those off site.
3. The results of the site investigation and the detailed risk assessment referred to in (2) and, based on these, an options appraisal and remediation strategy giving full details of the remediation measures required and how they are to be undertaken.
4. A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy in (3) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action.

The remediation strategy and its relevant components shall be carried out in accordance with the approved details.

Reason: To ensure the risks associated with contamination at the site have been fully considered prior to commencement of development as controlled waters are of high environmental sensitivity; and where necessary remediation measures and long-term monitoring are implemented to prevent unacceptable risks from contamination.

NOTE: Part 1 of the above condition has been satisfactorily completed. You may wish to remove this from the condition.

Condition 11:

Prior to the operation of the development or phase of development a verification report demonstrating completion of works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to and approved in writing by the Local Planning Authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation



criteria have been met. If required by the verification plan, it shall also include a long-term monitoring and maintenance plan for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action, as identified in the verification plan. The long-term monitoring and maintenance plan shall be carried out in accordance with the approved details.

Reason: To ensure the methods identified in the verification plan have been implemented and completed and the risk associated with the contamination at the site has been remediated prior to occupation or operation, to prevent both future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors.

Condition 12: If required by the verification plan (Condition 11), then prior to the operation of the development or phase of development, a long term monitoring plan shall be submitted and approved in writing by the Local Planning Authority. The monitoring plan shall be carried out in accordance with the approved details, within the agreed timescales.

Reason: A long term monitoring plan should be submitted prior to occupation or operation, to ensure necessary monitoring measures are approved to manage any potential adverse impacts as a result of development.

We note Section 5.5 states that “Aliphatic hydrocarbons and phenols were both detected on one occasion (separate locations). These exceedances are likely to be a result of a localised spillage of fuel and herbicides respectively and are unlikely to be reflective of a widespread contamination issues. As a precaution, it is recommended that a watching brief is implemented during the construction works.” and goes on to state that “Surface water sampling did not identify any contaminants of concern. Elevated concentrations of zinc were detected in two locations where water flows into the site (SW1 and SW2) on August 15th and these are considered to originate from off-site sources.”

Although we agree that these detections are unlikely to be reflective of a widespread contamination issues, verification that this is the case is required, and the conditions recommended above should be used to address this.

## **Flood Risk**

The development proposals are classified as less vulnerable development, in accordance with Technical Advice Note 15 (TAN15): Development and Flood Risk, July 2004.

Our Flood Risk Map confirms the site to be almost entirely within Zone C1 of the Development Advice Map (DAM) contained in TAN15 and the 0.5% (1 in 200 year) and 0.1% (1 in 1000 year) annual probability tidal flood outlines.

The following Flood Consequences Assessment (FCA) has been submitted in support of the application: Hendre Lakes – Flood Consequence Assessment, dated November 2020,

by JBA Consulting. We note JBA have utilised NRW's Wentlooge Tuflow model and undertaken additional hydraulic modelling, to support a detailed assessment of tidal flood risk within the FCA. We are satisfied that the model is fit for the purpose of informing the FCA.

We note that the primary flood risk management measure is to raise all areas of built development (ie. buildings, roads and parking) to a minimum level of 6.0mAOD. Raising the site to this minimum level will significantly reduce the risk of flooding from all sources, including tidal, fluvial, surface water and groundwater. Furthermore, the site parameters plan has been developed to maintain the main reens and provide green/blue corridors. A level of 7.0mAOD has been assumed for the railway station platform as it will need to be elevated above the railway line. The proposed ground raising will lead to some loss of floodplain storage. Tidal flooding is generally insensitive to the loss of floodplain storage, as the volume of the sea is essentially infinite in comparison to the floodplain. However, in some circumstances, such as when coastal defences overtop, the volume of available floodplain can play a role in the flood risk. Consequently, so that there are no negative flood risk effects, several areas of the site have been deliberately lowered to offset the ground raising effects. The largest of these areas is immediately south of the railway line, with another smaller area in the southwest corner of the site.

We note it is proposed to widen Greenlane reen to 3m to improve conveyance of water and hydraulic controls are proposed on the two culverts under the railway line to prevent the ingress of tidal flood water into the site.

#### A1.14: Flood Risk in the 0.5% (plus Climate Change Allowance (CCA)) flood event

During a 0.5% tidal event plus CCA, the proposed development site is predicted to be flood free due to the built development being raised to above a minimum level of 6.0mAOD. Large areas of agricultural land to the south of the railway line floods, however flood water does not reach the site.

The development is compliant with TAN 15 paragraph A1.14 (with CCA).

#### A1.15: Flood Risk in the 0.1% flood event

A1.15 of TAN15 provides indicative guidance on the tolerable conditions in the event of an extreme 0.1% annual probability flood event.

We advise that during a 0.1% tidal flood event plus CCA, the built development is predicted to be flood free as the maximum 0.1% year flood level for the year 2095 is 5.05m AOD and all areas of built development (ie. buildings, roads and parking) to a minimum level of 6.0mAOD

We note that a small area of the site (in the southwest corner) may experience flooding, with flood water reaching an average depth of 140mm, with some localised depths of up to 480mm. However, we note this area has been deliberately designed to flood in this event,

to maintain connectivity between the Faendre and Ty-Ffynnon reens, and that this area will only be used as public open space.

The FCA has considered residual flood risk. During a worst case breach scenario, based on the simultaneous breach failure of seven locations, during the 0.1% plus climate change flood event, the maximum flood depth is predicted to be 310mm in the built environment; depths in the open space / park area / wildlife corridors could exceed 1m.

We note that due to the proposed land raising there will be some loss of floodplain storage, however areas of the site have been deliberately lowered to offset the ground raising effects and provide ecological mitigation. The largest of these areas is immediately south of the railway line, with another smaller area (as mentioned above) in the southwest corner of the site. We are satisfied that overall there will be no loss of floodplain storage as a result of the development proposals.

#### A1.12: Flood Risk Elsewhere

In the post development 0.1% flood event plus CCA (2095) there is greater variation in the flood depths as a result of the proposed development, however, all increases in flood depths are in areas directly associated with the flood risk management of the development (compensation areas). We advise the imposition of the condition below to ensure that there are no negative effects to third parties.

#### Condition 13:

Prior to the commencement of development a timetable for the lowering of approximately 3ha of land near the south west corner of the site to provide flood compensatory storage, south of the railway by 0.5m to a level of 2.65m AOD shall be submitted to and approved in writing with the LPA. The provision of the flood compensatory storage must be carried out in accordance with the approved details.

Reason: To protect thirds parties from any flood risk

#### *Emergency Access/egress*

TAN15 advises that access routes should be shown to be operational under all conditions. We note that safe access and egress will be provided through the primary (northern) and secondary (western) highways in all flood risk scenarios.

We do not comment on whether safe access and egress can be achieved to and from a site as this is a matter for emergency services to determine.

The FCA states that site occupants and business owners will be advised to sign up to NRW flood warnings and advises that a flood action plan should be developed and adopted.

As it is for the determining authority to determine whether the risks and consequences of flooding can be managed in accordance with TAN15, we would recommend they consider

consulting other professional advisors on matters such as emergency plans, procedures and measures to address structural damage that may result from flooding. Please note, we do not normally comment on the adequacy of flood emergency response plans and procedures accompanying development proposals, as we do not carry out these roles during a flood. Our involvement during a flood emergency would be limited to delivering flood warnings to occupants/users.

## **Internal Drainage District**

The proposal falls within the Caldicot and Wentlooge levels internal drainage district.

IDD are satisfied with the current arrangement of drainage system within the location of the proposed, also noting that area south of railway line is lower laying but only reported flooded once in last 30yrs. This being due to faulty penstock at Peterstone Reservoir.

We advise the system appears to have the capacity to manage water during flood events by working with proposed on site storage. Increases in water can be achieved by discharging at two directions;

- West discharge - Railway Reen North to St. Mellons Reen West sluice to Tarwick Reen (main river) to sea outfall.
- East discharge – Green Lane Reen to Rhosog Fawr (main river) to Broadway and out via Peterstone Reservoir.

Our advice is based on the information submitted with the planning application and all proposed discharge to the internal drainage district must adhere to Greenfield Run-Off Rates of 3.5 l/m/s. We request to be reconsulted should the proposed drainage scheme be amended.

### Further advice to the applicant

The works to the Green Lane Reen shall not impede NRW's annual works program at any time. No surface water run-off is to enter the system/watercourse without first obtaining the relevant Land Drainage Consent (LDC) from NRW. Please refer to our [website](#) for further details.

## **Other Matters**

Our comments above only relate specifically to matters included on our checklist, *Development Planning Advisory Service: Consultation Topics* (September 2018), which is published on our [website](#). We have not considered potential effects on other matters and do not rule out the potential for the proposed development to affect other interests.

We advise the applicant that, in addition to planning permission, it is their responsibility to ensure they secure all other permits/consents/licences relevant to their development. Please refer to our [website](#) for further details.

If you have any queries on the above, please do not hesitate to contact us.

Yn gywir / Yours faithfully

**Kate Glover**

Cynghorydd - Cynllunio Datblygu / Advisor - Development Planning  
Cyfoeth Naturiol Cymru / Natural Resources Wales

## APPENDIX B2

Cardiff Development Control,  
City Hall,  
King Edward VII Avenue,  
Cardiff,  
CF10 3ND

ebost/email:  
southeastplanning@cyfoethnaturiolcymru.gov.uk

04/02/2022

Annwyl Syr/Madam / Dear Sir/Madam,

**BWRIAD / PROPOSAL: CONSTRUCTION OF A BUSINESS PARK. TOGETHER WITH THE CONSTRUCTION OF A NEW TRANSPORT HUB FACILITY, COMPRISING RAILWAY STATION BUILDINGS AND ASSOCIATED INFRASTRUCTURE WORKS**

**LLEOLIAD / LOCATION: LAND SOUTH OF ST MELLONS BUSINESS PARK AND BOUNDED BY FORTRAN ROAD/COBOL ROAD TO THE NORTH, CYPRESS DRIVE TO THE WEST, ST MELLONS, CARDIFF**

Thank you for consulting Cyfoeth Naturiol Cymru / Natural Resources Wales about the above, which we received on 6 January 2022.

**We object to the proposed development as submitted, for the reasons explained in this letter.**

We have reviewed several iterations of the proposals and held detailed discussions with the applicant's consultants before arriving at this position. We understand the application is due to be determined shortly and therefore offer you the following advice.

### **1.0 Designated Sites - Gwent Levels: Rumney and Peterstone SSSI**

The Gwent Levels: Rumney and Peterstone Site of Special Scientific Interest (SSSI) is notified for its range of aquatic plants and invertebrates associated with the interconnected reens and field ditches of the drainage network (i.e. the SSSI features). These special interests of the SSSI are dependent on the water quality, water quantity, the existence of the interconnected drainage system and its continued management. The purpose of the notification is to protect the features of the SSSI.

We have reviewed the additional information provided by the applicant. Documents relevant to our advice below are:

- Response to NRW Consultation (OPA Addendum),
- SSSI Mitigation Design Report – OPA Addendum
- ES NTS (English) – OPA Addendum
- ES Chapter 5 – Hydrology and Flooding (OPA Addendum)
- ES Chapter 7 – Biodiversity (OPA Addendum)
- Drainage Strategy, 17 December 2021 including Appendices A, B and C
- Appendix E7 Framework SSSI Mitigation Management and Monitoring Strategy\_issue
- Appendix 28 Ecosystem Resilience Assessment

### 1.1 Summary - Gwent Levels: Rumney and Peterstone SSSI

We previously raised significant concerns over the proposed development's potential to cause adverse effects on the SSSI features and required further information, including acceptable avoidance, mitigation and compensation measures. As infilling of some SSSI field ditches is unavoidable, compensation for that habitat will be required. The compensation must be appropriate to offset the permanent loss of SSSI field ditches. Newly constructed field ditches should be designed and located appropriately, with agreed long-term management, to allow them to function as SSSI features.

Since our last response to the planning authority (on 1 April 2021) we have engaged with the applicant's consultants to discuss the loss of SSSI features and advise on appropriate compensation. Through this engagement, it's become apparent that compensation land within the redline boundary is limited. While we recognise that the applicant has sought to maximise the opportunity for compensation within the available land, we are of the view that permanent loss of features will occur if the proposal is approved. On this basis we object to the planning application as submitted. Further detailed reasons are provided below.

In addition, we continue to have concerns over whether the development will provide ecosystem resilience and whether there will be further habitat loss due to shading from buildings.

### 1.2 Loss of SSSI feature

The additional information shows the lost SSSI field ditch habitat will be replaced on a 0.75:1 ratio. We have advised that anything less than 1:1 compensation will constitute a permanent loss of SSSI features, which is unacceptable.

It should be noted that not all field ditches in the redline boundary currently hold water due to a lack of management. The applicant proposes, therefore, to only replace field ditches that currently hold water and suggests there are approximately 1.41km of dry field ditches across the site in unfavourable condition which do not support SSSI features.

The additional information states that all newly constructed field ditches will be designed to be permanently wet, resulting in a 0.08km net increase in wet field ditches post



development. The applicant argues that the compensation ratio should be considered as 1.02:1, when only accounting for wet field ditches and not compensating dry ditches.

We advise all field ditches, regardless of condition, are notified SSSI features and must be compensated if lost to the development. This is consistent with the [Guidelines for Ecological Impact Assessment](#) (in the UK and Ireland) from the Chartered Institute of Ecology and Environmental Management (CIEEM). Paragraph 4.17 states 'there may be cases where important habitat types are affected [by development proposals] but they are currently in a degraded or unfavourable condition. Whilst the current baseline condition of a habitat may be suboptimal, its potential value should be considered, including its possible contribution to conservation objectives. It is essential not to under-estimate the importance of habitats in sub-optimal condition where there is potential for restoration. It is also particularly important to conserve irreplaceable habitats...'

It also states (paragraph 6.7) that 'replacement ratios of compensatory habitat greater than 1:1 are frequently appropriate because of the uncertainty inherent in compensation, particularly in cases which require ecological restoration, habitat creation or translocation of species or habitats.' It further explains 'increased replacement ratios can also help take account of the time lag in delivering compensation and regaining the same maturity, complexity and diversity of habitats and the full complement of associated species.'

For information, 'unfavourable condition' status indicates that the SSSI fails to meet the standards and has inappropriate or no suitable management to meet the standards. 'Destroyed' (partially or completely) is where the feature is no longer present and there is no prospect of being able to restore it. This definition is from the [Joint Nature Conservation Committee](#) (Common Standards Monitoring).

The Living Levels partnership has shown that with appropriate management, the condition of field ditches can be restored with little difficulty. The dry field ditches within the application site should only be classed as in unfavourable condition temporarily. Whereas if the proposed development is constructed, it would constitute the permanent loss of SSSI features, i.e. the feature is destroyed and will no longer be present. Therefore, unfavourable field ditches should not be left out of the compensation strategy.

It should be noted that the applicant's consultants proposed a strategy that attempted to reach a 1:1 ratio. However, the density and location of these ditches were not appropriate and would unlikely function as SSSI. Therefore, a reduced ratio with a lower density of field ditches has been proposed.

To cover the remaining compensation deficit, the principle of off-site compensation has been discussed with the applicant. This could be acceptable and has the potential to improve ecosystem resilience across the wider Rumney and Peterstone SSSI, though there would be a decrease in resilience within the redline boundary itself. However, we understand the applicant is unable to offer additional land, within their control, to achieve off-site compensation.

We've also had initial discussions regarding the possibility of other measures which could fulfil the remaining compensation deficit, such as financial contributions. This remains an option for the applicant to explore. Any financial contributions must go towards compensating the loss of field ditches. In our view this means finding additional land, within or close to the SSSI, where the financial contribution can secure long-term management of either newly constructed field ditches (resulting in new land functioning to SSSI standard) or reinstatement of existing ditches from unfavourable to favourable condition via long-term management agreements (ideally these would be in the Rumney and Peterstone SSSI).

If the applicant and planning authority wishes to explore and progress this option further, we can provide the nature conservation input to ensure the compensation is appropriate.

#### *1.2.1 NRW position on loss of SSSI features*

Based on the submitted application details and considering the above advice, our view is the proposal is likely to damage the SSSI. This is contrary to national policy on designated sites set out in PPW (paragraph 6.4.10 – 6.4.17) and Technical Advice Note 5: Nature Conservation and Planning (section 5).

We therefore object to this application. If the planning authority are minded to grant permission, in line with paragraph 5.4.6 of TAN5, we ask you notify us before reaching your decision.

### 1.3 Ecosystem resilience

Notwithstanding the loss of SSSI features, we've also advised that the compensation and wider SSSI, post development, must be resilient while functioning as SSSI habitat and contributing to the conservation objectives of this nationally important site. We continue to have significant concerns whether this can be achieved within the parameters of the application.

Ecosystem resilience can be defined by the following attributes: Diversity, Extent, Condition, Connectivity and Adaptability. Further guidance on your authority's biodiversity and resilience of ecosystems duty is in Planning Policy Wales (paragraphs 6.4.5 – 6.4.9), with page 138 providing a broad framework for implementing the above attributes in the planning system.

The nature conservation interests within the Gwent Levels SSSIs are intricately bound to the dynamic ecosystem associated with the extensive network of reed and ditch aquatic habitats and their adjoining terrestrial habitats. Adverse impacts on the attributes which define ecosystem resilience will lead to likely adverse effects on the SSSI itself.

During our discussions with the applicant's consultants, we've highlighted the importance of the mosaic landscape of the Gwent Levels. The extent of the Gwent Levels is an important part of the resilience of the SSSI. This is important as it provides a range of habitat conditions for the aquatic plants and invertebrates (SSSI features).

The resilience of the SSSI is threatened by the proposed layout of compensatory field ditches. We previously raised concerns about the density of field ditches in the south west corner of the ecological mitigation area. The field size associated with the field ditch pattern is significantly reduced. At present, the mosaic of field ditch and grasslands in various management regimes across the Gwent Levels SSSIs increases the diversity and extent of habitats which supports the ecological resilience of the SSSI.

By increasing the density of the field ditches in the ecological mitigation area, the current extent of the intervening grazing marsh habitat is lost. The density also reduces the diversity of environmental conditions within the ditches, which support the diversity of aquatic plants and invertebrates. Connectivity of the reens and field ditch network in the north is reduced and increased in the south without regard to the structure and functioning of the SSSI. The condition may also reduce if there are impacts on water availability, which directly supports the aquatic plant and invertebrate features of the SSSI (further advice on water availability is below).

Currently environmental conditions across the site vary and provide a range of abiotic conditions (e.g. light, temperature, water) within the field ditches. Reducing the extent of field ditches in the north and increasing the density of field ditches in the south will decrease the variation of abiotic conditions across the site. This, in turn, decreases the availability of habitat niches for the scarcer plant and invertebrate species, impacting on the diversity at the site. It is likely that more disturbance tolerant species (such as *Phragmites australis*) will increase across the site as a result of the development. Whereas scarcer species will struggle to re-establish / re-colonise, thereby adversely affecting the structure and functioning of the SSSI. We do not consider the current proposals provide the range of conditions required.

Additionally, while the reens and field ditches support most of the plant species of interest, invertebrates require variation in the abiotic conditions (provided in the field ditches) and variation in environmental conditions of the intervening grasslands to support their immature and adult stages. We do not consider the current proposals provide such variation.

Detailed comments on the applicant's Ecosystem Resilience Assessment (Appendix 28) can be found in Annex 2.

#### *1.3.1 NRW position on ecosystem resilience*

PPW (paragraphs 6.4.1 – 6.4.4) provides policy on the resilience of ecosystems, stating 'the planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems... by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement....development proposals must consider the need to: ensure statutorily and non-statutorily designated sites are properly protected and managed...secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.'

In our view the proposal, overall, does not secure enhancements of and improvements to the resilience of the SSSI through improving its extent, diversity and connectivity.

#### 1.4 Shading of SSSI habitat

We have also previously raised the issue of shading of the ree and ditch habitat. There is a risk of shading from buildings and hedgerows, especially to the northern area of the site and specifically Ty Fynnon Ree, where nearby buildings could reach 60 metres high.

A significant lack of sunlight to the ree system is likely to restrict the rees and ditches from functioning as a habitat for the aquatic plants and invertebrates of interest. Although scale and layout are reserved matters, the Parameter Plan (PRX-ARP-ES-XX-DR-AX-002) indicates buildings up to 60 metres could be located close to Ty Fynnon Ree. The impacts of shading have not been considered yet. If, once the detail design is finalised, shading is shown to impact the functioning of any SSSI habitat, then this is likely to represent further loss. At this point, it would require further compensation to what is already proposed. We advise this point is considered during this determination on the basis of limited compensation land available to the applicant.

## 2.0 Protected Species – Dormice

In our previous letter to you (dated 1 April 2021) we advised additional information is submitted to fully assess the likely impacts on European Protected Species, including Dormice.

We note the additional information relating to dormouse conservation, including Appendix E22 - Dormouse Framework Strategy (DFS) and the updated ES: Chapter 7 Biodiversity, (dated 17 December 2021).

### 2.1 Summary - Dormice

The additional information has gone some way to address the concerns raised in our previous letter and subsequent discussions with the applicant's consultants regarding dormice.

It's agreed that there will be a loss of dormice habitat resulting from the proposed development. The strategy includes a commitment to plant new habitats for dormice at the outset of the scheme. This will be done by planting in areas A, B and C, as outlined in Figure 3.9 'Pre-Construction Preparatory and Compensation Works', with the majority of additional planting the following winter. In contrast to the initial proposals, the revised dormouse strategy also seeks to retain a number of dormice on site, proposing supplementary feeding of dormouse whilst newly created habitats establish.

However, based on the information provided to date, there remains uncertainty with areas of this strategy. As a result, the additional information does not satisfy our concerns relating to dormice. These areas are:

- Delivery and robustness of proposed habitats
- Supplementary feeding

### 2.2 Delivery and robustness of proposed habitats

Uncertainty remains within the applicant's conservation proposals for dormice and whether the proposed development can deliver the appropriate amount of habitat replacement for dormice.

#### *2.2.1 Extent of Habitat to be Created*

There appear to be discrepancies in habitat figures in the DFS compared to the ES Chapter 7. The ES indicates that hedgerows will reach a width of at least 5m at maturity, whereas Section 5.2.2 of the DFS it is stated that hedgerows will be between 3-5m.

Given hedgerows are an important part of the compensatory habitats, confirmation must be sought that a minimum width of 5m will be delivered. If not, this may have implications for the extent of habitat that can be delivered and therefore must be addressed before planning permission is granted. If calculations are based on 5m wide hedgerows, but

hedgerows 3m wide are taken through to detail design stage, a significant amount of habitat will be lost from the scheme.

### *2.2.2 Functionality and Deliverability of planting*

We welcome the commitment to provide suitable dormouse habitat within the wildlife corridor and the proposals for early planting in the southern most section. However, the updated strategy has introduced new issues.

We note the cross-sectional drawings provided in Appendix 1 (Wildlife Corridor Cross Sections) of the DFS indicating profiles of the wildlife corridor. However, we have some concerns as to the deliverability of the proposals included within the corridor highlighted by these drawings. From the drawings provided in Appendix 1, the scale bar shows woodland planting to be included within 10m of the existing pylons.

The planning authority should satisfy itself that woodland can be planted this close to the existing pylons. We understand that National Grid seek to maintain a corridor of regularly cleared vegetation 26-40 metres wide underneath pylons depending on their size, arm width and distance of the outer cables for safety reasons. This could have significant impacts on the deliverability of the proposed woodland extent and its integrity in the long term. If there is a reduction in the extent of woodland planting or its long-term availability because of this, updated calculations and compensatory habitat plans will be necessary.

### *2.2.3 Shading from built environment*

The Wildlife Corridor and Ty Ffynnon reen corridor seek to provide ecological connectivity throughout the site. However, there could be potential impacts on vegetation growth within corridors due to shading from tall buildings. What impact this may have upon vegetation growth or whether it could delay or impair vegetation establishment in these areas is unknown and hasn't been assessed in the application.

Although scale and layout are reserved matters, the proposals show indicative (and up to) 12 storey and 6 storey buildings in areas either side of the wildlife corridor; as well as (up to) 12 storey and 15 storey buildings in areas either side and close to Ty Ffynnon reen. As stated in the Parameter Plan, the buildings are indicated to potentially reach heights of up to 48m and 60m. It would have been useful for the cross-sections provided in Figures 2a and 2b and Appendix I of the DFS to reflect the final profile of the wildlife corridor in context to the wider development including building heights as well as the finished development plateaux.

The planning authority should satisfy itself that shading will not affect the proposed provision of compensatory habitats. If there is a negative impact, alternative solutions would need be implemented, and additional compensation land may be required.

## 2.3 Supplementary feeding

Notwithstanding the applicant demonstrating the conservation proposals for dormice are sufficient and deliverable within the parameters of the application, we continue to have reservations over evidence for the effectiveness of supplementary feeding. The DFS states

that the supplementary feeding will be employed as a temporary measure to ensure sufficient food resource is available to the remaining dormouse population while mitigation planting establishes.

It should be noted that supplementary feeding is a novel measure in the context of dormouse mitigation. If this measure proves to be ineffective, the application has not explained how this would impact on the conservation proposals overall. There appears to be no contingency measures proposed.

Note: The applicant should note that we are unlikely to consent trapping in the breeding season, between 1 June and 31 August.

#### 2.4 NRW position on Dormice

Based on the information available we are not in a position to advise you that the proposal will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in its natural range. Potentially, this could be resolved with further information as outlined above.



### **3.0 Conclusions**

We recognise the application site is allocated in the adopted LDP under policy KP2 (H): South of St Mellons Business Park and appreciate its strategic importance to the Council. We're aware the proposal has socio-economic benefits, particularly delivery of improvements to the rail network. Our role in the planning process is to advise in respect of environmental and nature conservation interests. The Nature Emergency declared in Wales places into sharp focus the need for us to protect and enhance our important ecological assets.

During the LDP examination we stated a proposal of this size, at this location, would likely have significant adverse effects on the features of the SSSI. We have had constructive dialogue and worked through a number of iterations of the scheme with the applicant to see if our concerns could be addressed. However, the information provided to support the outline application, has not demonstrated that significant adverse effects to the SSSI can be avoided, mitigated or compensated for.

The permanent loss of SSSI ditches and lack of appropriate compensation to fully off-set this damage is contrary to national planning policy. Your own LDP Policy EN5 states development will not be permitted that would cause unacceptable harm to designated sites. In relation to Dormice, a European Protected Species, we are concerned that the proposal does not provide adequate information for us to advise you that the proposal will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in its natural range.

### **4.0 Further advice**

The additional information has addressed other concerns raised in our previous letter. However, there remains significant matters which will require further consideration and assessment at the detail design stage if outline permission is given. This advice is set out in Annex 1 below.

If you have any queries on the above, please do not hesitate to contact us.

#### **James Davies**

Uwch Gynghorydd – Cynllunio Datblygu / Senior Advisor – Development Planning  
Cyfoeth Naturiol Cymru / Natural Resources Wales



## **Annex 1 - Further advice**

The application is for outline permission with all matters reserved. If permission is granted, the following matters should be taken into account as early as possible.

### **Gwent Levels: Rumney and Peterstone SSSI**

#### Water availability and hydrology

The hydrology on the Gwent Levels is complex with water levels underpinning the SSSI features. Without sufficient water depths, aquatic plants and invertebrates which are the features of special interest will not be able to persist. NRW's Internal Drainage District (IDD) function manages the flow of water through the reens to ensure that there are adequate water levels within the reens and field ditches across the Rumney and Peterstone SSSI and the adjacent St Bride's SSSI. Therefore, water levels must be managed across large areas, and changes to water availability due new development could have significant effects outside of the redline boundary.

To address our previous concerns, Appendix C8: New Field Ditch Volume Estimates discusses the changes in surface water run-off post development and the amount of water required to fill newly constructed field ditches. The calculations demonstrate an increase in surface water run-off from 7,140m<sup>3</sup> pre-development to 15,470m<sup>3</sup> post-development and that the volume of new field ditches south of the railway will require an estimated 6,060m<sup>3</sup> of water.

The drawing 'Proposed Storm Drainage Catchment Contributing to Reen Network', marked on your website as APPENDIX C1 DRAINAGE STRATEGY (OPA UPDATE) PART-17, shows that the implementation of SuDS features across the north of the site will significantly alter the drainage catchments of the reen system with managed outfalls. The majority of these discharges are into Faendre Reen, which does not connect to the southern ecological mitigation area (where most of the new field ditches are located). Whereas Railway Reen and Green Reen connect into the ecological mitigation area. The estimated discharges from each catchment have not been provided, so it's difficult to understand how this will affect the proportion of surface water run-off entering the ecological mitigation area.

However, Table 2 (on page 19) within the Drainage Strategy, shows estimates of the discharge rates for each catchment using Qbar rates. Appendix C8 (page 2) shows the catchments that will discharge into Railway Reen and Green Lane Reen. It appears that an estimated 41l/s will be discharging to Faendre Reen with 21 l/s discharging to Railway Reen and Green Lane Reen. If the discharge rates are used as a proxy for the relative volumes of water available to Faendre, Green Lane and Railway reens, there is an approximate 60:40 split in favour of Faendre Reen. On this basis, only 40% of the 15,470m<sup>3</sup> - which is 6188m<sup>3</sup> - could be available for the new ditches, which reduces the margin of error for requiring an estimated 6060m<sup>3</sup>.

Further to this, not all the water discharged to Green Lane and Railway reens will enter the ecological mitigation area. These reens also provide water to field ditches south of the development site in the SSSI. Changes in the amount of water needed to fill field ditches in the southern ecological mitigation area will also impact land within the Gwent Levels: Rumney and Peterstone SSSI south of the development.

We note and accept there is the capability for the attenuation of approximately 23,900m<sup>3</sup> of surface water and it would be possible to use the attenuated water to 'top-up' the reens and field ditches. However, we note all the attenuation features discharge to Faendre Reen which does not connect to the ecological mitigation area. It has been suggested that the sluices on Ty Ffynnon and Railway reens could be lowered to allow water to flow into the ecological mitigation area. Given the difference in penning levels between the three reens this would have to be carefully managed to ensure any changes does not significantly impact water availability elsewhere on the Gwent Levels.

Therefore, solutions will be available to the applicant at detail design stage to manage water availability on the development site which doesn't impact the wider area. However, it will be likely that these will rely on the on-going management by our IDD function. Further discussion and consultation will be required with us when developing the detailed design.

#### Framework SSSI Mitigation Management and Monitoring Strategy

Water quality mitigation and monitoring must be detailed within the SSSI Mitigation, Management and Monitoring Strategy as this has the potential for significant adverse effects on the aquatic features of the SSSI. Water quality mitigation and monitoring is fundamental to the construction and operational phase of development but has not been included in the application. This must be controlled through any permission granted.

We are satisfied with the general management objectives set out on page 7 of the document, notwithstanding our comments above about compensation. We welcome confirmation that monitoring and management will be implemented across all reens and field ditches (existing and compensation) to understand changes from the baseline condition. The management and monitoring will be implemented on a long-term basis (25-years). However, it will still be the responsibility of the landowner to manage the field ditches within the SSSI, irrespective of the development.

#### Water Quality and Construction Environmental Management Plan

We have previously raised concerns about the weight of the development on soft alluvium deposits. The height and subsequent weight of the buildings are likely to require specific and detailed mitigation measures. We have recently encountered the depositing of soil which subsequently became waterlogged and caused a landslip near a SSSI reen. This possibility should be mentioned within the CEMP and storage of materials should be well outside of reen and field ditch buffer zones to minimise risk.

## Matters requiring planning control

If permission is given, we can discuss with the planning authority what elements of the scheme need to be controlled regarding the SSSI. The following list may not be exhaustive but provides an indication of those matters to be included:

- Detailed phasing of development site to be agreed in consultation with NRW;
- INNS management plan must be agreed as part of the monitoring and management plan;
- Detailed design of SuDS and planting schedule to ensure all plants are found within the Gwent levels and won't adversely impact on SSSI aquatic plant communities. Design of discharges from SuDS/attenuation features to be agreed at detailed design stage. Water quality mitigation and monitoring of discharges must be included within the habitat management plan to mitigate for any adverse impacts of lower water quality.
- Method statement detailing how and where the reens will be diverted during construction as well as detailed working practices for pollution prevention to be agreed with NRW
- Detailed design of reen crossings, tilting penstocks, and culverts must be provided at the detailed design stage and agreed with NRW to avoid adverse impacts to the SSSI features.

## **Internal Drainage District**

We have noted in the Drainage Strategy (page 19) that a discharge rate of 5l/s could be used to reduce the risk of blockages.

This is a significant volume of water entering the reens and it carries the risk of erosion and flooding on land south of the development site. It is not acceptable to remove silt from the SuDS system by flushing it into the reen, this constitutes pollution to a surface water feature. SuDS features should be regularly monitored and maintained, and any silt should be appropriately disposed of. The relevant Land Drainage Consent (LDC) will need to be secured from us.

## **Protected Species**

If permission is given, we can discuss with the planning authority what elements of the scheme need to be controlled regarding protected species. The following list may not be exhaustive but provides an indication of those matters to be included:

- Details of the financial measures to secure habitat management and species monitoring provisions, as detailed below
- Details of management and monitoring of ecological areas and green corridors to be covered by the agreement,

Implementation of approved documents concerning:

- Water Vole
- Otter
- Lighting Plan
- Phasing of ecological mitigation
- Detail of road and reed crossing points to deliver Ecological Connectivity
- Long term Habitat Management and Monitoring and planting plans for Green Infrastructure
- Species Survey to underpin phases of the development

The following advise address previous concerns we have raised:

### **Ornithology**

The updated bird surveys address concerns we had with the previous suite of surveys. We particularly welcome the nocturnal surveys. The surveys found very low numbers of species representing either species or assemblage features and as a result the development is unlikely to have a significant effect on the Severn Estuary SPA and Ramsar. The findings of the HRA and AA are, therefore, appropriate in relation to the Severn Estuary SPA and Ramsar

### **Land contamination and groundwaters**

We agree with the applicant's response as set out in paragraph 7.1 of the NRW Response to OPA and Designer's Response (17 December 2021), which are appropriate and acceptable at this stage of the development.

### **Air Quality**

Referring to paragraph 6.1.51 of the NRW Response to OPA and Designer's Response (17 December 2021) and the updated Chapter 8 of the ES, we no longer have concerns over air quality impacts on designated sites. We are satisfied that the existing agricultural practices on the site is likely to deposit greater levels of nitrates into the SSSI habitat than the process contribution of the proposed development.

## **Annex 2 - Detailed comments on the applicant's Ecosystem Resilience Assessment (Appendix 28)**

The ecosystem resilience assessment considers the baseline extent of habitat against the proposals outlined in the SSSI mitigation design and the SSSI management and monitoring plan. This assessment concludes that for grassland and wetland habitats (which are of most relevance to SSSI features) all attributes of ecosystem resilience will be improved. We do not agree.

Although the grassland is not specifically listed as a feature of interest, it is necessary for the adult life stages of important invertebrates such as soldierflies which are part of the designation. Shrilc carder bees also rely on large extents of species-rich grassland for foraging. It was stated in an early communication to the applicant (22/02/2021) that the sympathetic management of the surrounding grassland was important for the survival of aquatic plants and invertebrates and this is why the grassland was included as part of the SSSI. The extent and management of the intervening grassland also helps to provide a range of environmental conditions and a diversity of conditions across the levels, for example grazing vs hay meadow management.

While we agree that a significant proportion of the site is improved grassland or species poor semi-improved grassland, the classification of 9.61ha of grassland as arable is inaccurate. The Phase 1 report states that the area is managed for hay with some fertiliser input, which is traditional agricultural management, but this is not enough to class the area as arable as opposed to improved. The Phase 1 handbook definition of arable is '...freshly-ploughed land and recently reseeded grassland, such as rye grass and rye-clover leys, often managed for silage.'. The Phase 1 report states that the majority of the grassland marked as arable comprised mainly of agrostis species. Agrostis is not normally sown for a hay or silage crop, ryegrass or timothy grass are usually the dominant species. The definition of improved grassland includes fertiliser and pesticide inputs with a limited range of grasses. The Phase 1 handbook states that unless the grassland has been recently reseeded or ploughed then it should be included in the improved category. Therefore, the area marked as arable should not be excluded from calculations of changes in grassland extent.

It is also important to note that the [BAP Priority habitat](#) of Coastal and Floodplain Grazing Marsh is linked to the broad BAP habitat of Improved grassland, and therefore improved grassland cannot be completely discounted from the assessment as it is a Section 7 Priority habitat as noted in Table 7.8 pp 47-48.

### Grassland

#### *Diversity*

We accept that there will be a net gain of 5.32ha of semi-improved grassland which will constitute an increase in this habitat type and the diversity of grassland habitats. We also accept that retained grassland will be managed for biodiversity and that there will be a net gain overall for the diversity of grassland habitats.

### *Extent*

We do not agree with the conclusion that the extent of grassland across the development will increase. It is stated that there will be a net loss of grassland habitat of 25.86ha and when the improved grassland, which has been classed as arable, is included this loss increases to 35.47ha. This does not match the predicted loss of habitat presented in Table 7.11 in the Biodiversity chapter of the ES. Table 7.11 which shows habitat loss of all types of grassland. Table 7.11 adds up to 55.73ha, of which 17.22ha of species rich grassland will be re-provided as compensation. Clarification as to the total amount of grassland which will be lost is required, however it is clear that there will be a loss in the total extent of grassland.

It is therefore not accurate to state an increase in extent.

The extent of the network of reens and field ditches is important within the matrix of reclaimed pasture as the Gwent Levels comprise the most extensive area of reclaimed wet pastures in Wales.

### *Condition*

We agree that an increase in species rich grassland and the implementation of sympathetic management will improve the condition of the remaining grassland. However, extent is a key aspect of [Common Standards Monitoring](#) and should therefore be considered when assessing changes in ecosystem resilience. Given the potential loss of approx. 70% of extent this will strongly influence the assessment and should be considered.

### *Connectivity*

The provision of a wildlife corridor and the buffer alongside Hendre Lake, as well as the provision of grassland buffers alongside the reens retain some connectivity across the north of the site. There is concern that connectivity for shrill carder bee from Hendre lakes will be reduced due to the loss of the species rich grassland within Marshfield SINC. There will also be a decrease in the general permeability of the landscape due to the nature of development across the north of the site. A decrease in connectivity across the north development area would therefore be expected. It is accepted that there will be no change in connectivity across the southern mitigation area.

### Wetland (waterbodies – reens and field ditches)

#### *Diversity*

While management and the design of compensatory field ditches with a berm may result in a long-term increase in diversity, there will be an initial decrease in diversity when existing field ditches are infilled and there may be a lag time before the new ditches reach a similar level of biodiversity.

The layout of the field ditches is such that most are in the southern mitigation area and there is a particularly high density in the southwest corner. This will lead to a decrease in the variation of abiotic factors across the field ditches and a decrease in diversity.

While long-term management may increase the diversity of the remaining ditches, it will be difficult to maintain a diversity of abiotic factors across a smaller area.

#### *Extent*

As explained in the main letter, a less than 1:1 replacement ratio is considered a loss of SSSI features. Across the site field ditches will not cover the same area as they do currently and given that the extensive nature of the Gwent levels this is considered an important characteristic and should be maintained as far as possible.

#### *Condition*

Currently field ditches have not been managed by the landowner, so it is accepted that management of the 5.32km of retained field ditches will enhance condition and diversity. Infilling of field ditches and creation of compensation field ditches will result in a decrease in condition initially. As compensatory ditches are connected to retained field ditches, SSSI features should re-establish but there is a lag time and an element of uncertainty which should be considered.

As raised for the grassland habitat, Common Standards monitoring also considers the extent of the habitat. A loss of extent should be considered within the assessment of condition. There is the potential for a decrease in water quality both during construction and operational stages which have not been assessed. As the aquatic plants and invertebrates are dependent on good water quality this has the potential to impact on the features of interest and therefore the condition.

#### *Connectivity*

While there is good connectivity across the southern mitigation area, connectivity across the north of the site is reduced. We welcome the provision of parallel field ditches alongside the wildlife corridor which improves connectivity, but it is not comparable to the baseline situation of multiple field ditches connecting the reens across the arable habitat.

The southwest corner of the southern mitigation area has a very high density of ditches, consisting of many short lengths interrupted by culverts in order to access all of the divided fields. While this results in a high level of connectivity this may make the field ditches vulnerable to pollution and the spread of invasive species as raised below

While we agree that connectivity across the southern mitigation area has been increased, connectivity across the site overall has been decreased.

**Ends**

## APPENDIX B3



Rivers House,  
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City Hall,  
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CF10 3ND

ebost/email:  
southeastplanning@cyfoethnaturiolcymru.gov.uk

09/03/2022

Annwyl Syr/Madam / Dear Sir/Madam,

**BWRIAD / PROPOSAL: CONSTRUCTION OF A BUSINESS PARK. TOGETHER WITH THE CONSTRUCTION OF A NEW TRANSPORT HUB FACILITY, COMPRISING RAILWAY STATION BUILDINGS AND ASSOCIATED INFRASTRUCTURE WORKS**

**LLEOLIAD / LOCATION: LAND SOUTH OF ST MELLONS BUSINESS PARK AND BOUNDED BY FORTRAN ROAD/COBOL ROAD TO THE NORTH, CYPRESS DRIVE TO THE WEST, ST MELLONS, CARDIFF**

As you're aware, we provided you with a response to the additional information consultation on 4 February 2022 (letter reference CAS-162789-Z8H1). We advised you that the proposal results in the permanent loss of SSSI field ditches in the Gwent Levels: Rumney and Peterstone SSSI. We advised that appropriate compensation to offset the full loss has not been proposed by the applicant. Our letter objects to the proposal on these grounds and provides detailed reasons why. We also raised concerns over the proposal's impacts on dormice.

You have sent us an informal note on 4 March 2022 (titled: 21/00076/MJR Parkway, INFORMAL NOTE / Response to NRW Concerns / Draft Conditions and Obligations; dated: 2 March 2022) which seeks to identify a strategy to address the SSSI objection through implementation of planning conditions and a legal agreement. We have also received points of clarification from the applicant on their dormice conservation proposals. Taking these points in turn:

#### Gwent Levels: Rumney and Peterstone SSSI

The informal note provides a broad framework of how conditions and a S106 agreement could be worded and structured. Having reviewed this proposal, we confirm that:

1. The inclusion of Stage 0 in the proposed S106 looks to facilitate the initial phases of the development (station zone and associated infrastructure including highway

access, sustainable linkages, parking and Green Infrastructure) using the proposed on-site compensation measures as set out in the application. Based on the applicant's figures for infilled ditches and newly created ditches, there should be sufficient land available within the red-line boundary to deliver the initial phases of the development. In principle, we are satisfied with Stage 0 subject to the planning authority approving the detailed phasing and delivery plan and all necessary pre-commencement conditions (including those relating to the delivery of on-site compensation) before works commence.

2. Development beyond the agreed initial phases would require off-site compensation to offset the remaining SSSI field ditch loss. The delivery of this compensation is set out under Stage 1 and Stage 2 of the proposal. We are generally satisfied that the provisions identified under Stage 1 could provide appropriate compensation, subject to final wording of the S106 and relevant conditions. This is because the proposal states no development, beyond the initial 'station zone' phase, will commence until the required off-site compensation has been secured and delivered.
3. The inclusion of Stage 2 as a last resort / fallback position, whereby a commuted sum is provided, does not give us confidence that appropriate compensation for loss of field ditches will be delivered. We have reservations over the lack of certainty and detail that is proposed to be provided in the S106 on how the commuted sum would manifest into appropriate compensation measures. As such we maintain our objection. The explanation is provided below.

Given the proposed size and scale of the development phases, mitigation measures cannot prevent the loss of SSSI field ditches within the red-line boundary. Therefore, compensation for the unavoidable damage to the SSSI is required (PPW 6.4.21). Our previous letter advised that the principle of 'off-site' compensation could be acceptable to address the remaining compensation deficit. We also noted that financial contributions may be an option to address the compensation deficit but would need to be explored further. At that point, further details had not been provided to us.

We consider that appropriate compensation would consist of ecological measures to replace lost habitat (SSSI field ditches) relevant to the conservation objectives of the SSSI, on a 'like for like' basis.

As such there remains uncertainty in the S106 proposals on whether appropriate compensation, as described above, can be secured through the provisions under Stage 2. In our view these provisions do not provide the necessary mechanisms to ensure appropriate compensation is secured if permission were granted.

Stage 2 relies on financial contributions from the developer to the local authority to manage. It has two options, the first is effectively a repeat of Stage 1 but carried out by the local authority; the second is investigations into, and delivery of, alternative interventions to provide improvements to the special features within the SSSI.

We have reservations that if the developer is unable to secure appropriate compensation under the provisions of Stage 1, the local authority would likewise fail to do so under Stage 2. Although your authority has powers to enter into a management agreement (see section 39(1) of the Wildlife and Countryside Act 1981), the landowner must agree to this - as they would under a legal agreement as part of Stage 1.

The second option is using the commuted sum to investigate and deliver alternative interventions to improve the special features of the SSSI. There is a lack of detail on what this will involve, especially compared with the detail and sequential approach in Stage 1. It seems these measures would not replace the lost habitat and therefore features, but potentially improve existing features within the SSSI but outside of the red-line boundary. Therefore, appropriate compensation for the direct loss of features resulting from the infilling of ditches will not be achieved.

As structured, there's a discernible risk that if the project was to proceed upon the basis of the S106 as proposed, without the appropriate compensation being secured, this would result in unacceptable loss to the SSSI ditches.

Stage 1 provisions put the onus on the developer to deliver appropriate compensation by finding additional land through the sequential delivery of options a-c alone or, if necessary, in combination with one another and/or option d. We provide suggestions and further comment within your informal note (dated 2 March 2022) which we have attached for your consideration.

For the avoidance of doubt, we require certainty that the necessary compensatory measures will be appropriately secured and delivered prior to commencement of development. The applicant, at present, suggests that it will use reasonable endeavours to identify and secure the necessary provisions identified under stage 1 and failing that will consider the provisions under stage 2. As we have advised above, this approach is not acceptable to us. The planning authority must ensure, by appropriately worded planning conditions and obligation, prior to the grant of outline permission that the applicant will be able to deliver the measures identified under stage 1. If this cannot be done, then NRW maintains its objection to this application.

It should also be noted that if Stage 1 provisions a-c are fulfilled and agreed, our concerns over ecosystems resilience, as set out in our previous letter, are also likely be addressed. This is because the compensation would help increase the extent and diversity of the SSSI.

### Impacts on Dormice

Our previous letter raised concerns over some elements of the submitted Dormice Framework Strategy (DFS) and conservation proposals. The applicant has provided further clarification on some of these points. We have also discussed these points with you since our previous letter.

Our concerns can be broken down into 4 points as follows:

#### 1. Hedgerow widths and habitat calculations

Under section 2.2: Delivery and robustness of proposed habitats, we queried the exact width, and therefore final amount of, hedgerow to be delivered as dormice habitat. There are some discrepancies within the application on the final widths. It has since been confirmed by the applicant that a 5-metre corridor will be created for hedgerow. This will be required at detailed design stage / reserved matters applications. As there are these discrepancies in the application, you should be satisfied this is properly secured through condition(s), if planning permission is granted.

#### 2. National Grid corridor

Under section 2.2, we also queried whether the full amount of dormice habitat could be delivered and function effectively when taking account of any corridor for National Grid pylons. The applicant has confirmed liaison with National Grid, and state they've been provided with the necessary details in terms of cable swing and tree planting guidance. We have not seen this guidance. However, the applicant has provided assurances that the extent of the proposed planting in the DFS can be delivered.

You should be satisfied this is the case as it is fundamental to the delivery of long-term conservation proposals for dormice, with the detail being provided and assessed during reserved matters applications.

#### 3. Shading from buildings

Our comments, under 2.2.3 Shading from built environment, have been discussed with your authority. The applicant has also provided their view, stating that there is '*sufficient flexibility within the design parameters to allow for a design which can consider shading of features*' and that '*The detailed design stage would also need to consider the potential effect of such shading*'. We are satisfied that an appropriate way forward is to secure the necessary assessment for each phase of development through condition. The condition should ensure assessment of the shading based on the final detailed design, demonstrating there will not be an adverse effect on the planting in terms of dormice. If this cannot be demonstrated alternative proposals or measures should be found.

#### 4. Supplementary feeding proposals

Further explanation and comment on additional options available to the applicant has been provided.

As our earlier concerns regarding the delivery and robustness of dormice habitat can now be managed through the agreement and application of appropriate conditions and obligations, we are satisfied with the long-term conservation proposals for dormice. In terms of the supplementary feeding element, we are satisfied that this can be explored

further with the applicant through an EPS licence application, should planning permission be granted.

The applicant should be aware that contingencies will need to form part of any licence application and these should include proposals to continue to support the local population of dormice as previously indicated.

If you have any queries on the above, please do not hesitate to contact us.

Yn gywir / Yours faithfully

**James Davies**

Uwch Gynghorydd – Cynllunio Datblygu / Senior Advisor – Development Planning  
Cyfoeth Naturiol Cymru / Natural Resources Wales

## APPENDIX C1

Cardiff Parkway Developments Ltd

**Cardiff Hendre Lakes**

## Habitat Regulations Assessment Report

Environmental Statement Appendix E21

Issue | 17 December 2021

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 252199

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**ARUP**

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# 1 Introduction

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Ove Arup & Partners Ltd. (Arup) has been commissioned by Cardiff Parkway Developments Ltd (CPDL) to submit a Habitats Regulation Assessment (HRA) report in compliance with the requirements of the Conservation of Habitats and Species Regulations 2017 (as amended); hereafter referred to as the ‘Habitats Regulations’.

This HRA report has been prepared to support the outline planning application (OPA) for Cardiff Hendre Lakes (the ‘proposed development’) which is being submitted by CPDL with all matters reserved for the following development:

*“Construction of a business park (up to 90,000m<sup>2</sup> – Use Classes B1, B2 and B8), ancillary uses, and infrastructure associated with; biodiversity; landscape; drainage; walking, cycling and other transport modes.*

*Together with the construction of a new transport hub facility, comprising railway station buildings (up to 2,500m<sup>2</sup> – Use Class Sui Generis) including ancillary uses, 4 no. platforms, surface car park (up to 650 no. spaces), and associated infrastructure works at land to the south of St Mellons Business Park.”*

The proposed development as described above has been split into two distinct areas; the business district and the railway station element of the development, known as ‘Cardiff Parkway’. The site is centred on National Grid Reference (NGR) ST251808 and the planning boundary is shown on Figure 1.

The determining planning authority for the OPA is Cardiff Council (CC) although due to the site boundary bordering Newport, three separate planning applications are being submitted for works in Newport City Council (NCC). This HRA report also supports these planning applications as detailed below:

**Application 1: Public Right of Way:** *“Full planning permission is sought for the installation of a new pedestrian footbridge for Public Right of Way St Mellons No.4A, at the junction with Heol Las and St Mellons Road, to provide a new active travel route across the widened Green Lane Reen from Heol Las into the proposed Cardiff Hendre Lakes development.”*

**Application 2: Gas Pressure Reduction Station:** *“Full planning permission is sought for the installation of a new wearing course surface, fencing and road markings north of the Gas Pressure Reduction Station, Heol Las, at the location of an existing agricultural access, to provide a new active travel route across the Green Lane Reen from Heol Las into the proposed Cardiff Hendre Lakes development.”*

**Application 3: South of the Railway Line:** *“Full planning permission is sought for the installation of kerbing, fencing and road markings associated with a new permanent access road and junction to the south of the Green Lane Overbridge, Heol Las, to provide a new railway maintenance access road across the Green Lane Reen from Heol Las into the proposed Cardiff Parkway Station; Plus the installation of an earthwork structure tie-in associated with a new penstock within the Green Lane Reen to control water flows, the south of the Green Lane Overbridge, Heol.”*

## 1.1 Purpose of this Document

This document has been prepared in relation to the potential for effects from the proposed development on International (European) Sites<sup>1</sup> as required by Regulation 63(2) of the Habitats Regulations.

This document is to be submitted to CC and NCC as the statutory advisors for designated nature conservation sites in Wales to formally request their views on the assessment under Regulation 76 of the Habitats Regulations, and specifically whether they can concur with the conclusions.

## 1.2 Structure of this Report

This report uses the following structure:

- Section 2 provides information on the proposed works and a brief description of the development (the ‘proposed development’);
- Section 3 provides information on the guidance and methodology used in the assessment;
- Section 4 provides information on the International Sites that are considered within the assessment;
- Section 5 provides a summary of the relevant baseline survey results from the ecological surveys conducted within the site;
- Section 6 provides a screening assessment for the potential pathways for effects;
- Section 7 provides the Information for Appropriate Assessment of the likelihood of significant effects occurring with mitigation measures and the residual effects;
- Section 8 provides proposals for monitoring; and
- Section 9 provides a conclusion.

## 1.3 The HRA Process

Regulation 63 of the Habitats Regulations requires a competent authority to make an ‘Appropriate Assessment’ of the implications of the plan or project for that site in view of its conservation objectives, before deciding to undertake or give consent for a plan or project which (a) is likely to have a significant effect on an International Site (either alone or in combination with other plans or project), and (b) is not directly connected with or necessary to the management of that site. In light of the conclusions of the assessment, the competent authority may proceed with or consent to the plan or project only after having ascertained that it will not adversely affect the integrity of the International Site.

All plans and projects should identify any likely significant effects early in the plan/project making process and then either alter the plan/project to avoid them or

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<sup>1</sup> Hereafter referred to as International Sites.  
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introduce mitigation measures to the point where no adverse effects remain. The 'competent authority' shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned, and if appropriate having obtained the opinion of the general public.

The assessment of a project under the Habitats Regulations can be split into several sections as shown in Appendix A<sup>2</sup>; however, there are effectively four stages to the assessment as described below.

Stage 1 is the assessment of the likelihood of a plan or project having a significant effect on an International Site or its features. If a likely significant effect cannot be ruled out this is the trigger for the need for an Appropriate Assessment as set out in Regulation 63(1).

The Appropriate Assessment (Stage 2) is the detailed consideration of the potential effects of the plan or project in relation to the conservation objectives for the International Site(s) to determine if there is likely to be an adverse effect on the integrity of the site (i.e. an effect that would compromise the site meeting its conservation objectives). Providing it can be demonstrated that with appropriate mitigation measures the plan or project would not give rise to an adverse effect on the integrity of an International Site, the plan or project can proceed.

Where this cannot be demonstrated or there is uncertainty, the assessment would then need to consider if there were any other alternatives to the plan or project (Stage 3) that would not give rise to adverse effects on the integrity of the International Site. If there are no alternatives, Stage 4 would then consider if there are any Imperative Reasons of Overriding Public Interest (IROPI), only at this stage can Compensatory Measures be considered.

### 1.3.1 Consideration of Mitigation

With regards to recent case law (*Coillte vs People Over Wind*<sup>3</sup>) the inclusion of mitigation during Stage 1 is no longer considered appropriate. Mitigation, as considered by the Centre Européen de Coopération Juridique (CECJ) in regard to the case law<sup>2</sup>, is interpreted to mean measures that are intended to avoid or reduce the harmful effects of the envisaged project on the site concerned.

Consequently, any project where a likely significant effect on an International Site cannot be ruled out and where avoidance and mitigation is applicable will need to progress to Stage 2 Appropriate Assessment.

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<sup>2</sup> Tyldesley, D. (2011). *Assessing Projects Under the Habitats Directive: Guidance for Competent Authorities*. Bangor: Countryside Council for Wales.

<sup>3</sup> *People over Wind*, Case C323/17 European Court of Justice, 12<sup>th</sup> April 2018.

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## 2 Project Description

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### 2.1 Site Description

The proposed development site covers an area of approximately 80ha and is centred on NGR ST251808, as shown in Figure 1. It lies approximately 8 km from Cardiff and 9 km from Newport with the South Wales Main Line railway bisecting the site.

The existing character of the site reflects the historic Gwent Levels landscape, consisting of undeveloped farmland reclaimed from the sea, incrementally over the past 2,000 years. The Levels form a strip of flat land between the Bristol Channel and the hills to the north. A topographical survey shows a maximum range of between 4.7m and 6.3m AOD<sup>4</sup>, with no clear patterns of gradient across the site.

The process of land reclamation has created a distinctive patchwork of rectilinear fields subdivided by reed filled drainage channels, known locally as 'reens', and smaller field ditches. The reens are managed by Natural Resources Wales (NRW), and therefore subject to regular management of the banks<sup>5</sup>. These are labelled on Figure 1 and include:

- Faendre Reen, in the west of the site (locally distinctive for its greater than average width and more naturalised, meandering course);
- Green Lane Branch, in the north of the site running parallel to Cobol Road;
- Greenlane Reen, in the east of the site running parallel to Heol Las (within both CC and NCC boundaries);
- Ty-Ffynon Reen, zigzagging from the north east to the south west through the northern section of the site; and
- Railway Reen, in the south section of the site running perpendicular to the railway.

Historic surface ridging is present and well preserved. Interior field boundaries also include native hedgerows and areas of dense vegetation which visually break up the site and restrict wider views, especially to the south. The larger and more open fields in the north-western area of the site are an exception to this.

The site lies between St Mellons to the west and the village of Marshfield to the east. The mainline railway runs south west to north east across the lower section of the site. St Mellons business park lies immediately north of the site boundary. The A48(M) lies to the north of the site which is connected via Cypress Drive which runs along the west of the site boundary and leads to Hendre Lake, a

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<sup>4</sup> Above ordnance datum (AOD)

<sup>5</sup> The Gwent Levels are managed to maintain agreed summer and winter 'penning levels'. The change to winter (low) penning levels occurs in October, with water levels then raised to summer penning levels in July. In addition to maintaining water levels through the system of sluice gates, an annual programme of dredging and clearance of the main reens is also undertaken.

European Union (EU) funded<sup>6</sup> wetland habitat. A corridor of dense wooded vegetation exists on the western side of Faendre Reen.

The site is an ecologically sensitive landscape which includes the Gwent Levels - Rumney and Peterstone Site of Special Scientific Interest (SSSI) and Marshfield Site of Importance for Nature Conservation (SINC) within the site boundary.

## 2.2 Proposed Development Description

The proposed development comprises various components which are summarised in Table 1.

Table 1: Development proposals for Hendre Lakes

Component	Description
Employment	Employment floorspace would comprise a total of 90,000sq.m GFA <sup>7</sup> across the site.
Railway station	The railway station building would be up to 2,500m <sup>2</sup> and would be situated along the existing mainline railway, adding four additional platforms.
Transport interchange	A 650 space Park & Ride facility, bike storage facilities, taxi rank and bus stops would be within 100m of the railway station and of each other, connected via a high-quality public realm.
Car parking	A Park and Ride car park at the station for up to 650 cars would be provided and there would be a limited number of on street parking provision (not yet defined). This is referred to as 'Station park and ride'. Parking would be provided for other land uses, but this will be on a plot basis and/or in shared parking areas. These parking allowances will be based on Cardiff parking standards.
Building heights	A range of building heights are proposed. Building heights would be greatest around the station potentially being up to 15 storeys (+ 1 for building plant). Heights would reduce with distance from the station; the central area buildings would be up to 12 storeys, with buildings up to 6-storeys in the north east corner of the site. It is important to note that these represent maximum heights within the defined areas and that not average heights. Some buildings within these areas are likely to be lower.
Building densities	There would be higher density development around the proposed station and public transport interchange. Further details of density are not yet defined.
Landscaping	A landscape would be created which responds to the rich and sensitive heritage and ecology of the existing site. The landscape has been designed to have a number of functions including active travel, meeting space, play space, wildlife, waterways, recreation and trails.
Biodiversity	The ecological strategy for the development is to retain as much habitat as possible, creating more habitat than is removed and work towards net biodiversity gain.

<sup>6</sup> Hendre Lake Park benefitted from European Union funding in the 1990s to enhance its 58 hectares (143 acres) in the St Mellons area of Cardiff.

<sup>7</sup> GFA = Gross floor area. GFA represents the usable floorspace of a building, excluding external walls and circulation areas.

Component	Description
Energy	An assumption is made that the energy from the site will be 'business as usual' being a mixture of electricity and gas. This would be reviewed at detailed design stage.
Drainage – foul	Foul water generated by the development would be transmitted via a new foul sewer network to the existing DCWW sewers. Strategically located foul pumping stations would be required to pump foul water to the DCWW sewers.
Drainage – storm water	Sustainable drainage is at the heart of the development character with drainage reens being part of a long history of land management over this coastal flood plain.
Flood management	To mitigate flood risk, there is a need to provide an area of land that would act as a flood water storage during storm events. This is known as the 'flood compensation area' and is primarily located to the south of the railway.
Site levels	The proposed development areas would include provision for a raised plateau to ensure that developed areas are flood free during a 1 in 200-year tidal flood event and a 1 in 100-year pluvial event. Depth of flooding will not exceed 0.6m during 1 in 1000-year flood events.  To ensure site meets the requirements of TAN15, existing site levels of access, buildings and public realm would need to be raised. Proposed development areas would include provision of raised plateaux. Existing topography shows a maximum range of between 4.7m and 6.3m above ordnance datum (AOD); levels would need to be raised to at least 6.0m AOD.
Access and movement	Walking and cycling would be prioritised throughout the site. Access routes for pedestrians and cyclists would be created at various points around the site perimeter as well as throughout, connecting areas of the site to each other and to the communities surrounding it.  Vehicle access into the site would primarily be from a new junction on Cypress Drive in the north-western corner of the site. A secondary access point would be provided from the west with an enhanced junction of Cypress Drive/Sandbrook Road. Tertiary access to the two development parcels north of the power lines would be via a new priority junction on Cobol Road. The internal highway network has been designed to limit the proportion of traffic routing through the site.
Lighting	An overarching lighting hierarchy would be applied to the site suited to the different areas and uses. A detailed lighting strategy would be prepared at reserved matters stage.
Main park	A new, accessible public park would be created to connect the existing Hendre Lake park into the site's wildlife corridor on the west of the site and to the wider St Mellons area.

### 2.2.1 Construction Methods

A brief overview of construction methods for the proposed development are summarised below, with more detail, including figures, available within the outline Construction Environmental Management Plan (CEMP) in Appendix A2 of the Environmental Statement (ES) for the proposed development.



### 2.2.1.1 Construction Phasing

The Hendre Lakes site is large in area and delivery of the project will be phased over a number of years.

Construction and mitigation activities need to be considered spatially, with certain locations fixed – such as the location of the train station and platforms which will also require temporary restrictions in terms of construction period due to rail possessions. While other locations provide a degree of flexibility – such as the size, and type of commercial building phases, however spatially these are generally fixed, with building platforms also needing to be raised and be surcharged before construction. Further details can be found in ES Chapter 1 – 3, Section 3.2

A degree of flexibility is required in the timing of elements such as delivery of the train station and associated facilities, while other programmatic elements such as biodiversity works need to be undertaken during specific months of the year. There are further issues to consider such as the securing of subsequent reserved matters permissions and the Protected Species Licences granted by NRW.

The construction programme and phasing are still being designed and involves complex and interrelated works associated with service diversions, construction, multiple earthworks and building phases as well as mitigation and enhancement works associated with; biodiversity, landscape and water resources. The safety and operational aspects of construction of the railway station and railway corridor works add an additional layer of complexity to the phasing – in particular a need to limit any operational impacts on the South Wales mainline. There are further considerations such as the programme for grant of reserved matters and discharge of planning conditions, land assembly and purchase, funding and contractor appointment and then mobilisation. Further details can be found in ES Chapter 1 – 3, Section 3.2

### 2.2.1.2 Access

Access routes for construction have not yet been finalised. Access to the developmental areas in the north of the site is constrained by reens to the north, west and east, the railway line to the south and a vegetated area of dormouse habitat to the west. Once on site, access is constrained by existing trees and hedgerows, and Ty-Ffynon Reen.

There are three existing agricultural accesses all of which have a bridged access over Greenlane Reen. These would be suited to lightweight vehicle use and could be used for ecological works, surveys, site clearance and other activities.

There are also five bridge crossings of Ty-Ffynon Reen and one bridge crossing of Railway Reen with these assumed to also be suitable for lightweight vehicle use given the agricultural vehicles which currently use them.

Based on the number and location of these agricultural accesses, it can be assumed that lightweight vehicles will have full access to the north of the site.



There are four permanent vehicle accesses proposed in the masterplan; two onto Cypress Drive and two minor accesses into the north east corner.

For more substantial construction accesses, there are options to build temporary accesses on the alignment of the proposed permanent accesses, temporary accesses in other locations, or to create the permanent accesses as soon as possible and utilise these.

Constructing the temporary and permanent accesses on the same alignment minimises the area/length of ecological disturbance. However, it requires an alternative construction access to be created, or construction to be complete, before the permanent access can be created. This approach is further complicated by the change in levels required on the site, with any bridges constructed in the final position being 0.5-1.5m higher than the surrounding land.

South of the railway line a new access will be constructed from Heol Las, over Greenlane Reen. Based on the current proposed development boundary this will need to be on the same alignment as the proposed emergency/maintenance access.

## 3 Guidance and Methodology

This section sets out the guidance and evidence base used in assessing the potential effects of the project.

### 3.1 Guidance, Policy and Publications

This assessment has been informed by the following guidance, policy documents and publications:

- Planning Policy Wales - Technical Advice Note (TAN) 5: Nature Conservation and Planning<sup>8</sup>;
- The Planning Series: 16 – Habitats Regulations Assessment. National Assembly for Wales 2017<sup>9</sup>;
- Assessment of plans and projects significantly affecting Natura 2000 sites, European Commission 2001<sup>10</sup>;
- Managing Natura 2000 sites, European Commission 2000<sup>11</sup>;
- The Habitats Regulations Assessment Handbook, DTA Publications Ltd<sup>12</sup>; and
- Tyldesley, D. and Chapman, C. 2018. People Over Wind – some Implications of the Judgment. The Habitat Regulations Journal, Issue 10, pp. 19 – 23.

These documents and publications are intended to improve understanding of how projects are regulated under the Habitats Directive.

### 3.2 Desk Study Information

In addition to the guidance noted above, a number of websites were used to gather information on the International Sites in order to inform this assessment, in particular, and the Management Plans for International Sites. Websites used include:

<sup>8</sup> Welsh Government. (2009). Planning Policy Wales - Technical Advice Note 5: Nature Conservation and Planning. Cardiff: Welsh Government.

<sup>9</sup> Research Briefing: The Planning Series: 16 – Habitats Regulations Assessment. December 2017. National Assembly for Wales.

<sup>10</sup> Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. (2001) European Commission.

<sup>11</sup> Managing Natura 2000 sites. The provisions of Article 6 of the ‘Habitats’ Directive 92/43/CEE. (2000). European Commission.

<sup>12</sup> Tyldesley, D. and Chapman, C. (2013) The Habitats Regulations Assessment Handbook. April 2020 edition. UK, DTA Publications Ltd <https://www.dtapublications.co.uk/>

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- NRW (and legacy body Countryside Council for Wales (CCW)<sup>13</sup>) website<sup>14</sup>;
- Natural England (NE) website<sup>15</sup>;
- MAGIC (Multi-Agency Geographic Information for the Countryside) website<sup>16</sup>;
- Joint Nature Conservation Committee (JNCC) website<sup>17</sup>; and
- Aderyn<sup>18</sup>.

The documents obtained provide the main elements of NRW's or NE's management plans for International Sites along with the Conservation Objectives for the features. The features will be considered to be in Favourable Conservation Status only when the conservation objectives are being met. These objectives therefore provide an indication of the type of effects which could affect the features of an International Site. An effect which could affect the ability of a site or feature to meet its objective could be considered to be an adverse effect on the integrity of the International Site concerned.

### 3.3 Habitats Regulations Assessment Methodology

To understand the potential implications for International Sites from the project it is necessary to identify those sites that are located close to the project or are linked by pathways such as hydrological connections.

All International Sites within 10km and all SACs designated for the presence of Annex II bat and/or fish species within 10-30km of the project were identified using Geographic Information System data from datasets downloaded from the JNCC, MAGIC, NRW and NE.

#### 3.3.1 Understanding Qualifying Interests and Conservation Objectives

For each of the sites identified, the qualifying features were established and the conservation objectives for each feature were obtained. Information was also sought to understand the potential vulnerability of the features to any effects that might arise from the project.

<sup>13</sup> CCW has been amalgamated with the Environment Agency Wales and the Forestry Commission in Wales to form NRW.

<sup>14</sup> NRW Find Protected Areas of Land and Seas <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/find-protected-areas-of-land-and-seas/designated-sites/?lang=en>

<sup>15</sup> NE Access to Evidence <http://publications.naturalengland.org.uk/>

<sup>16</sup> MAGIC. (2014). Magic interactive Mapping Application. <https://magic.defra.gov.uk/MagicMap.aspx>

<sup>17</sup> JNCC Website <https://jncc.gov.uk/>

<sup>18</sup> Aderyn is a Local Environmental Records Centres (LERC) Wales system, developed and maintained by the Biodiversity Information Service (BIS). <https://aderyn.lercwales.org.uk/home>  
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### 3.3.2 Identification of the Potential Effects of the Project

Any potential pathways for effect on International Sites resulting from the project were identified prior to consideration of best practice procedures (for example, Guidelines for Pollution Prevention and Construction Industry Research and Information Association (CIRIA) guidance) or the integration of any mitigation measures.

### 3.3.3 Identification of Plans or Projects Considered for In-Combination Effects

An 'in-combination' assessment is required wherever there is the potential for more than one plan or project to have a likely significant effect on an International site.

Other plans and projects were identified during the cumulative assessment undertaken as part of the ES for the proposed development (detailed further within ES Chapter 16). Developments relevant to the cumulative assessment were identified through desktop research and in consultation with Cardiff Council. No consultation was carried out with Newport County Council, although a search was made for relevant developments using their online planning portal<sup>19</sup>. Relevant developments were considered to represent those within approximately 2km of the proposed development site, determined by the likelihood of in-combination effects in relation to those sites considered to have potential pathways of effects (see Table 12). These same plans and projects have been used for the in-combination assessment for the HRA.

### 3.3.4 Consideration of the likely Significance of Potential Effects

The likely significance of potential effects was assessed in the absence of any avoidance and/or mitigation measures, as dictated by case law<sup>3</sup>. The assessment has been made with awareness of the conservation objectives for the features of the International Sites, although as stated in the relevant guidance the assessment of the project against the conservation objectives is not required until the Appropriate Assessment stage of the HRA process. In the assessment of the significance of effects, professional judgement was applied using the following criteria, as sufficient information about the elements and interests is often unavailable:

- The vulnerability/sensitivity of the receiving environment/features of interest;
- When the risk of effects is likely to occur (e.g. construction and/or operation);
- The likely geographical extent of the effects; and

<sup>19</sup> <https://www.newport.gov.uk/en/Planning-Housing/Planning/Planning-Permission/Planning-applications/Planning-applications.aspx>

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- Likelihood of significant effects (e.g. those above negligible in magnitude) occurring based on previous experience with similar elements, where available.

Where there was not enough information about the risk of qualifying interest being present, or of the risk of effects, the assessment used the precautionary principle to inform the judgement. This principle means that the conservation objectives should prevail where there is uncertainty or that harmful effects will be assumed in the absence of evidence to the contrary.

### 3.4 Limitations

Information provided by third parties, including publicly available information and databases, is considered correct at the time of publication. Due to the dynamic nature of the environment, conditions may change in the period between the preparation of this report, and the construction and operation of the project.

The HRA has been undertaken in as detailed a way as possible, using available data sources. However, the conclusions drawn from this is necessarily limited by the age, type, coverage and availability of data. Any uncertainties and the limitations of the assessment process are acknowledged and highlighted. Recommendations for mitigation measures to address the potential adverse effects on International Site integrity identified by this report are also based on the information available at the time of the assessment.

## 4 International Sites Potentially Affected by the Proposal

### 4.1 Identification of International Sites

Figure 4 within Appendix B shows the location of the project in relation to International Sites within 10km and bat and/or fish SACs within 30km of the proposed development.

The International Sites identified within 10km, and bat and/or fish SACs within 30km, of the proposed development are as follows (distances and direction are measured as a straight line from the closest edge of the project to the closest edge of the International Site):

- Severn Estuary SAC (1.1km south);
- Severn Estuary SPA (1.1km south);
- Severn Estuary Ramsar site (1.1km south);
- River Usk SAC (6.7km north east);
- Mendip Limestone Grasslands SAC (21km south);
- North Somerset and Mendip Bats SAC (24.6km south east);
- Wye Valley and Forest of Dean Bat Sites SAC (26.3km north east); and
- Usk Bat Sites SAC (29.8km north).

The features for which the identified International Sites have been designated are summarised in Table 3 to Table 10. The Natura 2000 Standard Data Forms can be found in Appendix C.

#### 4.1.1 Severn Estuary SAC

Table 2: Characteristics of the Severn Estuary SAC

<b>Name of International Site and its EU Code</b>	Severn Estuary/Môr Hafren SAC EU Site Code UK0013030
<b>Location and distance of the International Site from the project</b>	Located in the Dorset and Somerset, East Wales, Extra-Regio, Gloucestershire, Wiltshire and Bristol/Bath area Unitary Authority, central NGR ST321748, located approximately 1.1km south.
<b>International Site size</b>	73714.11 ha
<b>Key features of the International Site</b>	Annex I habitats that are a primary reason for designation: <ul style="list-style-type: none"> <li>• Estuaries;</li> <li>• Mudflats and sandflats not covered by seawater at low tide; and</li> <li>• Atlantic salt meadows (<i>Glauco-puccinellietalia maritimae</i>).</li> </ul> Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: <ul style="list-style-type: none"> <li>• Sandbanks which are slightly covered by sea water all the time; and</li> <li>• Reefs.</li> </ul> Annex II species that are a primary reason for selection of this site: <ul style="list-style-type: none"> <li>• Sea lamprey (<i>Petromyzon marinus</i>);</li> </ul>

	<ul style="list-style-type: none"> <li>• River lamprey (<i>Lampetra fluviatilis</i>); and</li> <li>• Twait shad (<i>Alosa fallax</i>).</li> </ul> <p>There are no Annex II species present as a qualifying feature, which are not a primary reason for site selection.</p> <p>Migratory fish (Atlantic salmon (<i>Salmo salar</i>), European eel (<i>Anguilla anguilla</i>), sea trout (<i>Salmo trutta</i>) and allis shad (<i>Alosa alosa</i>)) form part of the notable species sub-feature of ‘estuaries’ feature.</p>
<b>Vulnerability of the International Site</b>	<p>The Natura 2000 site Standard Data Form states that the following threats and pressures have a high impact on the SAC:</p> <ul style="list-style-type: none"> <li>• Other urbanisation, industrial and similar activities;</li> <li>• Changes in abiotic conditions;</li> <li>• Human induced changes in hydraulic conditions;</li> <li>• Outdoor sports and leisure activities, recreational activities; and</li> <li>• Cultivation.</li> </ul>
<b>International Site conservation objectives</b>	<p>The Conservation Objectives for the Severn Estuary SAC are to maintain the key features in favourable condition. The features will be considered to be in favourable condition when certain conditions are met. These conditions are extensive and specific to each feature. The full conditions can be found within Section 7.1.1 and within the Regulation 33 Advice<sup>20</sup>.</p>

## 4.1.2 Severn Estuary SPA

Table 3: Characteristics of the Severn Estuary SPA

<b>Name of International Site and its EU Code</b>	Severn Estuary/Môr Hafren SPA EU Site Code UK9015022
<b>Location and distance of the International Site from the project</b>	Located in the Dorset and Somerset, Gloucestershire, Wiltshire and Bristol/Bath Area, East Wales, West Wales and The Valleys Unitary Authority, central NGR SH629728, located approximately 1.1km south.
<b>International Site size</b>	24487.91 ha
<b>Key features of the International Site</b>	<p>The site is designated for the regularly occurring Annex I species:</p> <ul style="list-style-type: none"> <li>• Bewick’s swan (<i>Cygnus columbianus bewickii</i>) - 3.9% of the GB population 5 year peak mean 1991/92-1995/96;</li> </ul> <p>The site is designated for regularly occurring Internationally important populations of migratory birds:</p> <ul style="list-style-type: none"> <li>• Gadwall (<i>Mareca strepera</i>) - 0.9% of the population 5 year peak mean 1991/92-1995/96;</li> <li>• Greater white-fronted goose (<i>Anser albifrons</i>) - 0.4% of the population 5 year peak mean 1991/92-1995/96;</li> <li>• Dunlin (<i>Calidris alpina</i>) - 3.3% of the population 5 year peak mean 1991/92-1995/96;</li> </ul>

<sup>20</sup> Severn Estuary SAC, SPA and Ramsar Site: Regulation 33 Advice from CCW and NE (2009).  
<https://naturalresources.wales/media/673887/severn-estuary-sac-spa-and-ramsar-reg-33-advice-from-ne-and-ccw-june-09.pdf>

	<ul style="list-style-type: none"> <li>• Common shelduck (<i>Tadorna tadorna</i>) - 1.1% of the population 5 year peak mean 1991/92-1995/96; and</li> <li>• Common redshank (<i>Tringa totanus</i>) - 1.3% of the population 5 year peak mean 1991/92-1995/96.</li> </ul> <p>SPA Review 2001<sup>21</sup> also includes consideration of Curlew (<i>Numenius arquata</i>) and pintail (<i>Anas acuta</i>) to be included for the over-wintering population and ringer plover (<i>Charadrius hiaticula</i>) for the on passage population under Article 4.2 of the EU Birds Directive).</p> <p>This review also includes considerations for Greater white-fronted goose and gadwall to be removed as key features.</p>
<b>Assemblage features of the International Site (SPA interest feature 7)</b>	<p>The site also supports a waterfowl assemblage with a population size of 84,317 individuals (taken from the Natura form).</p> <p>Those species listed as assemblage species include: Bewick's swan, greater white-fronted goose, dunlin, redshank (<i>Tringa tetanus</i>), shelduck (<i>Tadorna tadorna</i>), gadwall, wigeon (<i>Anas Penelope</i>), teal (<i>Anas crecca</i>), pintail (<i>Anas acuta</i>), pochard (<i>Aythya farina</i>), tufted duck (<i>Aythya fuligula</i>), ringed plover, grey plover (<i>Pluvialis squatarola</i>), curlew, whimbrel (<i>Numenius phaeopus</i>), and redshank.</p> <p>SPA Review 2001 also includes consideration of lapwing (<i>Vanellus vanellus</i>), mallard (<i>Anas platyrhynchos</i>) and shoveler (<i>Anas clypeata</i>).</p>
<b>Vulnerability of the International Site</b>	<p>The conservation of the site features is dependent on the tidal regime. The range is the second highest in the world and the scouring of the seabed and strong tidal streams result in natural erosion of the habitats. The Estuary is therefore vulnerable to large scale interference, including human actions. These include land-claim, aggregate extraction/dredging, physical developments such as barrage construction flood defences, pollution (industrial, oil spillage), eutrophication and tourism-based activities and disturbance.</p>
<b>International Site conservation objectives</b>	<p>The Conservation Objectives for the Severn Estuary SPA are to maintain the key features in favourable condition. The features will be considered to be in favourable condition when certain conditions are met. These conditions are extensive and specific to each feature. The full conditions can be found within Section 7.2.1 and within the Regulation 33 Advice<sup>20</sup>.</p>

### 4.1.3 Severn Estuary Ramsar site

Table 4: Characteristics of the Severn Estuary Ramsar site

<b>Name of International Site and its EU Code</b>	Severn Estuary/Môr Hafren Ramsar site EU Site Code UK11081
<b>Location and distance of the International Site from the project</b>	Located in the Extra-Regio, West Wales and The Valleys Unitary Authority, central NGR SH629728, located approximately 1.1km south.

<sup>21</sup> JNCC Severn Estuary SPA Review, dated 2001 available from the JNCC [www.jncc.gov.uk/pdf/SPA/UK9015022.pdf](http://www.jncc.gov.uk/pdf/SPA/UK9015022.pdf) (Stroud, DA, et al., 2001)  
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<b>International Site size</b>	24662.98 ha
<b>Key features of the International Site</b>	<p>The site is designated for the following Ramsar criteria:</p> <ul style="list-style-type: none"> <li>• <b>Ramsar criterion 1</b> – Due to immense tidal range (second-largest in world), this affects both the physical environment and biological communities, moulding the Annex I habitat features of subtidal sandbanks, estuaries, intertidal mudflats and sandflats, and Atlantic salt meadows.</li> <li>• <b>Ramsar criterion 3</b> – Due to unusual estuarine communities, reduced diversity and high productivity.</li> <li>• <b>Ramsar criterion 4</b> – This site is important for the run of migratory fish between sea and river via Estuary. Species include Atlantic salmon, sea trout, sea lamprey, river lamprey, allis shad, twaite shad and European eel. It is also of particular importance for migratory birds during spring and autumn.</li> <li>• <b>Ramsar criterion 5</b> – Internationally important assemblage of waterfowl, in winter with 70,919 waterfowl recorded from 5 year peak mean count 1998/99 – 2002/2003). The species include (w = wintering and p = passage): Bewick’s swan (w), greater white-fronted goose (w), shelduck (w), dunlin (w, p) redshank (w, p), gadwall (w), ringed plover (w, p), whimbrel (p), teal (w), pintail (w), wigeon (w), pochard (w), tufted duck (w), grey plover (w), curlew (w) and spotted redshank (<i>Tringa erythropus</i>) (w). This feature incorporates: <ul style="list-style-type: none"> <li>– Waterfowl which contribute to the total peak winter count;</li> <li>– The below internationally important wintering populations;</li> <li>– The migratory passage species; and</li> <li>– The nationally important populations.</li> </ul> </li> <li>• <b>Ramsar criterion 6</b> – qualifies as it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird. Species with peak counts in winter - at designation: <ul style="list-style-type: none"> <li>– Bewick’s swan, NW Europe, 229 individuals, representing an average of 2.8% of the GB population (5-year peak mean 1998/9- 2002/3);</li> <li>– Greater white-fronted goose, NW Europe, 2076 individuals, representing an average of 35.8% of the GB population (5-year peak mean for 1996/7-2000/01);</li> <li>– Common shelduck, NW Europe, 3223 individuals, representing an average of 1% of the population (5-year peak mean 1998/9- 2002/3);</li> <li>– Gadwall, NW Europe, 241 individuals, representing an average of 1.4% of the GB population (5-year peak mean 1998/9- 2002/3);</li> <li>– Dunlin, W Siberia/W Europe, 25082 individuals, representing an average of 1.8% of the population (5-year peak mean 1998/9-2002/3); and</li> <li>– Common redshank, 2616 individuals, representing an average of 1% of the population (5-year peak mean 1998/9- 2002/3).</li> </ul> </li> </ul> <p>Populations identified subsequent to designation:</p> <ul style="list-style-type: none"> <li>– Ringed plover (spring/autumn)</li> <li>– Eurasian teal (winter)</li> <li>– Northern pintail (winter)</li> </ul>

	<ul style="list-style-type: none"> <li>- Lesser black-backed gull (breeding):</li> <li>• <b>Ramsar criterion 8</b> – The fish of the whole estuarine and river system is one of the most diverse in Britain, with over 110 species recorded. Salmon, sea trout, sea lamprey, river lamprey, allis shad, twaite shad, and European eel use the Severn Estuary as a key migration route to their spawning grounds in the many tributaries that flow into the Estuary. The site is important as a feeding and nursery ground for many fish species particularly allis shad and twaite shad which feed on mysid shrimps in the salt wedge.</li> </ul>
<b>Vulnerability of the International Site</b>	The factors (past, present or potential) adversely affecting the site’s ecological character including dredging, erosion and recreational/tourism disturbance.
<b>International Site conservation objectives</b>	The Conservation Objectives for the Severn Estuary Ramsar site are to maintain the key features in favourable condition. The features will be considered to be in favourable condition when certain conditions are met. These conditions are extensive and specific to each feature. The full conditions can be found within Section 7.3.1 and within the Regulation 33 Advice <sup>20</sup> .

#### 4.1.4 River Usk SAC

Table 5: Characteristics of the River Usk SAC

<b>Name of International Site and its EU Code</b>	River Usk/Afon Wysg SAC EU Site Code UK0013007
<b>Location and distance of the International Site from the project</b>	Located in the East Wales, West Wales and The Valleys Unitary Authority, central NGR SO301113, located approximately 6.7km north east.
<b>International Site size</b>	967.97 ha
<b>Key features of the International Site</b>	<p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:</p> <ul style="list-style-type: none"> <li>• Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation.</li> </ul> <p>Annex II species that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> <li>• Sea lamprey;</li> <li>• Brook lamprey;</li> <li>• River lamprey;</li> <li>• Twaite shad;</li> <li>• Atlantic salmon;</li> <li>• Bullhead (<i>Cottus gobio</i>); and</li> <li>• Otter (<i>Lutra lutra</i>).</li> </ul> <p>Annex II species present as a qualifying feature, but not a primary reason for selection of this site:</p> <ul style="list-style-type: none"> <li>• Allis shad.</li> </ul>
<b>Vulnerability of the International Site</b>	<p>The Natura 2000 site Standard Data Form states that the following threats and pressures have a high impact on the SAC:</p> <ul style="list-style-type: none"> <li>• Invasive non-native species;</li> <li>• Forestry activities not referred to above;</li> <li>• Other ecosystem modifications;</li> </ul>

	<ul style="list-style-type: none"> <li>• Forest and Plantation management &amp; use;</li> <li>• Soil pollution and solid waste (excluding discharges);</li> <li>• Pollution to surface waters (limnic &amp; terrestrial, marine &amp; brackish);</li> <li>• Grazing; and</li> <li>• Human induced changes in hydraulic conditions.</li> </ul>
<b>International Site conservation objectives</b>	The Conservation Objectives for the River Usk SAC are to maintain the key features in favourable conditions. The features will be considered to be in favourable condition when certain conditions are met. These conditions are extensive and specific to each feature. The full conditions can be found within the Core Management Plan for the site <sup>22</sup> .

#### 4.1.5 Mendip Limestone Grasslands SAC

Table 6: Characteristics of the Mendip Limestone Grasslands SAC

<b>Name of International Site and its EU Code</b>	Mendip Limestone Grasslands SAC EU Site Code UK0030203
<b>Location and distance of the International Site from the project</b>	Located in the Dorset and Somerset, Gloucestershire, Wiltshire and Bristol/Bath area Unitary Authority, central NGR ST401557, located approximately 21km south.
<b>International Site size</b>	415.24 ha
<b>Key features of the International Site</b>	<p>Annex I habitats that are a primary reason for designation:</p> <ul style="list-style-type: none"> <li>• Semi-natural dry grassland and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>).</li> </ul> <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:</p> <ul style="list-style-type: none"> <li>• European dry heaths;</li> <li>• Caves not open to the public;</li> <li>• <i>Tilio-Acerion</i> forests of slopes, screes and ravines.</li> </ul> <p>Annex II species present as a qualifying feature, but not a primary reason for selection of this site:</p> <ul style="list-style-type: none"> <li>• Greater horseshoe bat (<i>Rhinolophus ferrumequinum</i>).</li> </ul>
<b>Vulnerability of the International Site</b>	<p>The Natura 2000 site Standard Data Form states that the following threats and pressures have a high impact on the SAC:</p> <ul style="list-style-type: none"> <li>• Modification of cultivation practices;</li> <li>• Air pollution, air-borne pollutants;</li> <li>• Biocenotic evolution, succession; and</li> <li>• Interspecific floral relations.</li> </ul>
<b>International Site conservation objectives</b>	<p>The Conservation Objectives for the Mendip Limestone Grasslands SAC are to:</p> <p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p>

<sup>22</sup> CCW (2008) Core Management Plan including Conservation Objectives for River Usk SAC.  
[https://naturalresources.wales/media/673384/River\\_Usk%20SAC%20core%20plan.pdf](https://naturalresources.wales/media/673384/River_Usk%20SAC%20core%20plan.pdf)  
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	<ul style="list-style-type: none"> <li>• The extent and distribution of qualifying natural habitats and habitats of qualifying species</li> <li>• The structure and function (including typical species) of qualifying natural habitats</li> <li>• The structure and function of the habitats of qualifying species</li> <li>• The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</li> <li>• The populations of qualifying species, and,</li> <li>• The distribution of qualifying species within the site.</li> </ul> <p>Further details of these conditions for each feature can be found within the Conservation Objectives documents for the site<sup>23;24</sup>.</p>
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#### 4.1.6 North Somerset and Mendip Bats SAC

Table 7: Characteristics of the North Somerset and Mendip Bats SAC

<b>Name of International Site and its EU Code</b>	North Somerset and Mendip Bats SAC EU Site Code UK0030052
<b>Location and distance of the International Site from the project</b>	Located in the Dorset and Somerset, Gloucestershire, Wiltshire and Bristol/Bath area Unitary Authority, central NGR ST480544, located approximately 24.6km south east.
<b>International Site size</b>	555.93 ha
<b>Key features of the International Site</b>	<p>Annex I habitats that are a primary reason for designation:</p> <ul style="list-style-type: none"> <li>• Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>); and</li> <li>• <i>Tilio-Acerion</i> forests of slopes, screens and ravines.</li> </ul> <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:</p> <ul style="list-style-type: none"> <li>• Caves not open to the public.</li> </ul> <p>Annex II species that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> <li>• Lesser horseshoe bat (<i>Rhinolophus hipposideros</i>); and</li> <li>• Greater horseshoe bat.</li> </ul>
<b>Vulnerability of the International Site</b>	<p>The Natura 2000 site Standard Data Form states that the following threats and pressures have a high impact on the SAC:</p> <ul style="list-style-type: none"> <li>• Unknown threat or pressure;</li> <li>• Other urbanisation, industrial and similar activities;</li> <li>• Forest and Plantation management &amp; use;</li> <li>• Interspecific floral relations; and</li> <li>• Grazing.</li> </ul>
<b>International Site conservation objectives</b>	The Conservation Objectives for the North Somerset and Mendip Bats SAC are to:

<sup>23</sup> NE (2018) European Site Conservation Objectives for Mendip Limestone Grasslands Special Area of Conservation Site code: UK0030203.

<http://publications.naturalengland.org.uk/publication/6269364252704768>

<sup>24</sup> NE (2019) European Site Conservation Objectives: Supplementary advice on conserving and restoring site features Mendip Limestone Grasslands SAC Site Code: UK0030203.

<http://publications.naturalengland.org.uk/publication/6269364252704768>

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	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> <li>• The extent and distribution of qualifying natural habitats and habitats of qualifying species</li> <li>• The structure and function (including typical species) of qualifying natural habitats</li> <li>• The structure and function of the habitats of qualifying species</li> <li>• The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</li> <li>• The populations of qualifying species, and,</li> <li>• The distribution of qualifying species within the site.</li> </ul> <p>Further details of these conditions for each feature can be found within the Conservation Objectives documents for the site<sup>25;26</sup>.</p>
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#### 4.1.7 Wye Valley and Forest of Dean Bat Sites SAC

Table 8: Characteristics of the Wye Valley and Forest of Dean Bat Sites SAC

<b>Name of International Site and its EU Code</b>	Wye Valley and Forest of Dean Bat Sites/Safleoedd Ystlumod Dyffryn Gwy a Fforest y Ddena SAC EU Site Code UK0014794
<b>Location and distance of the International Site from the project</b>	Located in the Gloucestershire, Wiltshire and Bristol/Bath area, West Wales and The Valleys Unitary Authority, central NGR SO605044, located approximately 26.3km north east.
<b>International Site size</b>	144.82 ha
<b>Key features of the International Site</b>	Annex II species that are a primary reason for selection of this site: <ul style="list-style-type: none"> <li>• Lesser horseshoe bat; and</li> <li>• Greater horseshoe bat.</li> </ul>
<b>Vulnerability of the International Site</b>	The Natura 2000 site Standard Data Form states that the following threats and pressures have a high impact on the SAC: <ul style="list-style-type: none"> <li>• Other ecosystem modifications;</li> <li>• Outdoor sports and leisure activities, recreational activities; and</li> <li>• Human induced changes in hydraulic conditions.</li> </ul>
<b>International Site conservation objectives</b>	The Conservation Objectives for the Wye Valley and Forest of Dean Bat Sites are to: <p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of qualifying species</li> <li>• The structure and function of the habitats of qualifying species</li> </ul>

<sup>25</sup> NE (2018) European Site Conservation Objectives for North Somerset and Mendip Bats Special Area of Conservation Site Code: UK0030052.

<http://publications.naturalengland.org.uk/publication/6252034999189504>

<sup>26</sup> NE (2019) European Site Conservation Objectives: Supplementary advice on conserving and restoring site features North Somerset and Mendip Bats Special Area of Conservation (SAC) Site Code: UK0030052. <http://publications.naturalengland.org.uk/publication/6252034999189504>

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	<ul style="list-style-type: none"> <li>• The supporting processes on which the habitats of qualifying species rely</li> <li>• The populations of qualifying species, and</li> <li>• The distribution of qualifying species within the site.</li> </ul> <p>Further details of these conditions for each feature can be found within the Conservation Objectives documents for the site<sup>27;28</sup>.</p>
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#### 4.1.8 Usk Bat Sites SAC

Table 9: Characteristics of the Usk Bat Sites SAC

<b>Name of International Site and its EU Code</b>	Usk Bat Sites/Safleoedd Ystlumod Wysg SAC EU Site Code UK0014784
<b>Location and distance of the International Site from the project</b>	Located in the East Wales, West Wales and The Valleys Unitary Authority, central NGR SO190145, located approximately 29.8km north.
<b>International Site size</b>	1686.025 ha
<b>Key features of the International Site</b>	Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: <ul style="list-style-type: none"> <li>• European dry heaths;</li> <li>• Degraded raised bogs still capable of natural regeneration;</li> <li>• Blanket bogs;</li> <li>• Calcareous rocky slopes with chasmophytic vegetation;</li> <li>• Caves not open to the public; and</li> <li>• <i>Tilio-Acerion</i> forests of slopes, screes and ravines.</li> </ul> Annex II species that are a primary reason for selection of this site: <ul style="list-style-type: none"> <li>• Lesser horseshoe bat.</li> </ul>
<b>Vulnerability of the International Site</b>	The Natura 2000 site Standard Data Form states that the following threats and pressures have a high impact on the SAC: <ul style="list-style-type: none"> <li>• Invasive non-native species;</li> <li>• Grazing;</li> <li>• Air pollution, air-borne pollutants;</li> <li>• Human induced changes in hydraulic conditions;</li> <li>• Problematic native species;</li> <li>• Other urbanisation, industrial and similar activities; and</li> <li>• Interspecific floral relations.</li> </ul>
<b>International Site conservation objectives</b>	The Conservation Objectives for the Usk Bat Sites SAC are to maintain the key features in favourable condition. The features will be considered to be in favourable condition when certain conditions are met. These conditions are extensive and specific to each feature.

<sup>27</sup> NE (2018) European Site Conservation Objectives for Wye Valley and Forest of Dean Bat Sites/Safleoedd Ystlumod Dyffryn Gwy a Fforest y Ddena Special Area of Conservation Site Code: UK0014794. <http://publications.naturalengland.org.uk/publication/4907653293670400>

<sup>28</sup> NE (2019) European Site Conservation Objectives: supplementary advice on conserving and restoring site features Wye Valley and Forest of Dean Bat Sites/Safleoedd Ystlumod Dyffryn Gwy a Fforest y Ddena Special Area of Conservation (SAC) Site code: UK0014794. <http://publications.naturalengland.org.uk/publication/4907653293670400>

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	Further details of these conditions for each feature can be found within the Core Management Plan for the site <sup>29</sup> .
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## 4.2 Identification of Other Plans and Projects

Not all the identified in-combination plans and projects are considered to have the potential to add any in-combination effects to the designated sites identified within this HRA. This is based either on their spatial separation or because the temporal scope of the plans and projects does not align (i.e. the impacts will occur at different times and will therefore not cause in-combination effects). Some projects identified during consultation with Cardiff Council have already been constructed and therefore are not considered further in the in-combination effects assessment, as they have already been accounted for within the baseline of each of the assessments.

Table 11 lists the identified plans and projects and identifies which of these have the potential to have in-combination effects with the proposed development, providing justification for the inclusion or exclusion from the assessment. Where it has been identified that in-combination impacts may arise, a more detailed assessment (set out in Section 7.5) has been undertaken.

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<sup>29</sup> CCW (2008) Core Management Plan (Including Conservation Objectives) for Mynydd Llangatwg (Mynydd Llangatock) Site of Special Scientific Interest (SSSI), Siambre Ddu SSSI, Buckland Coach House and Ice House SSSI and Foxwood SSSI, which together comprise Usk Bat Sites Special Area of Conservation (SAC).  
<https://naturalresources.wales/media/674281/Usk%20Bat%20Sites%20Management%20Plan%20Feb%202008.pdf>

Table 10: Identified developments with potential for in-combination effects

Ref.	Development	Planning Reference	Status	Classification	Approx. Distance from Proposed Development	Tier <sup>30</sup>	Potential for In-combination Effects?	Justification
<b>Cardiff Council Committed Developments</b>								
1	Melrose Hall Residential Development	17/02571/MJR	Approved: 15/05/18	Residential	Approximately 500m to the north-west of the proposed development.	1	Yes	Outline planning application for the demolition of the existing office buildings, and the construction of 17 new residential dwellings, new pedestrian access to Vaendre Lane, parking and associated works.
2	Wentloog Industrial Estate – Parcel delivery distribution facility	14/01272/D CO	Approved: 20/08/14	Commercial	Approximately 1km to the south-west of the proposed development.	1	Yes	Development of a new bespoke parcel delivery distribution facility within the established industrial area of Wentloog. The proposed development comprises a total of 5,844sqm gross external floor space which includes 2-storey ancillary office accommodation.
3	Willowbrook Drive/Crickhowell Road Residential Development	16/01670/MJR	Approved: 02/02/18	Residential	Approximately 1.1km to the west of the proposed development.	1	Yes	70 no. dwellings accessed from Willowbrook Drive (Outline)

<sup>30</sup> Tier 1 = Projects under construction; permitted application(s) but not yet implemented; and submitted application(s) but not yet determined.

Tier 2 = Projects on Cardiff Council and Newport County Council Programme of Projects where a scoping report has been submitted.

Tier 3 = Projects on Cardiff Council's and Newport County Council Programme of Projects where a scoping report has not been submitted; identified in the Cardiff Local Development Plan (2016) and Newport Local Development Plan (2015) cognising that much information on any relevant proposals may be limited; and identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward.



Ref.	Development	Planning Reference	Status	Classification	Approx. Distance from Proposed Development	Tier <sup>30</sup>	Potential for In-combination Effects?	Justification
4	Willowbrook West Residential Development	16/01260/MJR	Approved: 18/11/16	Residential	Approximately 1.1km to the west of the proposed development.	1	Yes	Development of 192 Dwellings to the West of Willowbrook Drive and the south of Crickhowell Road, on the site referred to as Willowbrook West. Proposal include 58 affordable units (comprised of 33 apartments and 25 houses), and associated landscaping.
5	H1.1 Land at areas 9-12, off Harrison Drive	Allocation within CC Local Plan Previous application: 06/00524/E	Planning application expired in 2011	Residential	Approximately 1.4km to the south-west of the proposed development.	3	No	The site was identified in CC's (2016) and previous Local Plan (1996) as nonstrategic housing site H1.1, with potential for development of approximately 150 dwellings. In 2006, an outline application accompanied by a TA for development of approximately 350 dwellings was approved under application reference 06/00524/E. This followed a previous successful application for development of a portion of the site.  The 2006 planning permission expired in 2011 and there is currently no active permission at the site.
6	H1.6 Land at former St Johns College/Greenway Road	Allocation within CC Local Plan Previous application: 14/00504/D CO	Planning Permission lapsed	Residential	Approximately 1.9km to the south-west of the proposed development.	3	No	The site was identified in CC's LDP (2016) as non-strategic housing site H1.6, with potential for development of approximately 64 dwellings. An application for the development of 64 homes was submitted in 2014. The application went to committee which advised the development was granted permission subject to agreement of a Section 106

Ref.	Development	Planning Reference	Status	Classification	Approx. Distance from Proposed Development	Tier <sup>30</sup>	Potential for In-combination Effects?	Justification
								agreement. A 106 agreement was not reached and therefore the permission has lapsed. No further applications have been made at the site since 2014.
7	Land adjacent to Blooms Garden Centre	13/01172/DCO (2013) 16/01150/MJR (2016)	Under construction	Residential	Approximately 1km to the north of the proposed development.	1	No	The outline application in 2013 and the subsequent reserved matters application in 2016 has enabled the development of 83 homes. The works are under construction and are not likely to overlap in temporal scope.
8	Residential development comprising of 15 dwellings with access from Wakehurt place	16/01719/MJR	Approved 12/07/2017	Residential	Approximately 1km to the west of the proposed development	1	Yes	Residential development comprising of 15 dwellings identified for development along with adjacent sites (16/01680/MJR) as part of the re-planning of community provision in St Mellons
9	Outline application to demolish the existing building and erect 9 dwellings (2 storey) and 18 flats (3 storey) on the site.	16/01680/MJR	Approved 12/07/2019	Residential	Approximately 1 km to the west of the site of the proposed development.	1	Yes	Development of 9 dwellings and 18 flats on the existing site. The site is currently occupied by St Mellons Community Centre, which has been identified for potential development along with an adjacent site (16/01719/MJR).
10	Communication Station, Cobol Road, St Mellons	20/00300/MNR	No prior approval required 01/4/2020	Commercial	Within the site of the proposed development.	1	No	Prior approval determination for the installation of electronic communications apparatus at Rhubina. The works include replacement and maintenance of electrical equipment on an

Ref.	Development	Planning Reference	Status	Classification	Approx. Distance from Proposed Development	Tier <sup>30</sup>	Potential for In-combination Effects?	Justification
								existing electricity site and will therefore be deemed of a scale too small to impact on in-combination effects.
11	Land at Harrison Drive, St Mellons	18/00089/MJR	Approved 04/04/2018	Residential	Approximately 800m to the west of the site of the proposed development.	1	Yes	Proposed construction of 21 affordable housing units (including 18no. 1 bed flats, 2no. 2 bed flats and 1no. 1 bed accessible flat) and associated works.
12	Site of former flats 11-20 Ty-to- Maen Close, Old St Mellons, Cardiff, CF3 5EY	16/01592/MJR	Approved 25/01/2017	Residential	Approximately 1.6km to the site of the proposed development.	1	No	Development of 8 dwellings at Ty to Maen Close (6no. open market sale and 2no. affordable dwellings), associated landscaping, access and highway works. The works are under construction and are not likely to overlap in temporal scope.
13	Droke House, 948 Newport Road, Old St Mellons, Cardiff, CF3 5UA	17/01801/MJR	Approved 23/02/2018	Residential	Approximately 1.8km to the west of the site of the proposed development.	1	No	Construction of 33 affordable apartments, access and associated works. This committed development is under construction and is not of a scale or proximity to impact on the Biodiversity zone of influence. The committed development is also unlikely to overlap in temporal scope.
<u>Newport City Council Committed Developments</u>								

Ref.	Development	Planning Reference	Status	Classification	Approx. Distance from Proposed Development	Tier <sup>30</sup>	Potential for In-combination Effects?	Justification
14	St Mellons Country Hotel & Country Club, NEWPORT ROAD, CARDIFF, CF3 2XR	15/1228	Approved 03/08/2016	Commercial	Approximately 1km to the north of the site of the proposed development.	1	No	Proposed alterations and extension of hotel to include new conference centre. This committed development is not considered of a scale to impact on in-combination effects and is therefore not included within the assessment in Section 16.5.
15	21, St Mellons Road, Marshfield, Cardiff, CF3 2TX	19/1003	Registered application 04/03/2020	Residential	Approximately 800m to the east of the site of the proposed development.	1	No	Demolition of derelict house and construction of 5no. detached dwellings This committed development is not considered of a scale to cause in-combination effects and is therefore not included within the assessment in Section 16.5.
16	Marshfield Junior and Infants School, Marshfield Road, Cardiff, CF3 2UW	15/1312	Approved 06/01/2016	Commercial	Approximately 1.5km to the north east of the site of the proposed development.	1	No	Extension of Marshfield Junior and Infants school to provide a nursery This committed development is not considered of a scale to cause in-combination effects and is therefore not included within the assessment in Section 16.5.
17	Wentloge Renewable Energy Hub, Peterstone, Newport	DNS/3216558	Submitted to the Inspectorate 07/05/2020	Commercial	Approximately 600m to the east of the site of the proposed development.	1	Yes	Proposed construction of Energy Hub on approximately 22ha of land within the Rumney and Peterstone SSSI and approximately 800m from the Severn Estuary.

## 5 Baseline Surveys Summary

An Extended Phase 1 Habitat survey was initially carried out at the site by an Arup Suitably Qualified Ecologist (SQE) in 2017 (ES Appendix E1). The results of this survey were then verified in 2019 (ES Appendix E2), with the initial survey informing the requirement for numerous detailed ecological (Phase 2) surveys across 2017, 2018 and 2019. Further surveys for wintering birds and breeding birds were conducted in 2020/21 and 2021, respectively, from receiving comments on the OPA and HRA from NRW. The detailed methodology and results of these are given in the corresponding species-specific reports as follows, and are not provided in full within the HRA:

- Targeted Invasive Non-Native Species (INNS)<sup>31</sup> survey in 2017 (ES Appendix E3);
- Terrestrial National Vegetation Classification (NVC) and reed flora surveys in 2018 (ES Appendix E4) and 2019 (ES Appendix E5);
- Bat roost and activity surveys in 2017, 2018 (ES Appendix E7) and 2019 (ES Appendix E8);
- Dormouse (*Muscardinus avellanarius*) surveys in 2017 (ES Appendix E9), 2018 (ES Appendix E10) and 2019 (ES Appendix E11);
- Riparian mammal surveys in 2017 (ES Appendix E12) and 2019 (ES Appendix E13);
- Amphibian and Reptile surveys in 2017 (ES Appendix E14) and Great crested newt (*Triturus cristatus*) survey in 2019 (ES Appendix E15);
- Badger survey in 2017 (ES Appendix E16);
- Breeding birds survey in 2017 (ES Appendix E17);
- Wintering birds survey 2017/2018 (ES Appendix E18);
- Terrestrial invertebrate survey in 2019 (ES Appendix E19);
- Aquatic invertebrate survey in 2018 (ES Appendix E20);
- Wintering bird survey in 2020/21 (ES Appendix E25); and
- Breeding bird survey in 2021 (ES Appendix E26).

The ecological constraints identified through these surveys are denoted in Figure 3 in Appendix B.

The Wintering Bird Transect Viewshed for 2017/18 survey, as requested by NRW is provided in Appendix B (Figure 5), and the Wintering Bird Survey Timing, Weather and Tidal States for both the 2017/18 and 2020/21 surveys are provided in Appendix E of this HRA.

Survey results for ecological features relevant to the HRA are also summarised below.

<sup>31</sup> As listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and The Invasive Alien Species (Enforcement and Permitting) Order 2019

### 5.1.1 Desk Study

A desk study search was carried out, with data received from SEWBReC<sup>32</sup> on the 31<sup>st</sup> January 2017. Details were provided by SEWBReC on protected and notable species up to 2km from the site centre point, with the search extended to 5km for records of bats. Data was obtained for the 10-year period between 2007 and 2016. A summary of these results is included in Table D1 in Appendix D.

### 5.1.2 Invasive Non-Native Species

Throughout the baseline surveys a number of INNS were identified across the site including: waterweeds (likely *Elodea spp.* or *Lagarosiphon spp.*) throughout most reens on site; Japanese knotweed (*Reynoutria japonica*) within the woodland between Faendre Reen and Cypress Drive and along the northern border of the Marshfield SINC; and, a Japanese knotweed hybrid (*Reynoutria japonica x sachalinensis*) within the woodland between Faendre Reen and Cypress Drive.

### 5.1.3 Habitats

The site is currently comprised of largely arable and pastoral farmland intersected by a network of reens and field ditches; which partially form the Gwent Levels – Rumney and Peterstone SSSI and were occasionally shaded by or enclosed within a hedgerow.

Approximately half of the fields on site were low-diversity heavily grazed improved grassland and arable land. The other half were more species-rich, including poor semi-improved and semi-improved neutral grassland. The semi-improved neutral grassland fields were all centrally located, immediately north and south of the railway line, partially forming the Marshfield SINC.

The most frequently recorded hedgerow type was native species-poor hedge with trees, followed by native species-poor intact hedge and defunct hedge. Native species-rich intact hedgerows were relatively rare, with only one length recorded within the northern half of the site. To note, a large population of dormice were recorded throughout the hedgerows within the site, and within other areas of suitable habitat, including woodland and scrub in the west of the site and a relatively small area of willow (*Salix spp.*) carr wet woodland just south of the railway line.

### 5.1.4 Otter

During the otter surveys in 2017 and 2019 Hendre Lake, Faendre Reen and Green Lane Reen in particular were considered to have the highest suitability for otter. They are all relatively large, hold water year-round, support larger fish, and have more opportunities for resting otter than other reens within the site. Six laying up sites were identified at five waterbodies in 2019 (Hendre Lake island; two on Faendre Reen; Ty Ffynon Reen; Greenlane Reen and connected reen both south of the railway line).

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<sup>32</sup> <http://www.sewbrec.org.uk/home.page> with data received on the 31st January 2017

### 5.1.5 Fish

An individual European eel was recorded in Ty-Ffynon Reen during great crested newt surveys in 2017. It is assumed that European eel are present throughout the reens on site. NRW also considers that the reens and ditches of the Gwent Levels may potentially represent significant habitats for juvenile lamprey (ammocoetes) of all three species (river, sea and brook lamprey (*Lampetra planeri*)) and are known to support a mixed population of coarse fish characteristic of slow-flowing or still water<sup>33</sup>.

### 5.1.6 Bats

The only buildings within the proposed development site were three metal flat roof gas pumping station buildings in the north of the site. These were considered to have negligible potential for roosting bats. Trees with low, moderate and high potential for roosting for bats were recorded elsewhere on the site, along with a moderate level of foraging and commuting bat activity. However, these were generally common species, typical of the habitats present. No lesser horseshoe bats or greater horseshoe bats were recorded during any of the bat surveys, and these species are therefore considered likely absent from the proposed development site. The only Annex II species activity recorded was four barbastelle (*Barbastella barbastellus*) passes, during static bat activity monitoring in 2017.

### 5.1.7 Breeding Birds

#### 5.1.7.1 2017 Survey

A total of 59 species were recorded during the breeding bird surveys in April - June 2017, with 36 species considered to have bred within the survey area. No species were recorded breeding on site which are listed on the Severn Estuary SPA or Ramsar site. Mallard were recorded breeding within the site, with six to nine pairs assumed; mallard is considered for future consideration on the Severn Estuary (SPA Review 2021)<sup>34</sup>. Six shelduck were noted on site in April on and close to Ty Fynnon Reen, but not observed to be breeding; shelduck is listed as wintering feature on the Severn Estuary SPA and Ramsar site.

Lesser back-backed gulls (*Larus fuscus*) were recorded on site but not breeding, however are only considered for future consideration on the Severn Estuary Ramsar site (The Severn Estuary European Marine Site, 2009)<sup>35</sup>.

One species, Cetti's warbler (*Cettia cetti*), was recorded during the 2017 breeding bird surveys that is included on Schedule 1 of the Wildlife and Countryside Act

<sup>33</sup> Section 3.2.36, p. 14 <https://gov.wales/sites/default/files/publications/2017-10/m4-corridor-around-newport-environmental-statement-appendix-10.18-aquatic-environment-baseline-study.pdf>

<sup>34</sup> JNCC Severn Estuary SPA Review, dated 2001 available from the JNCC [www.jncc.gov.uk/pdf/SPA/UK9015022.pdf](http://www.jncc.gov.uk/pdf/SPA/UK9015022.pdf) (Stroud, DA, et al., 2001)

<sup>35</sup> The Severn Estuary European Marine Site. Natural England & the Countryside Council for Wales' advice given under Regulation 33(2)(a) of the Conservation (Natural Habitats, &c.) Regulations 1994, as amended. June 2009.

1981. A total of seven bird species were recorded that are placed on the UK Red List and six species that are recorded on the Welsh Red List. Twelve species were recorded on the UK Amber List and eighteen species on the Welsh Amber List. The remaining species are Green Listed. Nine species of principal importance were recorded. No species were recorded, which are listed on the Cardiff LBAP. Five species were listed as of County Importance, with regards to the designation of Wildlife Sites. One species was recorded as being uncommon or rarer, with regards to the Gwent Ornithological Society's county status.

Three scattered trees were identified as being potential barn owl (*Tyto alba*) nesting and/or roosting locations, due to sightings during bat surveys.

### 5.1.7.2 2021 Survey

During the breeding bird survey in April – June 2021, territories of 34 species were identified, 15 of which are of conservation concern and one is included on Schedule 1 (being the Cetti's warbler). No species were recorded on site which are listed on the Severn Estuary SPA or Ramsar site. Lapwing and mallard were recorded breeding, both of which are considered for future consideration on the Severn Estuary (SPA Review 2021)<sup>34</sup>, being two and one territory identified within the site, respectively.

The two pairs of Lapwing were present within a cereal field during the first survey in April, with much display behaviour noted. These birds were not logged during subsequent visits although the crop height may have meant they were not visible, if present.

Seven species recorded were Red list species of conservation concern (in Wales) and six are included on the Amber list. Four Section 7 priority species were logged as breeding species (five of which are also Amber list species).

## 5.1.8 Wintering Birds

### 5.1.8.1 2017/18 Survey

During wintering bird surveys in November to March 2017/18, a total of 21 species were recorded. None were species listed as primary qualifying features of the Severn Estuary SPA or Ramsar site. Teal which is listed as an assemblage species on the Ramsar site and the SPA was recorded predominantly with Faendre reen and Hendre Lake, with a peak count being recorded of 20 birds in December 2017.

Mallard, which is under consideration for future assemblage species for the Severn Estuary SPA (SPA Review 2021)<sup>34</sup> was also recorded predominantly with Faendre reen and Hendre Lake, with a peak count being recorded of 63 birds in November 2017.

Other waterbird species recorded during the surveys of note, but not listed on the Severn Estuary SPA or Ramsar site designations, was a single sighting of a green sandpiper (*Tringa ochropus*) recorded within the fields of the development (north



of the railway) and two flocks of golden plover (*Pluvialis apricaria*) observed as flying over the site, not within the fields in December 2017.

### 5.1.8.2 2020/21 surveys

During wintering bird diurnal surveys in October to March 2020/21, a total of 14 target (waterbird) species were recorded; of which only one (mallard) was recorded during each survey. None were species listed as primary qualifying features of the Severn Estuary SPA or Ramsar site.

Teal were recorded in all month apart from January 2021, with a peak count during the low tide count in December of 15 birds. Tufted duck were recorded only in March 2021 with a peak count of two birds on the high tide. Both species were recorded with Faendre reen and Hendre Lake.

Mallard, as mentioned above, was recorded in every month of survey with a peak count in October 2020 on the high tide count of 31 birds.

Ten target (waterbird) species were logged during nocturnal surveys with the majority of records on Hendre Lake and Faendre reen. Mallard was the only species listed (under consideration as an assemblage SPA species) on the SPA or Ramsar site citation, with a peak count of 12 birds in January 2021. A roost of snipe (*Gallinago gallinago*), being a qualifying features of the Severn Estuary SSSI, was noted on the island in this lake, peaking at 17 birds in January 2021. Moorhen (*Gallinula chloropus*) were frequently recorded roosting in trees along Faendre Reen.

## 6 Screening Assessment

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### 6.1 Potential Effects of the Project

During construction, there are potential pathways for effect on International Sites. However, these pathways vary depending on the type of qualifying features, the distance of the International Site from the proposed development, and the presence/absence of a hydrological connection between the International Site and the proposed development. The potential pathways for effects include:

- Habitat degradation through dust deposition, pollution events or sediment run-off;
- Permanent/temporary habitat loss/severance;
- Spread of INNS listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and The Invasive Alien Species (Enforcement and Permitting) Order 2019;
- Physical disturbance/damage of habitats;
- Disturbance/displacement to fauna e.g. from visual impact, noise, lighting and/or vibrations; and
- Mortality/injury of individuals.

During operation, there are potential pathways for effect on the International Sites, which again are dependent on the variables mentioned above, including:

- Habitat degradation through fuel and chemical spills from roads and hard standing areas;
- Habitat degradation through increased NO<sub>x</sub> emissions and nitrogen deposition, due to increased traffic at the proposed development site<sup>36</sup>;
- Habitat severance due to the introduction of barriers within existing and created reens,
- Disturbance/displacement of individuals e.g. from visual impact, noise and lighting; and
- Mortality/injury of individuals, such as road traffic accidents and pollution events.

These potential effects are considered in more detail in Table 12 and in subsequent sections.

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<sup>36</sup> NO<sub>x</sub> emissions and nitrogen deposition have the potential to affect qualifying features located within 200m of the affected road network (see ES Chapter 8 Air Quality for further information)

Table 11: Potential effects of the proposed development on International Sites and their features within 10km (extended to 30km for bat and/or fish SACs)

Potential Effect	Features of International Sites															
	Severn Estuary SAC (1.1km south)		Severn Estuary SPA (1.1km south)	Severn Estuary Ramsar site (1.1km south)			River Usk SAC (6.7km north east)		Mendip Limestone Grasslands SAC (21km south)		North Somerset and Mendip Bats SAC (24.6km south east)		Wye Valley and Forest of Dean Bat Sites SAC (26.3km north east)	Usk Bat Sites SAC (29.8km north)		
	Annex I habitats	Annex II fish species	Annex II bird species	Criterion 1 - Annex I habitats	Criteria 3 - Estuarine communities; 4 - Migratory fish; and 8 - Diverse fish species	Criteria 4 - Migratory birds; 5 - Waterfowl assemblages; and 9 - Annex II bird species	Annex I habitats	Annex II fish species and otter	Annex I habitats	Annex II bat species	Annex I habitats	Annex II bat species	Annex II bat species	Annex I habitats	Annex II bat species	
<b>Potential Construction Effects</b>																
Water pollution/ sedimentation and dust deposition	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	
Habitat loss/ severance	No pathway for effect – spatial separation			No pathway for effect – spatial separation												No pathway for effect – spatial separation/ SAC lies upstream
Spread of INNS	Pathway for effect			Pathway for effect												No pathway for effect – greater and lesser horseshoe bat likely absent from proposed development site
Physical disturbance/damage of habitats	No pathway for effect – spatial separation			No pathway for effect – greater and lesser horseshoe bat likely absent from proposed development site												No pathway for effect – greater and lesser horseshoe bat likely absent from proposed development site
Disturbance/ displacement to faunal species	N/A			N/A												N/A
Mortality/injury of individuals	N/A			N/A												N/A
<b>Potential Operational Effects</b>																
Pollution events	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	Pathway for effect	
Air quality changes	No pathway for effect – spatial separation		No pathway for effect – no permanent barriers for bird species	No pathway for effect – no permanent barriers for bird species												
Habitat severance <sup>37</sup>	No pathway for effect – spatial separation		No pathway for effect – no permanent barriers for bird species	No pathway for effect – no permanent barriers for bird species												
Disturbance/ displacement to faunal species	N/A		Pathway for effect	N/A												
Mortality/injury of individuals	N/A		Pathway for effect	N/A												

**Key:** Pathway for effect – scoped into Stage 2 Appropriate Assessment | No pathway for effect – scoped out of Stage 2 Appropriate Assessment

<sup>37</sup> Effects of habitat loss are covered under Potential Construction Effects

## 6.2 Consideration of Effects and Significance

All three of the Severn Estuary sites (SAC, SPA and Ramsar site) have been screened into the assessment due to the pathway for effect arising from being hydrologically connected to and lying downstream of the proposed development site. The River Usk SAC has also been screened into the assessment, due to the pathway for effect arising from being hydrologically connected to the proposed development site, thus leading to the potential for qualifying species to occur within the proposed development boundary. For the purposes of this assessment, it is concluded that in the absence of mitigation where pathways for effects are present, these are considered to have the potential to cause significant effects and therefore an Appropriate Assessment is required for these sites.

The four bat SACs<sup>38</sup> located within 10-30km of the site have been scoped out of the assessment. These sites are designated for the presence of greater and/or lesser horseshoe bats. Neither of these species were recorded within the survey area during any bat survey, and this species is therefore presumed absent from the proposed development. As such, there is not considered to be a pathway for effect between the proposed development and these bat SACs.

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<sup>38</sup> Mendip Limestone Grasslands SAC, North Somerset and Mendip Bats SAC, Wye Valley and Forest of Dean Bat Sites SAC and Usk Bat Sites SAC.

## 7 Information for Appropriate Assessment

### 7.1 Severn Estuary SAC

The Annex I habitats present within the Severn Estuary SAC include estuaries, mudflats and sandflats not covered by seawater at low tide, Atlantic salt meadows (*Glaucopuccinellietalia maritima*), sandbanks which are slightly covered by sea water all the time, and reefs. These habitat features are distributed throughout the SAC with features overlapping in some locations. The only feature to occupy the entire SAC is the ‘estuaries’ feature. The habitat features which lie closest to the proposed development boundary include estuaries, intertidal mudflats and sandflats, and Atlantic salt meadows, lying approximately 1.1km south. The other habitat features of subtidal sandbanks and reefs all lie at least 4km outside of the proposed development boundary.

The Annex II species present within the Severn Estuary SAC include sea lamprey, river lamprey and twaite shad. There are currently no descriptions of these species’ distributions within the SAC on the JNCC website, but the Severn Estuary area is considered to be of grade A/B quality for these species<sup>39</sup>. Atlantic salmon, European eel, sea trout and allis shad, all of which use the freshwater environment during their life-cycles, form part of the notable species sub-feature of SAC ‘estuaries’ feature.

Whilst the study area is considered to be poorly connected to lamprey spawning grounds (areas of small stones and gravel in flowing rivers)<sup>40</sup>, there is potential for this species group to be present. NRW considers that the reens and ditches of the Gwent Levels may potentially represent significant habitats for juvenile lamprey (ammocoetes) of all three species (river, brook and sea)<sup>41</sup>. Typically, juvenile lamprey live buried in fine sediment (stable) in the margins of fast flowing rivers for three to five years during their development, however they may occur in smaller, silted watercourses. As such, the assessment has been carried out under the precautionary assumption that juvenile lamprey species (ammocoetes) have the potential to be present throughout the reens and wet ditches on site.

The Gwent Levels are known to support a large population of European eel, which dominate the fish stock<sup>42</sup>. As such, the assessment has been carried out based on the assumption that European eel of all life stage (glass eel, yellow and silver eel) are present throughout the reens and wet ditches on site. No other

<sup>39</sup> Grade A = Outstanding example of the feature in a European context.

Grade B = Excellent example of the feature, significantly above the threshold for SSSI/ASSI notification but of somewhat lower value than grade A sites.

Sea lamprey distribution: <https://sac.jncc.gov.uk/species/S1095/map> (Accessed 15/04/2020)

River lamprey distribution: <https://sac.jncc.gov.uk/species/S1099/map> (Accessed 15/04/2020)

Twaite shad distribution: <https://sac.jncc.gov.uk/species/S1103/map> (Accessed 15/04/2020)

<sup>40</sup> Maitland PS (2003). Ecology of the River, Brook and Sea Lamprey. Conserving Natura 2000 Rivers Ecology Series No. 5. English Nature, Peterborough.

<sup>41</sup> Section 3.2.36, p. 14 <https://gov.wales/sites/default/files/publications/2017-10/m4-corridor-around-newport-environmental-statement-appendix-10.18-aquatic-environment-baseline-study.pdf>

<sup>42</sup> Section 3.2.35, p. 14 <https://gov.wales/sites/default/files/publications/2017-10/m4-corridor-around-newport-environmental-statement-appendix-10.18-aquatic-environment-baseline-study.pdf>

qualifying or notable fish species of the SAC are considered likely to use the reens during any stage of their life-cycle due to their lentic nature<sup>43</sup>.

During construction, the habitat features of the Severn Estuary SAC are potentially vulnerable to habitat degradation through the effects of water quality changes from pollutants, sedimentation, dust deposition, or the spread of INNS via construction machinery or construction workers' footwear. During operation, the habitat features of the Severn Estuary SAC are potentially vulnerable to the effects of water quality changes resulting from urban runoff and pollution events.

During construction, the Annex II species within the Severn Estuary SAC are potentially vulnerable to indirect habitat damage and/or indirect mortality/injury due to water quality changes from pollutants/sedimentation, dust deposition, the spread of INNS via construction machinery or construction workers' footwear, or physical disturbance/damage of habitats by construction vehicles. There is also the potential for loss/severance of habitats used by Annex II species, the disturbance/displacement of Annex II species, and the direct mortality/injury of Annex II species (for example, during the de-watering of wet ditches) due to the presence of European eel and possibly juvenile lamprey (ammocoetes) within the proposed development site.

During operation, the Annex II species are potentially vulnerable to habitat damage and mortality/injury due to water quality changes resulting from urban runoff and pollution events, air quality changes from vehicle emissions, as well as habitat severance due to the introduction of temporary barriers within Railway Reen and Greenlane Reen, and disturbance/displacement from visual impact, noise and lighting.

## 7.1.1 Conservation Objectives

### 7.1.1.1 Annex I Habitats

The conservation objectives for the habitat features state that the habitat features will be considered to be in favourable conservation status when the following are met for each habitat feature:

#### Estuaries

- The total extent of the Estuary is maintained;
- The characteristic physical form (tidal prism/cross sectional area) and flow (tidal regime) of the Estuary is maintained;
- The characteristic range and relative proportions of sediment sizes and sediment budget within the site is maintained;
- The extent, variety and spatial distribution of estuarine habitat communities within the site is maintained;
- The extent, variety, spatial distribution and community composition of hard substrate habitats and their notable communities is maintained;
- The abundance of the notable estuarine species assemblages is maintained or increased;

<sup>43</sup> Organisms or habitats inhabiting or situated in still fresh water

- The physico-chemical characteristics of the water column support the ecological objectives described above;
- Toxic contaminants in water column and sediment are below levels which would pose a risk to the ecological objectives described above; and
- Airborne nutrient and contaminant loads are below levels which would pose a risk to the ecological objectives described above.

### **Intertidal Mudflats and Sandflats**

- The total extent of the mudflats and sandflats feature is maintained;
- The variety and extent of individual mudflats and sandflats communities within the site is maintained;
- The distribution of individual mudflats and sandflats communities within the site is maintained;
- The community composition of the mudflats and sandflats feature within the site is maintained;
- The topography of the intertidal flats and the morphology (dynamic processes of sediment movement and channel migration across the flats) are maintained.

### **Atlantic Salt Meadows**

- The total extent of Atlantic salt meadow and associated transitional vegetation communities within the site is maintained;
- The extent and distribution of the individual Atlantic salt meadow and associated transitional vegetation communities within the site is maintained;
- The zonation of Atlantic salt meadow vegetation communities and their associated transitions to other Estuary habitats is maintained;
- The relative abundance of the typical species of the Atlantic salt meadow and associated transitional vegetation communities is maintained;
- The abundance of the notable species of the Atlantic salt meadow and associated transitional vegetation communities is maintained.
- The structural variation of the salt marsh sward (resulting from grazing) is maintained within limits sufficient to satisfy the requirements of the conditions above and the requirements of the Ramsar and SPA features;
- The characteristic stepped morphology of the salt marshes and associated creeks, pills, drainage ditches and pans, and the estuarine processes that enable their development, is maintained; and
- Any areas of *Spartina anglica* salt marsh (SM6) are capable of developing naturally into other saltmarsh communities.

### **Subtidal Sandbanks**

- The total extent of the subtidal sandbanks within the site is maintained;
- The extent and distribution of the individual subtidal sandbank communities within the site is maintained;
- The community composition of the subtidal sandbank feature within the site is maintained;



- The variety and distribution of sediment types across the subtidal sandbank feature is maintained; and
- The gross morphology (depth, distribution and profile) of the subtidal sandbank feature within the site is maintained.

### Reefs

- The total extent and distribution of *Sabellaria* reef is maintained;
- The community composition of the *Sabellaria* reef is maintained;
- The full range of different age structures of *Sabellaria* reef are present; and
- The physical and ecological processes necessary to support *Sabellaria* reef are maintained.

#### 7.1.1.2 Annex II Species

The conservation objectives for the Annex II species state that they will be considered to be in favourable conservation status when the following conditions are met for each:

- The migratory passage of both adult and juvenile sea lamprey, river lamprey and twaite shad through the Severn Estuary between the Bristol Channel and any of their spawning rivers is not obstructed or impeded by physical barriers, changes in flows, or poor water quality;
- The size of the sea lamprey, river lamprey, and twaite shad populations in the Severn Estuary and the rivers which drain into it, are at least maintained and are at a level that is sustainable in the long term;
- The abundance of prey species forming the sea lamprey's, river lamprey's and twaite shad's food resource within the Estuary (in particular, at the salt wedge for twaite shad), are maintained; and
- Toxic contaminants in the water column and sediment are below levels which would pose a risk to the ecological objectives described above.

## 7.1.2 Potential Construction Effects on the Severn Estuary SAC

### 7.1.2.1 Water Pollution/Sedimentation

In the absence of any avoidance and/or mitigation measures, there is the potential for construction activities to result in construction related run-off and/or a pollution incident (e.g. during operation of construction vehicles or during the transportation of potentially polluting materials or substances) within waterbodies on site which ultimately discharge into the Severn Estuary SAC. Annex I habitats that these waterbodies discharge into may be subject to negative effects arising from construction related runoff or a pollution incident, although these are likely to be of negligible significance due to the distance between the proposed development and these Annex I habitats. However, there is also the potential to negatively impact habitats within and adjacent to the proposed development site



boundary, upon which the qualifying fish species for Severn Estuary SAC rely, leading to an adverse effect on the integrity of the SAC.

### 7.1.2.2 Dust Deposition

Construction works may generate dust which could impact the waterbodies on site which ultimately discharge into the Severn Estuary SAC. Dust emissions could occur from the following activities:

- Demolition;
- Earthworks (i.e. soil stripping, ground levelling, excavation and land);
- Construction; and
- Trackout (i.e. incidental movement of dust and dirt from the construction or demolition site onto the public road network).

As above, effects on Annex I habitats that these waterbodies discharge into are likely to be of negligible significance due to the distance between the proposed development site and these Annex I habitats. Furthermore, the MetOffice<sup>44</sup> gives the region (from the Cardiff, Bute Park weather station) to have an annual rainfall of 1151.9mm and an average number of days of rainfall (precipitation > 1mm) per year of 148.6. This rainfall amount is likely to reduce the effects of dust generation by washing vegetation of dust. The area impacted by dust is therefore likely to be very localised and limited to the habitats immediately adjacent to the site.

However, due to the potential to negatively impact habitats within and adjacent to the proposed development site boundary, upon which the qualifying fish species for Severn Estuary SAC rely, a precautionary approach has been adopted. It is assumed that the generation of dust could result in an adverse effect, albeit localised, and mitigation measures are proposed.

### 7.1.2.3 Habitat Loss/Severance

The proposed development will see the loss of 3.96km of habitat potentially suitable for Annex II lamprey ammocoetes, comprising of wet field ditches, albeit that these were recorded as intermittent and ephemeral. In the absence of any avoidance and/or mitigation measures, the loss/severance of habitats could lead to isolation both within and between populations and from specific resources vital for survival. The indirect effects of this could include reduced feeding success and increased competition, which could lead to local extinctions, causing an adverse effect on the integrity of the SAC.

### 7.1.2.4 Spread of INNS

Throughout the baseline surveys a number of INNS were identified across the site including: waterweeds (likely *Elodea spp.* or *Lagarosiphon spp.*) throughout most reens on site; Japanese knotweed within the woodland between Faendre Reen and

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<sup>44</sup> MetOffice <https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages/gcjszmp44> Accessed 15/04/2020

Cypress Drive and along the northern border of Marshfield SINC; and, a Japanese knotweed hybrid within the woodland between Faendre Reen and Cypress Drive. Locations of these are shown on Figure 3 in Appendix B.

These INNS may be spread elsewhere via construction worker's machinery and/or footwear or through hydrological connections, in the absence of any avoidance and/or mitigation measures. If INNS are allowed to spread and proliferate as a result of construction, it is considered that this could give rise to a significant negative effect on the qualifying habitat features of the Severn Estuary SAC within and adjacent to the proposed development site boundary, as well as on the habitats upon which the qualifying fish species for Severn Estuary SAC rely; as such resulting in an adverse effect on the integrity of the SAC.

#### 7.1.2.5 Physical Disturbance/Damage of Habitats

During construction of the proposed development, in-stream works are required within some reens and, as described under Section 7.1.2.3, some field ditches will be lost. The most likely sources of hydromorphological impacts relate to the direct physical modifications to surface water features including:

- Introduction and construction of culverts or bridges for the temporary construction traffic route crossings over Greenlane Reen, Ty-Ffynnon Reen, Faendre Reen and unnamed reens;
- Construction of culverts or bridges for the proposed development access routes crossing over Faendre Reen, Green Lane Branch, Greenlane Reen, Ty-Ffynnon and Railway Reen;
- Removal of 5.37km of existing field ditches (3.96km of them being recorded as intermittent and ephemeral 'wet') shown in ES Figure 5.4 as part of land raising to create development plateaux's;
- Widening of Greenlane Reen by 3m between Cobol Road/Heol Las junction down to the field access from Heol Las located north of the gas pressure reduction station, located near the south eastern corner of the site;
- Lowering of ground for flood conveyance between Faendre Reen and Ty-Ffynnon Reen and the construction of low flow channel;
- New compensatory reens south of the railway; and
- Installation of a penstock or tilting weir penstock located along the existing reens, namely Railway and Greenlane Reens.

With the exception of any temporary diversion or structures that would need to be introduced at reen crossing locations, the reens would be retained throughout the development, namely Greenlane Reen, Faendre Reen, Ty-Ffynnon, Railway Reen and Green Lane Branch.

All proposed modifications would require in-channel working that have the potential to modify flow processes and sediment movement through bank failure, erosion, scouring and modification of geomorphological features. Changes to flow processes and sediment movement have potential for the washing of sediment into the reens. Clogging of the reens by silt would reduce in-stream habitat quality. The effects of siltation could be long term, as the low flow velocities in the reens may be insufficient to remobilise the silt and flush it downstream.

In the absence of any avoidance and/or mitigation measures, direct impacts to habitats upon which Annex II lamprey ammocoetes and European eel may rely are unavoidable and may lead to an adverse effect on the integrity of the SAC.

#### **7.1.2.6 Disturbance/Displacement of Faunal Species**

Direct disturbance to Annex II lamprey ammocoetes and European eel described above could arise from construction noise, vibration or lighting e.g. during movement of machinery around the site and during any piling/percussive works. Disturbance may also arise during works described above under Section 7.1.2.5. This may result in the abandonment of territory, increased predation risk and use of critical energy reserves. In the absence of any avoidance and/or mitigation measures, this may lead to an adverse effect on the integrity of the SAC.

#### **7.1.2.7 Mortality/Injury of Individuals**

As described in Section 7.1.2.1, during construction pollutants could arise from machinery and/or faulty infrastructure. There is a risk that the localised reduction in water quality could impact Annex II lamprey ammocoetes and European eel through direct mortality or injury (e.g. through ingestion), or displacement from the area around the site.

As described in Section 7.1.2.3 and 7.1.2.5, in-stream works are required within some reens, and some field ditches will be lost. There is a risk that these works may lead to direct mortality or injury of Annex II lamprey ammocoetes and European eel, for example, during the de-watering of reens/ditches to be modified/ lost.

In the absence of any avoidance and/or mitigation measures, this may lead to an adverse effect on the integrity of the SAC.

### **7.1.3 Potential Operational Effects on the Severn Estuary SAC**

#### **7.1.3.1 Pollution Events**

In the absence of any avoidance and/or mitigation measures, there is the potential for pollution events during operation (e.g. from fuel and chemical spills from roads and hard standing areas) into waterbodies which ultimately discharge into the Severn Estuary SAC.

As described in Section 7.1.2.1 above, Annex I habitats that these waterbodies discharge into may be subject to negative effects arising from a pollution incident, although these are likely to be of negligible significance due to the distance between the proposed development and these Annex I habitats. However, there is also the potential to negatively impact habitats within and adjacent to the proposed development boundary, upon which the qualifying fish species for Severn Estuary SAC rely, leading to an adverse effect on the integrity of the SAC.

### 7.1.3.2 Air Quality Changes

During operation, there will be an increase in vehicular use at the proposed development site. Therefore, there is the potential for a resultant increase in nitrogen oxide (NO<sub>x</sub>) and nitrogen deposition from vehicle emissions, leading to localised changes in air quality. This may negatively impact habitats upon which the qualifying fish species for Severn Estuary SAC rely, leading to an adverse effect on the integrity of the SAC. However, the distance of the proposed development to the SAC at 1.1km would mean no direct air quality effects on the habitats and that there would be enough dispersion of nitrogen in the waterbodies meaning no effect.

With regards to impact on ecological receptors, the Institute of Air Quality Management (IAQM) guidance<sup>45</sup> recommends that concentrations of NO<sub>x</sub> are used as the main basis for evaluating the potential for significant effects. An increase in annual mean NO<sub>x</sub> concentration of more than 0.4µg/m<sup>3</sup> cannot be dismissed as imperceptible.

An air quality assessment was carried out (as detailed in the OPA ES Air Quality Chapter 8), which included, at the request of Cardiff Council, a sensitivity test to determine the impact of pollutants on sensitive receptors in a future scenario in which emissions from vehicles and other sources do not improve over time. This means that for each of the sensitivity test versions of each scenario, the emission factors used and the background concentrations used are derived from datasets representative of emission factors and backgrounds in 2019 as opposed to the relevant future construction (2022) and opening (2028) years. This is a very conservative approach to modelling vehicle emissions as it is likely there would be improvements in real world emissions during the three years and nine years between the baseline year and the modelled future years.

Only in the sensitivity text was there an increase greater than 1% of the critical load. Nevertheless, this 1% exceedance has been further assessed in terms of the potential to effect habitats and species of the SAC (as well as the SPA and Ramsar site). The sensitivity test showed an increase in concentration of 7.8µg/m<sup>3</sup> at the receptor located at the main access roadside (close to Faendre Reen). The maximum predicted concentration is 24.2µg/m<sup>3</sup> at this receptor which is below the critical level of 30µg/m<sup>3</sup> for annual mean NO<sub>x</sub>. As the increase in concentrations is greater than 1% of the critical level, the nitrogen deposition and comparison with the lower critical load (10 kg/ha/yr has been used in relation to the Gwent Levels SSSI) has been carried out<sup>46</sup>. The operational phase traffic results in an exceedance of the 1% screening threshold up to 50m from the main access road. However, the area of the reen habitat for which the qualifying fish species of the SAC may rely, which are affected by impacts greater than 1% of the critical load is considered negligible when considering the vast network of reens and wet field ditches within the Gwent levels which are connected to the Severn Estuary SAC.

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<sup>45</sup> IAQM (2019) A guide to the assessment of air quality impacts on designated nature conservation sites – version 1.0

<sup>46</sup> The critical load for estuary habitats is 20 – 30 kg/ha/yr as provided by APIS website.

Furthermore, in most lowland rivers and smaller waterbodies, nitrogen inputs from catchment land-use particularly agriculture, not deposition from the atmosphere, are likely to be much more significant (Strong et al. 1997<sup>47</sup>, Smith & Stewart 1989<sup>48</sup>, Foy et al. 1982<sup>49</sup>). The proposed development will remove agricultural practises from the area north of the railway, and the conservation sensitive enhancement and management of the land south of the railway will restrict the use of fertilisers and reduce the grazing pressure on the fields and reen and field ditch network.

Fertiliser is currently applied seasonally on the arable land within the proposed development site. Nitrogen is applied at a density of 200-300 units per acre of land<sup>50</sup>. This is equivalent to 369kg per hectare. The sensitivity test showing the increase over the critical load (10 kg/ha/yr) was shown to be at 1.8 kg N/ha/yr. Assuming that nitrogen fertiliser is currently applied at a frequency of at least once per year, it is considered likely that the change in land use from farming to use for the proposed development and associated mitigations will significantly reduce the overall application of nitrogen to the land; by up to 367.2 kg N/ha/yr north of the railway (based on the sensitivity operation scenario) and up to 369kg N/ha/yr south of the railway.

As such, the air pollution change and associate nitrogen deposition on waterbodies connected to the SAC is considered to have no adverse effects on the integrity of the SAC, and the overall nitrification of the reen and field ditches connected to the SAC is likely to be reduced.

### 7.1.3.3 Habitat Severance

Severance of habitats upon which Annex II fish species rely may occur in a number of locations where potential barriers will be introduced, namely:

- Introduction and construction of culverts or bridges for the temporary construction traffic route crossings over Greenlane Reen, Ty-Ffynon Reen, Faendre Reen and field ditches;
- Construction of culverts or bridges for the proposed development access routes crossing over Faendre Reen, Green Lane Branch, Greenlane Reen, Ty-Ffynnon and Railway Reen; and
- Installation of a penstock or tilting weir penstock located along the existing reens, namely Railway and Greenlane Reens.

In the absence of avoidance and/or mitigation measures, the impacts of severance may result in an adverse effect on the integrity of the SAC.

<sup>47</sup> Strong, K.M.; Lennox, S.D.; Smith, R.V. (1997) Predicting nitrate concentrations in Northern Ireland rivers using time series analysis *Journal of Environmental Quality* 26 1599-1604

<sup>48</sup> Smith, R.V.; Stewart, D.A. (1989) A regression model for nitrate leaching in Northern Ireland. *Soil Use and Management* 5 71-76

<sup>49</sup> Foy, R.; Smith, R.V.; Stevens, R.J. (1982) Identification of factors affecting nitrogen and phosphorus loadings to Lough Neagh *Journal of Environmental Management* 15 109-129

<sup>50</sup> Data provided by land owner upon request

### 7.1.3.4 Disturbance/Displacement of Faunal Species

Direct disturbance to Annex II lamprey ammocoetes and European eel described above could arise from operational noise or lighting e.g. due to increased use of the proposed development area by vehicles and the general public, and due to operational lighting. Operational lighting is proposed within key public spaces and will require higher illumination for public safety and to promote activity.

This may result in the abandonment of territory, increased predation risk and use of critical energy reserves. In the absence of any avoidance and/or mitigation measures, this may lead to an adverse effect on the integrity of the SAC.

### 7.1.3.5 Mortality/Injury of Individuals

As described in Section 7.1.3.1, during operation pollutants could arise from fuel and chemical spills from roads and hard standing areas. There is a risk that the localised reduction in water quality could impact Annex II lamprey ammocoetes and European eel through direct mortality or injury (e.g. through ingestion), or displacement from the area around the site.

In the absence of any avoidance and/or mitigation measures, this may lead to an adverse effect on the integrity of the SAC.

## 7.1.4 Mitigation Measures for Construction Effects on the Severn Estuary SAC

### 7.1.4.1 Water Pollution/Sedimentation

The risk of leakage or spillage of fuel, chemicals and other potentially polluting substances would be mitigated through good site practice and management, implemented via the final CEMP for the proposed development which will be secured by planning condition. The outline CEMP (see Appendix A2 of the ES) is intended to satisfy the principles of the International Environmental Management Systems (EMS) Standard ISO 14001. The appointed Contractor(s) will ensure that the CEMP for the Proposed Development complies with the Contractor(s)'s own EMS. All measures detailed in the final CEMP will be adhered to by contractors working on site.

The final CEMP will be developed in accordance with relevant best construction practice guidance including:

- Guidance for Pollution Prevention (GPP) 1 – 29. In particular:
  - GPP 2 Above Ground oil storage tanks;
  - GPP 5 Works and maintenance in or near water;
  - GPP 6 Working at construction and demolitions sites;
  - GPP 21 Pollution incident response planning;
  - GPP 22 Dealing with Spills;
  - GPP 26 Safe storage – drums and intermediate bulk containers
- CIRIA Environmental handbook for building and civil engineering projects.



Relevant best practice methods within the outline CEMP include, but are not limited to the following (for further detailed see Appendix A2 of the ES):

### **General Water Resource Provisions**

- Site compounds will be located away from all surface water features and watercourses and outside of the flood plain;
- Wherever practicable, grey water systems will be used at site compounds to reduce run-off from site, improve water efficiency and reduce the potential for polluting discharges to surface watercourses;
- A site drainage plan will be prepared in advance of construction works, identifying the location of all watercourses and drains/drainage paths and showing mitigation measures to protect the receiving water environment from pollutants from the scheme's construction;
- All drainage on site will be identified and mapped, with colour coding used to distinguish between surface water, foul sewer and combined drainage. This will ensure that all those working on site are aware of the type of drain in the event of a pollution incident;
- Pollution control measures such as the use of oil interceptors, the placement of bunds or sediment traps will be used to prevent sediment run-off entering drains;
- Where possible, a 12.5 m and 7m buffer should be provided between ree and field ditches banks, respectively, from construction activities in order to preserve the structural integrity of ree/ditch banks and to reduce the likelihood of construction run-off into ree network; and
- All personnel will attend a site induction before commencing work on site. The briefing will emphasise the sensitivity of the watercourses, surrounding habitat and methods and working practices employed to protect the water environment.

### **Surface Water Management**

Surface water management systems will be installed early in the construction sequencing and carefully managed to prevent localized flooding or pollution of surface and groundwater from sediment and other contaminants.

Silt fencing, cut-off ditches and soil bunds will be constructed downslope of excavations, to retain and convey water to adequately sized treatment areas to prevent the ingress of sediment contaminated water.

Areas of exposed sediment deemed at risk of erosion during heavy rainfall or flood inundation should be protected using either temporary measures (e.g. sheeting) or semi-permanent measures (for example coir matting) until vegetation is able to establish on these surfaces.

Temporary surface water drainage measures should be planned and designed appropriately prior to installation and recorded on drawings. This should include details on:

- Soil/sediment settlement rate;
- Drainage system capacity;

- Details of systems installed to intercept and treat contaminated water run-off; and
- Details of steps to prevent bypassing of the drainage system.

Use of cut-off drains or ditches to convey water around the site and/or prevent sediment laden water entering excavations and watercourses.

Sediment laden water will be treated to allow suspended solids to settle out before disposal.

Settlement ponds should be constructed to promote the removal of sediment from site runoff. Ponds should be large enough to ensure sufficient residence time for particulates to settle out, prior to discharge of the water.

### **Vehicle and Plant Movements**

Haul routes will be regularly inspected and maintained to minimise sediment laden run-off.

All vehicles, plant and equipment will be regularly inspected and maintained in accordance with manufacturers' recommendations. Records of inspections will be maintained on site.

Areas of hard standing will be provided at site access and egress points, where practicable. The areas will be regularly inspected and cleaned.

Site wheel washing facilities will be established at access and egress points and located away from watercourses and the floodplain. Cleaning will be carried out in a bunded area and wastewater will either be recycled or discharged to foul sewer (with consent from the sewerage undertaker). If unable to be discharged, waste will be removed from site by a licensed waste carrier for disposal to an appropriately licensed facility.

Guidance from GPP13 will be used to put in place good practice for vehicle washing and cleaning.

### **Storage of Fuels, Oils and Other Chemicals**

Further details on the storage of fuels, oils and other chemicals are provided within the outline CEMP in in Appendix A2 of the ES for the proposed development, with a summary as follows:

- Spill kits to be available near all points of work and personnel trained in their use;
- COSHH (The Control of Substances Hazardous to Health Regulations 2002) store to be bunded and locked when not in use;
- In areas of limited footprint, settlement tanks and oil separators will be used to treat contaminated water from the work areas;
- Physical barriers to stop material overspill;
- No fuels, oils or other chemicals will be stored in high- risk locations such as:
  - Within 50 metres of a spring, well or borehole;
  - Within 10 metres of a watercourse;



- Places where spills could enter open drains or soak into groundwater;  
or
- On a floodplain;
- Storage tanks for oils, fuels or chemicals will be sited on an impermeable base, surrounded by an impermeable bund, and inspected regularly for leaks. Any valve, filter, sight gauge, vent pipe or other ancillary equipment must be kept within the bund when not in use. The drainage system of bunded areas shall be sealed with no outlet to any watercourse, pond or underground strata;
- Bunded areas will be located on stable and on level ground and located away from watercourses, ditches and drains;
- Associated pipework should be situated above ground and protected from accidental damage.
- All bulk fuels storage must be contained within a double skinned bowser/container or have a bund. Double skinned tanks or bowsers must also be bunded unless the outer skin would provide secondary containment. The bund must have sufficient volume to contain 110% of the contents of the largest fuel/pipe container or 25% of the total storage capacity of all the containers, whichever is the greater.
- All fuel containers, including those containing waste fuels, must be stored on a drip tray/bunded area away from vehicle traffic within a designated storage area, where possible, to avoid damage.
- Plant will be regularly inspected, serviced and maintained to minimise the risk of leaks/spills. At the end of each working day, driveable plant will be moved away from watercourses.

### **Incident Response Planning**

The Contractor(s) will develop a Pollution Incident Response Plan which identifies the procedures for the event of a pollution incident during construction. The procedures will be in accordance with the guidance set out in GPP 21 Incident Response Planning.

All environmental incidents and accidents will be recorded and reported to the Contractor(s)'s Site Foreman and the Project Manager. Following a review of the incident, the Contractor's Environmental Manager will instigate an appropriate change in procedure where necessary.

The appropriate equipment required to implement these procedures shall be made available by the Contractor(s) and stored within the Contractor(s)' compound.

#### **7.1.4.2 Dust Deposition**

Dust emitting activities can be greatly reduced or eliminated by implementing site-specific mitigation measures via the final CEMP (outline CEMP contained

within Appendix A2 of the ES). These measures will be in line with IAQM guidance<sup>51</sup>.

Relevant best practice methods within the outline CEMP include, but are not limited to the following (for further detailed see Appendix A2 of the ES):

### **Traffic and Transport**

A Construction Traffic Management Plan (CTMP) will be prepared and it is anticipated to include details of the following:

- Speed limits shall be put into place on site for all vehicular movements;
- Where appropriate, all vehicles carrying loose material shall be covered;
- A wheel wash facility shall be used for vehicles egressing the site;
- Where necessary, use of road sweepers shall be incorporated to ensure highways remain clear of dust and mud;
- Road edges and pathways shall be swept by hand and damped down as necessary; and
- Stockpiles to be damped down enclosed or covered as appropriate, be sealed or sprayed with chemical bonding agents as required and located away from any sensitive receptors<sup>52</sup> wherever possible.

### **Vehicle and Plant Movements**

In addition to the measures outlined under Section 7.1.4.1, during the earthworks mass haul operation, damping down of the haul roads to minimise dust being generated by plant movements would also be required, thus minimising dust pollution.

#### **7.1.4.3 Habitat Loss/Severance**

The loss of 3.96km of potential Annex II lamprey ammocoete habitat (comprising recorded intermittent and ephemeral wet field ditches), also used by European eel will be mitigated by the creation of 4.04km of new wet field ditches of the same or improved quality compared to those lost. Due to the phasing of the proposed development, replacement field ditches will be created before the dewatering and loss of existing field ditches occurs. New field ditches will have a 1m wide base with 1 in 1 slopes and a 0.3 - 1m wide shelf just above water level on the south-facing side (or both sides space permitting) to ensure no reduction in the extent of the freshwater ecosystem. Depths will vary and will be dictated by the bed level of the existing reed network and summer penning levels in the wider catchment

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<sup>51</sup> Holman et al (2014). IAQM Guidance on the assessment of dust from demolition and construction, Institute of Air Quality Management, London. [http://iaqm.co.uk/wp-content/uploads/guidance/iaqm\\_guidance\\_report\\_draft1.4.pdf](http://iaqm.co.uk/wp-content/uploads/guidance/iaqm_guidance_report_draft1.4.pdf)

<sup>52</sup> Sensitive receptors in the case for this HRA include all waterbodies which have the potential to support fish species and/or otter. Sensitive receptors in relation to the planning application and the site in general also include woodlands, hedgerows and scrub due to the presence of dormice, trees identified to have barn owl potential, and potential reptile hibernacula (including log and/or rubble piles).

but will aim to have a depth of either 1m below summer penning level or 0.3m winter penning level (whichever is greatest).

Interconnectivity will be maintained as existing to ensure that the management of water levels is unaffected, as will connectivity with the Severn Estuary to maintain fish passage for sea-going migrants. The depths of the new field ditches will vary and be dictated by the bed level of the existing reen network. Within these created waterbodies will be a 4m wide connecting reen, south of the railway, which will convey flows from Greenlane Reen into the Flood Compensation Area (FCA).

The replacement field ditches will be located within the mitigation areas south of the railway line and will be created at an average distance of 30m apart, as well as either side of the Wildlife Corridor in the north. The field ditches banks will be undisturbed with a 1 to 2m edge of marginal vegetation, and a 7m vegetated buffers will be maintained between ditch banks and built development and will be managed for marginal vegetation and species-rich grasslands.

The field ditches themselves will not be shaded by hedgerows or woodland planting, and as such would provide enhanced opportunities for growth of aquatic macrophytes compared to some of the field ditches which they would replace. This is considered beneficial for all fish species as it provides refuge/cover.

Where practicable and subject to NRW approval, vegetative and dredged material from existing field ditches to be lost, would be used to encourage colonisation of new reens and ditches by aquatic macrophytes. Only those field ditches of suitable quality and where aquatic macrophytes and any aquatic invertebrates of interest (particularly any associated with the Gwent Levels – Rumney and Peterstone SSSI designation) were recorded will be used for this translocation of dredged material. The benefits of translocating material to encourage colonisation in the newly created field ditches will need to be balanced with the biosecurity risk associated with spreading INNS (Schedule 9 of WCA and The Invasive Alien Species (Enforcement and Permitting) Order 2019) and determined in consultation with NRW.

The storm water drainage strategy and flood mitigation proposals have been designed to ensure no dewatering of existing reens or field ditches and interconnectivity between reen network is maintained. No interconnectivity has been proposed between two reens to ensure that there is no impact on the water management of the reen network.

#### **7.1.4.4 Spread of INNS**

To ensure that INNS are managed appropriately and to control the spread of such species where present during the construction phase, a full Invasive Species Management Plan should be produced by the Contractor(s) (in consultation with specialist contractors), as specified within the outline CEMP. The Invasive Species Management Plan should set out the requirements and management of invasive species to prevent the spread of species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and The Invasive Alien Species (Enforcement and Permitting) Order 2019, with exact methods of removal and

disposal. General measures that may potentially be used for the invasive species identified within the proposed development site boundary are laid out below.

The invasive species identified on site comprise waterweed (likely *Elodea spp.* or *Lagarosiphon spp.*), Japanese knotweed (*Reynoutria japonica*) and Japanese knotweed hybrid (*Reynoutria japonica x sachalinensis*).

In addition to the control measures set out below, a pre-construction survey should be undertaken of all areas within the construction footprint to identify the location of any invasive species not already identified.

General control measures that may be included within the full Invasive Species Management Plan are as follows:

- Details of invasive species shall be included within the project induction and toolbox talks given to operatives working in areas where the species are or have been known to grow. Any early regrowth shall be reported and dealt with as per methodology detailed below and within the full Invasive Species Management Plan. If the cells have been completed when new growth is discovered this shall be excavated and taken for offsite disposal at licenced facilities.
- There shall be a vehicle cleaning area adjacent to the burial zone and all vehicles used shall be cleaned prior to leaving this area. This area shall not be greater than 7m from the burial zone, material left in the clean down zone shall be collected and deposited into the burial cell.
- The excavation and transfer of invasive species contaminated material and haulage to the holding area shall be supervised.
- Areas where invasive contaminated material is buried shall be accurately recorded and details of this included within the Handover Environmental Management Plan (HEMP).
- Excavation is to begin from the furthest point of the works and move backwards to avoid traffic on excavated, potentially contaminated ground.
- Vehicles collecting and removing material should be positioned over part of the geotextile prior to loading. Any material that may be dropped by the hopper will be caught by the geotextile.
- Once the works have been completed, the excavator is to be thoroughly cleaned and all arisings placed into the final load of contaminated material.
- In the event of material requiring storage prior to burial this shall be stored in a designated location on an impermeable membrane to prevent spread of the plants. This area will also have a clean down zone.
- If any material is to be removed for offsite disposal this will only be performed once a disposal location has been identified and this location has confirmed that will accept the waste. This will require ground investigation data and may need up to 10 days to obtain this information.

#### 7.1.4.5 Physical Disturbance/Damage of Habitats

The Pollution Incident Response Plan will be developed by the Contractor(s) to ensure no damage to watercourses through pollution incidents such as accidental

fuel and chemical spills, as described in the outline CEMP, Appendix A2 of the ES under Section 7.1.4.1.

Habitat damage through sediment run-off will be prevented through measures outlined under Section 7.1.4.1, whilst damage due to airborne dust will be prevented through measures outlined under Section 7.1.4.2 of the outline CEMP, Appendix A2 of the ES, and damage due to the spread of INNS will be prevented through measures outlined under Section 7.1.4.4 of the outline CEMP, Appendix A2 of the ES.

The outline CEMP states that where possible, a 7m buffer should be provided between field ditches banks (12.5m for reens) and construction activities or equipment in order to preserve the structural integrity of ree and field ditch banks and to reduce the likelihood of construction run-off into ree network.

Any instream works or works close to watercourses will follow GPP5. Any temporary works to divert watercourses during construction, either by gravity flumes or over pumping will include suitable provisions to pass high flows. The use of construction materials on site will be free from contaminated material to avoid potential contamination of the watercourse.

These measures will reduce the magnitude of any hydromorphological impacts during construction to retained habitats that are of importance to Annex II fish species. Despite these mitigation measures, construction activities are still expected to cause a measurable change in the quality of the habitats, but not significant enough so as to affect the integrity of the SAC.

#### **7.1.4.6 Disturbance/Displacement of Faunal Species**

Impacts of construction noise, vibration or lighting can be avoided/reduced by implementing site-specific mitigation measures via the final CEMP. Relevant best practice methods within the outline CEMP include, but are not limited to the following (for further detailed see the outline CEMP in Appendix A2 of the ES):

##### **Noise and Vibration Control**

Temporal restrictions to working and exclusion zones, such as avoiding works in certain areas at certain times.

##### Noise

The Contractor will, in so far as is reasonably practicable, seek to control and limit noise and vibration levels so that sensitive receptors<sup>52</sup> are protected from excessive noise and vibration levels arising from construction activities. Best practicable means shall be employed at all times and at all sites.

Generic measures to implement Best Practicable Means will be consistent with the recommendations of BS 5228<sup>53</sup> and will, where reasonably practicable, include the following as appropriate:

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<sup>53</sup> BSI (2008) British Standards – Code of practice for noise and vibration control on construction and open sites

- Careful selection of plant, construction methods and programming. Only plant conforming to SI 2001/1701 (UK implementation of EC directive 2000/14/EC on noise emission) will be used if placed on the market or put into service since January 2002. Plant placed on the market or put into service prior to that date shall conform to SI 1985/1968 (as amended) or to SI 1988/361 (as amended) as appropriate to the type of plant.
- Equipment to be sited as far from sensitive receptors<sup>52</sup> or as close to any acoustic screen located between the activity and the receptor as reasonably practicable.

Specific measures to be employed may include, where reasonably practicable:

- Provision of lined and sealed acoustic covers for equipment which will be in place while equipment is running;
- Regular maintenance of all equipment;
- Operation of equipment in the mode of operation that minimises noise;
- Shutting down equipment when not in use;
- Construction of temporary infrastructure to minimise noise and vibration e.g. solid site hoarding;
- Selection of piling methods which minimise noise and vibration;
- Breaking out concrete by means other than percussion;
- Noise reduction measures for temporary ventilation equipment;
- Handling all materials in a manner which minimises noise;
- The use, by preference, of non-audible warning systems and where audible warnings are necessary for reversing, vehicles operations will be planned to minimise reversing;
- Fitting of silencers to all plant, machinery and vehicles;
- Design and use of site hoarding and screens, where practicable and necessary, to provide acoustic screening at the earliest opportunity. Where practicable, doors and gates will not be located opposite occupied noise-sensitive buildings;
- Erection of operational noise barriers as early as practicable in the construction process to provide additional protection against construction noise; and
- Choice of routes and programming for the transport of construction materials, spoil and personnel.

Site specific Best Practicable Means measures will be identified by the Contractor on a site-by-site and activity-by-activity basis and agreed with the local authority through s.61 consents<sup>54</sup>. Additional mitigation will be provided, where reasonably practicable, for activities that are of longer duration, are close to noise sensitive receptors<sup>52</sup> and have to be undertaken at more sensitive times such as night-time.

### Vibration

The Contractor shall use Best Practicable Means to minimise the effects of vibration on sensitive receptors<sup>52</sup>. In establishing criteria, controls and working

<sup>54</sup> Section 61 of the Control of Pollution Act 1974

methods, the Contractor will take account of guidance in BS 6472<sup>55</sup>, BS 5228<sup>56</sup> and BS 7385<sup>57</sup>.

Where activities that are likely to give rise to high levels of vibration then the need to undertake vibration predictions shall be undertaken. The predictions shall be used to guide the selection of steps to minimise vibration and other activities where it is not practicable to minimise vibration at source.

Action to assess and where necessary minimise any adverse effects on vibration sensitive equipment will be dealt with on an individual basis as appropriate.

## Lighting

A construction stage lighting strategy will be produced to limit the use of construction lighting and ensure all essential lighting is specified and designed to reduce light spill. This is to include locations of lighting and lighting level details. The following measures will be required within the construction stage lighting strategy:

- No known habitats used by Annex II lamprey ammocoetes, European eels and/or otter should be directly illuminated – lighting should be positioned and directed to ensure no light spill over 0.5 Lux onto any retained or created habitats;
- Migration periods for European eel should be considered and lighting reduced where possible around all reens and field ditches;
- Lighting levels should be as low as current standards and guidelines allow;
- Lighting should only be provided in essential areas;
- Lighting should be directed to where it is needed, and light spill avoided;
- The height of lighting columns in general should be as low as possible. However, there are cases where taller columns will enable light to be directed downwards at a more acute angle and therefore reduce horizontal spill light.

### 7.1.4.7 Mortality/Injury of Individuals

Where instream works or dewatering are required, they will be carried out under the supervision of an Ecological Clerk of Works (ECoW) with a background in freshwater ecology and fisheries. The ECoW role will involve overseeing the dewatering process and fish translocation to move fish from impacted field ditches to suitable habitat elsewhere; this would involve managing the drawdown

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<sup>55</sup> This British Standard, BS 6472 explains the application of weighting curves, blast-induced vibration and the current methods of assessing continuous, intermittent and impulsive vibration; it also offers guidance on vibration conditions.

<sup>56</sup> This British Standard, BS 5228 refers to the need for the protection against noise and vibration of persons living and working in the vicinity of and those working on construction and open sites.

<sup>57</sup> This British Standard, a part of the BS 7385 series, gives guidance on the assessment of the possibility of vibration-induced damage in buildings due to a variety of sources, and identifies the factors which influence the vibration response of buildings.



rate based on the abundance of fish through liaison with the fish translocation team.

As water levels decrease, dewatering will be slowed to allow any fish or amphibians (including Annex II species) to be removed to suitable receptor locations. Fish (and amphibians) would likely be translocated to reens (Green Lane Branch, Faendre Reen, Greenlane Reen and Railway Reen, located to the north, west, east, and south of the proposed development, respectively) but this would be agreed in advance with the local NRW fisheries/biodiversity officer.

The fish translocation (including European eel and lamprey species ammocoetes) would take place prior to dewatering in order to move fish from impacted field ditches to suitable habitat elsewhere. Netting and/or electric fishing techniques would be used, under a Salmon and Freshwater Fisheries Act (SaFFA) Section 27 exception to “use fishing instruments (other than rod and line) and/or remove fish from inland waters”, obtained from NRW. Fish translocation and dewatering methods would be secured through the CEMP.

## **7.1.5 Mitigation Measures for Operational Effects on the Severn Estuary SAC**

### **7.1.5.1 Pollution Events**

Sustainable Drainage Systems (SuDS) would be implemented across the site to manage rainfall using methods that mimic natural process, by using landscape and vegetation to control the flow, volume and quality of the surface water runoff. The storm water drainage strategy and flood mitigation proposals have been designed to ensure that surface run-off and any pollution events would not enter the reen network. These measures will be secured through planning conditions and further details are provided within Hydrology and flooding ES Chapter (Chapter 5).

### **7.1.5.2 Habitat Severance**

The detailed design of all culverts and bridges would follow the CIRIA C786: culvert, screen and outfall manual<sup>58</sup>, such that the structures do not pose an obstruction to fish migration through excessive flow velocity or raised bed height. This will facilitate the free passage of fish both within the reen network and to and from the Severn Estuary SAC.

The two penstock or tilting weir penstocks that are proposed along Railway Reen and Greenlane Reen are designed to operate as a 1 in 200-year flood defence and would only likely be shut for a period of 3-5 days at a time, to protect against a severe coastal flood event. The structures are therefore considered to be temporary barriers to fish migration when operated as designed, with a negligible effect on fish passage. Nevertheless, the structures will comply with the Eels (England and Wales) Regulations 2009, with eel passes installed as required and secured through planning conditions.

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<sup>58</sup> Culvert, screen and outfall manual (C786). Benn J, Kitchen A, Kirby A, Fosbeary C, Faulkner D, Latham D, Hemsworth M (2019). CIRIA London. Report C786.



### 7.1.5.3 Disturbance/Displacement of Faunal Species

Reens will have vegetated buffers of 12.5m and field ditches a 7m buffer to reduce disturbance effects to species using the ree network. The principles for a lighting strategy for the proposed development have been considered with the relevant requirements for avoiding or reducing disturbance effects to protected species. For example, limited illumination is proposed in some public areas that intersect ecologically sensitive habitats, and where illumination is proposed it will be controlled to limit back spill, upward light, and glare onto surrounding vegetation. Light spill to sensitive ecological habitats, including reens and field ditches, will be avoided or reduced, where possible, to no more than 0.5Lux. No lighting is proposed in the areas south of the railway line.

A detailed lighting strategy will be developed in collaboration with ecologists during detailed design and secured through the Reserved Matters Application (RMA) and planning conditions.

### 7.1.5.4 Mortality/Injury of Individuals

As described in Section 7.1.5.1 SuDS would be implemented across the site to ensure that surface run-off and any pollution events would not enter the ree network.

## 7.1.6 Residual Effects on the Severn Estuary SAC

With the inclusion of the mitigation measures outline above, it is concluded that the proposed development is unlikely to give rise to an adverse effect on the integrity of the Severn Estuary SAC.

## 7.2 Severn Estuary SPA

During the wintering birds surveys in both 2017/18 and 2020/21, no species listed as primary qualifying features of the Severn Estuary SPA or Ramsar site were recorded.

Six shelduck were record in April 2017 during the breeding birds survey, on and close to Ty Fynnon Reen, Shelduck are listed as primary qualifying features of SPA and Ramsar site as internationally important populations of regularly occurring migratory / over-wintering birds.

The SPA and Ramsar site shelduck population based on the cited five-year peak mean 1988/9 – 1992/3 is 2,892 individuals and based on 2003/4 – 2007/8 is 4,431 individuals. A max count of six birds recorded in 2017 within the site represents 0.2% and 0.1% of the Severn Estuary population, respectively for these mean counts.

During wintering bird surveys in 2017/18, a total of 21 species were recorded, and during the diurnal surveys in 2020/21, a total of 14 waterbird species were recorded; of which only one (mallard) was recorded during each survey and with a peak count of 63 birds recorded in November 2017. Ten target (waterbird) species were logged during nocturnal surveys in 2020/21 with the majority of records on

Hendre Lake and Faendre reen. Mallard was the only species listed (under consideration as an assemblage SPA species, SPA Review 2021)<sup>34</sup>) on the SPA or Ramsar site citation, with a peak count of 12 birds in January.

The SPA mallard population based on the five-year peak mean 1988/9 – 1992/3 is 3,800 individuals and based on 2003/4 – 2007/8 is 2,713 individuals. A max count of 63 birds recorded in 2017/18 within the site represents 1.7% and 2.3% of the Severn Estuary population, respectively for these mean counts.

The peak count of mallard in 2020/21 was during a diurnal high tide count in October of 31 birds; which represents 0.8% and 1.1% based on the five-year peak mean 1988/9 – 1992/3 of 3,800 individuals and the 2003/4 – 2007/8 of 2,713 individuals, respectively.

Teal which is listed as an assemblage species on the Ramsar site and the SPA was recorded predominantly with Faendre reen and Hendre Lake both in 2017/18 and 202/21, with a peak count being recorded of 20 birds in December 2017 and 15 birds (on a low tide count) in December 2020.

The Ramsar site cited five-year period 1998/9 - 2002/3 peak mean for teal is 4456 individuals, representing an average of 0.4% of the population of the population (20 birds) being within the site in 2017/18 and 0.3% of the population (15 birds) being within the site in 2020/21.

The SPA cited the five-year period 2003/4 – 2007/8 peak mean for teal is 4251 individuals, representing an average of 0.4% of the population being within the site in 2017/18 and in 2020/21 (when rounding to one decimal place)

Tufted duck were recorded only in March 2021 with a peak count of two birds on the high tide. Both species were recorded with Faendre reen and Hendre Lake.

Tufted duck was the only species recorded within the site (only in 2020/21) which is listed as an assemblage species in the SPA and Ramsar site designation. Tufted duck was only observed in March 2021, with a peak count of two birds during the high tide count.

The SPA cited populations based on the five-year 1988/9 – 1992/3 peak mean for tufted duck is 913 individuals and for 2003/4 – 2007/8 is 554 individuals. A max count of two birds within the site represents 0.2% and 0.4% of the Severn Estuary cited populations, respectively.

Two pairs of lawing were recorded showing display behaviour within the site during the 2021 breeding bird surveys during the first visit in April 2021 but were not subsequently observed during the remaining of the surveys. Nevertheless, based on a peak count of four birds being present, this represents 0.1% and 0.03% of the SPA population based on the cited population of 3,976 birds from the 5 year peak mean 1988/9 - 1992/3, and 12,919 birds from 2003/4 – 2007/8, respectively.

A peak count of 95 assemblage feature birds (as detailed above) was recorded between the 2017/18 and 2020/21 surveys, represents 0.1% of the SPA population (84,317 individuals, taken from the SPA Review 2021<sup>34</sup>).

Other waterbird species recorded during the surveys of note, but not listed on the Severn Estuary SPA or Ramsar site designations, was a single sighting of a green sandpiper (*Tringa ochropus*) recorded in November 2017 within the fields of the development (north of the railway) and two flocks of golden plover (*Pluvialis apricaria*) observed as flying over the site, not within the fields in December 2017.

Snipe (being a qualifying features of the Severn Estuary SSSI) were recorded within the site both survey years, predominantly on the island in Hendre Lake, with a peak count of 55 birds in January 2018 and a nocturnal roost of 17 birds in January 2021.

During construction, the features of this SPA are potentially vulnerable to habitat damage and mortality/injury due to water quality changes from pollutants/sedimentation, dust deposition, or the spread of INNS via construction machinery or construction workers' footwear, or physical disturbance/damage of habitats by construction vehicles. There is also the potential for loss/severance of habitats used by faunal species and the disturbance/displacement of individuals.

During operation, the SPA features are potentially vulnerable to habitat damage and mortality/injury due to water quality changes from pollution events and air quality changes from vehicle emissions.

## 7.2.1 Conservation Objectives

The conservation objectives for the Severn Estuary SPA are to maintain the features of interest and their supporting habitats in favourable condition. The interest features will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met for each interest feature:

### **SPA Interest Feature 1 – Internationally Important Population of Regularly Occurring Annex 1 Species: Bewick's Swan**

- The 5-year peak mean population size for the Bewick's swan population is no less than 289 individuals (i.e. the 5-year peak mean between 1988/9 - 1992/3);
- The extent of saltmarsh at the Dumbles is maintained;
- The extent of intertidal mudflats and sandflats at Frampton Sands, Waveridge Sands and the Noose is maintained;
- The extent of vegetation with an effective field size of >6 ha and with unrestricted bird sightlines > 500m at feeding, roosting and refuge sites are maintained;
- Greater than 25% cover of suitable soft leaved herbs and grasses in winter season throughout the transitional saltmarsh at the Dumbles is maintained; and
- Aggregations of Bewick's swan at feeding, roosting and refuge sites are not subject to significant disturbance.

**SPA Interest Feature 2 – Internationally Important Population of Regularly Occurring Migratory Species: Wintering European White-fronted Goose**

- The 5-year peak mean population size for the wintering European white fronted goose population is no less than 3,002 individuals (i.e. the 5-year peak mean between 1988/9-1992/3);
- The extent of saltmarsh at the Dumbles is maintained;
- The extent of intertidal mudflats and sandflats at Frampton Sands, Waveridge Sands and the Noose is maintained;
- Greater than 25% cover of suitable soft-leaved herbs and grasses is maintained during the winter on saltmarsh areas;
- Unrestricted bird sightlines of >200m at feeding and roosting sites are maintained; and
- Aggregations of European white-fronted goose at feeding or roosting sites are not subject to significant disturbance.

**SPA Interest Feature 3 – Internationally Important Population of Regularly Occurring Migratory Species: Wintering Dunlin**

- The 5-year peak mean population size for the wintering dunlin population is no less than 41,683 individuals (i.e. the 5-year peak mean between 1988/9 - 1992/3);
- The extent of saltmarsh and associated strandlines is maintained;
- The extent of intertidal mudflats and sandflats is maintained;
- The extent of hard substrate habitats is maintained;
- The extent of vegetation with a sward height of <10cm is maintained throughout the saltmarsh;
- The abundance and macro-distribution of suitable invertebrates in intertidal mudflats and sandflats is maintained;
- The abundance and macro-distribution of suitable invertebrates in hard substrate habitats is maintained;
- Unrestricted bird sightlines of >200m at feeding and roosting sites are maintained; and
- Aggregations of dunlin at feeding or roosting sites are not subject to significant disturbance.

**SPA Interest Feature 4 – Internationally Important Population of Regularly Occurring Migratory Species: Wintering Redshank**

- The 5-year peak mean population size for the wintering redshank population is no less than 2,013 individuals (i.e. the 5-year peak mean between 1988/9 - 1992/3);
- The extent of saltmarsh and associated strandlines is maintained;
- The extent of intertidal mudflats and sandflats is maintained;
- The extent of hard substrate habitats is maintained;
- The extent of vegetation with a sward height of <10cm throughout the saltmarsh is maintained;
- The abundance and macro-distribution of suitable invertebrates in intertidal mudflats and sandflats is maintained;

- The abundance and macro-distribution of suitable invertebrates in hard substrate habitats is maintained;
- Unrestricted bird sightlines of >200m at feeding and roosting sites are maintained; and
- Aggregations of redshank at feeding or roosting sites are not subject to significant disturbance.

#### **SPA Interest Feature 5 – Internationally Important Population of Regularly Occurring Migratory Species: Wintering Shelduck**

- The 5-year peak mean population size for the wintering shelduck population is no less than 2,892 individuals (i.e. the 5-year peak mean between 1988/9 - 1992/3);
- The extent of saltmarsh is maintained;
- The extent of intertidal mudflats and sandflats is maintained;
- The extent of hard substrate habitats is maintained;
- The abundance and macro-distribution of suitable invertebrates in intertidal mudflats and sandflats is maintained;
- Unrestricted bird sightlines of >200m at feeding and roosting sites are maintained; and
- Aggregations of shelduck at feeding or roosting sites are not subject to significant disturbance.

#### **SPA Interest Feature 6 – Internationally Important Population of Regularly Occurring Migratory Species: Wintering Gadwall**

- The 5-year peak mean population size for the wintering gadwall population is no less than 330 (i.e. the 5-year peak mean between 1988/9 - 1992/3);
- The extent of intertidal mudflats and sandflats is maintained;
- Unrestricted bird sightlines of >200m at feeding and roosting sites are maintained; and
- Aggregations of gadwall at feeding or roosting sites are not subject to significant disturbance.

#### **SPA Interest Feature 7 – Internationally Important Assemblage of Waterfowl**

- The 5-year peak mean population size for the waterfowl assemblage is no less than 70,919 individuals (i.e. the 5-year peak mean between 1988/9 - 1992/3);
- The extent of saltmarsh and their associated strandlines is maintained;
- The extent of intertidal mudflats and sandflats is maintained;
- The extent of hard substrate habitats is maintained;
- Extent of vegetation of <10cm throughout the saltmarsh is maintained;
- The abundance and macroscale distribution of suitable invertebrates in intertidal mudflats and sandflats is maintained;
- The abundance and macroscale distribution of suitable invertebrates in hard substrate habitats is maintained;

- Greater than 25% cover of suitable soft leaved herbs and grasses during the winter on saltmarsh areas is maintained;
- Unrestricted bird sightlines of >500m at feeding and roosting sites are maintained; and
- Waterfowl aggregations at feeding or roosting sites are not subject to significant disturbance.

## 7.2.2 Potential Construction Effects on the Severn Estuary SPA

### 7.2.2.1 Water Pollution/Sedimentation

As described above in Section 7.1.2.1, in the absence of any avoidance and/or mitigation measures, there is the potential for construction activities to result in pollution events which could negatively impact the habitats upon which the qualifying bird species for Severn Estuary SPA rely.

It is considered that in the absence of avoidance and/or mitigation measures, any pollution event on site has the potential to give rise to localised effects which could be significant, leading to an adverse effect on the integrity of the SPA.

### 7.2.2.2 Dust Deposition

As described above in Section 7.1.2.2, in the absence of any avoidance and/or mitigation measures, there is the potential for construction activities to lead to dust generation causing localised changes in air quality. This in turn has the potential to negatively impact the habitats within and adjacent to the proposed development boundary upon which the qualifying bird species for Severn Estuary SPA rely.

It is considered that in the absence of avoidance and/or mitigation measures, any dust generation, or pollution event on site has the potential to give rise to localised effects which could be significant, leading to an adverse effect on the integrity of the SPA.

### 7.2.2.3 Habitat Loss/Severance

As a result of the wintering birds survey undertaken in 2017/2018 and 2020/21 (ES Appendix E18 and E25), the most important habitats within and adjacent to the proposed boundary were considered to be Hendre Lake and Faendre Reen. Wintering birds were however found across the site in a number of other habitats, i.e. arable fields and marshy grassland.

During the course of the wintering birds surveys, no species listed as primary qualifying features of the Severn Estuary SPA were recorded. However, teal, tufted duck and mallard which are assemblage features of the SPA (mallard being recommended for inclusion in the SPA Review 2001<sup>34</sup>) were recorded, and shelduck was recorded during the breeding bird survey in 2017.

Taking the mean highest percentages of the number of birds recorded on site of the SPA cited populations five-year mean counts, this amounts to: 0.2% of shelduck (6 birds in April 2017); 0.4% of teal (20 birds in December 2017); 0.4% of tufted duck (2 birds in March 2021); 0.1% of lapwing (4 bird in April 2021) and, 2.3% of mallard (63 birds in November 2017).

A peak count of 95 assemblage feature birds in total was recorded between the 2017/18 and 2020/21 surveys, represents 0.1% of the SPA population (84,317 individuals, taken from the SPA Review 2021<sup>34</sup>). The majority of these in both years of survey were recorded around Hendre Lake and Faendre Reen, which are being largely unaffected by the proposed development, with just two road crossings over Faendre Reen approximately 650m and 1km upstream from Hendre Lake.

The numbers of shelduck, teal, lapwing and tufted duck recorded are less than 1% of the cited SPA population for these species. Mallard were recorded to be present in numbers over the 1% threshold of the SPA cited population but a large proportion of the population of mallard on Hendre Lake are considered to be permanent residents or regularly occurring birds and thus likely to be habituated to some level of human disturbance.

As Hendre Lakes and Faendre Reen are both being retained, predominantly where feature species of the SPA were recorded, and that no particularly large or significant aggregations of birds were recorded (particularly in areas where habitat loss is occurring), alongside the consideration that there is an abundance of similar habitats available for foraging and roosting to the south, east and west of the proposed development, it is considered that habitat loss or severance will not lead to an adverse effect on the integrity of the SPA.

#### 7.2.2.4 Spread of INNS

As described above in Section 7.1.2.4, there is the potential for INNS to be spread from within the proposed development boundary elsewhere via construction worker's machinery and/or footwear, or through hydrological connections.

If these INNS are allowed to spread and proliferate as a result of construction, it is considered that this could give rise to a significant negative effect on the habitats for which the qualifying bird species of the Severn Estuary SPA rely, leading to an adverse effect on the integrity of the SPA.

#### 7.2.2.5 Physical Disturbance/Damage of Habitats

As described above, during the course of the wintering birds surveys, no species listed as primary qualifying features of the Severn Estuary SPA were recorded. However, a number of assemblage species were recorded, being shelduck, teal, tufted duck, lapwing and mallard, but only mallard were seen in any number (over 1% of the SPA cited population). However, the majority of mallards recorded within Hendre Lake and Faendre Reen are considered to be permanent residents or regularly occurring birds and thus likely to be habituated to some level of human disturbance.

The majority of the assemblage species recorded were around Hendre Lake and Faendre Reen, although other wintering waterbirds were recorded across the site in a number of other habitats, i.e. arable fields and marshy grassland. Hendre Lake is outside of the proposed development boundary, and though Faendre Reen is being retained, a number of construction activities may lead to its physical disturbance/damage, as described under Section 7.1.2.5.

As no particularly large or significant aggregations of SPA assemblage birds were recorded, along with the abundance of similar habitats available to the south, east and west of the proposed development, it is considered unlikely that physical disturbance/damage of habitats would lead to an adverse effect on the integrity of the SPA.

However, due to the potential for damage to retained habitats upon SPA bird species rely, mitigation measures are nevertheless proposed.

#### **7.2.2.6 Disturbance/Displacement of Faunal Species**

Direct disturbance to SPA bird species could arise from construction noise, vibration or lighting e.g. during movement of machinery around the site and during any piling/percussive works.

As described above, during the course of the wintering birds surveys, no species listed as primary qualifying features of the Severn Estuary SPA were recorded. However, a number of assemblage species were recorded, being shelduck, teal, tufted duck, lapwing and mallard, but only mallard were seen in any number (over 1% of the SPA cited population). The majority of these were recorded around Hendre Lake and Faendre Reen, which are both being retained and are already subject to significant disturbance from local residents, including dog-walkers, due to public footpaths.

As no particularly large or significant aggregations of SPA assemblage birds were recorded and considering the partial habituation to disturbance in the area from the general public, housing, roads and rail, and the existing St Mellons business park, along with the abundance of similar habitats available for foraging and roosting to the south, east and west of the proposed development, it is considered that direct disturbance to SPA bird species will not lead to an adverse effect on the integrity of the SPA.

#### **7.2.2.7 Mortality/Injury of Individuals**

As described above in Section 7.1.2.1, there is the potential for construction activities to result in pollution events. The localised reduction in water quality within the reen and field ditch network could impact SPA bird species described above through direct mortality or injury (e.g. through ingestion or by affecting plumage), or displacement from the area around the site.

Any pollution event could therefore give rise to an adverse effect on the integrity of the SPA through mortality and/or injury to the SPA bird species.



## 7.2.3 Potential Operational Effects on the Severn Estuary SPA

### 7.2.3.1 Pollution Events

As described above in Section 7.1.3.1, there is the potential for pollution events during operation (e.g. from fuel and chemical spills from roads and hard standing areas), which could negatively impact the habitats within and adjacent to the proposed development boundary, upon which the qualifying bird species for Severn Estuary SPA rely.

It is considered that in the absence of avoidance and/or mitigation measures, any pollution event on site has the potential to give rise to localised effects which could be significant, leading to an adverse effect on the integrity of the SPA.

### 7.2.3.2 Air Quality Changes

As described above in Section 7.1.3.2, there is the potential for changes in air quality during operation due to increased vehicular use of the site, which could negatively impact the habitats within and adjacent to the proposed development boundary, upon which the qualifying bird species for the Severn Estuary SPA rely.

As previously described, the operational phase traffic results in an exceedance of the 1% screening threshold up to 50m from the main access road in the sensitivity test. However, the area of habitat for which the qualifying bird species for Severn Estuary SPA could potentially utilise affected by impacts greater than 1% of the critical load is 0.5% of the total area of the Gwent Levels – Rumney and Peterstone SSSI area, and significantly smaller when considering all the habitat surrounding the Severn Estuary SPA which could be potential used by SPA birds. Furthermore, the removal and reduction of agricultural practices and nitrification due to the proposed development is likely to be significantly beneficial (see details provided in Section 7.1.3.2 above). As such, the negligible air pollution change on habitats with the potential to support SPA birds is considered to have no adverse effects on the integrity of the SPA.

### 7.2.3.3 Disturbance/Displacement of Faunal Species

As described above in Section 7.1.3.4, there is the potential for increased disturbance during operation due to increased use of the proposed development area by vehicles and the general public, and due to operational lighting, which could negatively impact the qualifying bird species of the Severn Estuary SPA.

As described above, during the course of the wintering birds surveys, no species listed as primary qualifying features of the Severn Estuary SPA were recorded. However, a number of assemblage species were recorded, being shelduck, teal, tufted duck, lapwing and mallard, but only mallard were seen in any number (over 1% of the SPA cited population). The majority of these were recorded around Hendre Lake and Faendre Reen, which are both being retained and are already

subject to significant disturbance from local residents, including dog-walkers, due to public footpaths.

As no particularly large or significant aggregations of SPA assemblage birds were recorded and considering the partial habituation to disturbance in the area from the general public, housing, roads and rail, and the existing St Mellons business park, along with the abundance of similar habitats available for foraging and roosting to the south, east and west of the proposed development, it is considered that direct disturbance to SPA bird species during operation will not lead to an adverse effect on the integrity of the SPA.

#### **7.2.3.4 Mortality/Injury of Individuals**

There is the potential for direct mortality and/or injury of birds through collisions with road traffic and/or buildings of the proposed development. However, as described above in Section 7.2.2.3 during the course of the wintering birds surveys, no species listed as primary qualifying features of the Severn Estuary SPA were recorded. However, a number of assemblage species were recorded, being shelduck, teal, tufted duck, lapwing and mallard, but only mallard were seen in any number (over 1% of the SPA cited population). The majority of these were recorded around Hendre Lake and Faendre Reen, which are both being retained and will allow clear flight path to them from the Severn Estuary SPA in the south. As such, it is considered that direct mortality and/or injury to SPA bird species during operation is unlikely and will not lead to an adverse effect on the integrity of the SPA.

### **7.2.4 Mitigation Measures for Construction Effects on the Severn Estuary SPA**

#### **7.2.4.1 Water Pollution/Sedimentation**

The mitigation outlined in Section 7.1.4.1 is also applicable for measures to mitigate water pollution/sedimentation impacts to the Severn Estuary SPA.

#### **7.2.4.2 Dust Deposition**

The mitigation outlined in Section 7.1.4.2 is also applicable for measures to mitigate dust deposition impacts to the Severn Estuary SPA.

#### **7.2.4.3 Spread of INNS**

The mitigation outlined in Section 7.1.4.4 is also applicable for measures to mitigate INNS impacts to the Severn Estuary SPA.

#### **7.2.4.4 Physical Disturbance/Damage of Habitats**

The mitigation outlined in Sections 7.1.4.1, 7.1.4.2, 7.1.4.4 and 7.1.4.5 above is also applicable for measures to mitigate impacts of physical habitat disturbance/damage to the Severn Estuary SPA.

#### **7.2.4.5 Mortality/Injury of Individuals**

The mitigation outlined in Sections 7.1.4.1 and 7.1.4.2 is also applicable for measures to mitigate impacts to the Severn Estuary SPA, relating to mortality/injury of SPA bird species.

### **7.2.5 Mitigation Measures for Operational Effects on the Severn Estuary SPA**

#### **7.2.5.1 Pollution Events**

The mitigation outlined in Section 7.1.5.1 is also applicable for measures to mitigate operational pollution event impacts to the Severn Estuary SPA.

### **7.2.6 Residual Effects on the Severn Estuary SPA**

With the inclusion of the mitigation measures outline above, it is concluded that the proposed development is unlikely to give rise to an adverse effect on the integrity of the Severn Estuary SPA.

## **7.3 Severn Estuary Ramsar Site**

The features of the Severn Estuary Ramsar site overlap with those of the Severn Estuary SPA and SAC, and as such, details on the distribution of these features within and adjacent to the proposed development boundary can be found in Sections 7.1 and 7.2.

The only species which differs in relation to the species recorded within the proposed development site during the surveys is Lesser black-backed gull, which was recorded during the 2017/18 and 2020/21 wintering bird surveys with a peak count in each year being 11 birds, predominately in flight or on Hendre lake. Lesser black-backed gull is cited on the Ramsar site citation for their breeding population.

Lesser black-backed gull nest occupation is cited as 4167, representing an average of 2.8% of the breeding population (Seabird 2000 Census). 11 birds, if adult breeding birds, recorded within the site would represent 0.1% of the breeding population.

A peak count of 39 assemblage feature birds (accumulative number recorded as above) was recorded in between 2017/18 and 2020/21 surveys, representing 0.05% of the Ramsar assemblage population (70,919 individuals from 5 year peak mean count 1998/99 – 2002/2003).

During construction, the habitat features of the Severn Estuary Ramsar site are potentially vulnerable to habitat degradation through the effects of water quality changes from pollutants, sedimentation, dust deposition, or the spread of INNS via construction machinery or construction workers' footwear, or physical disturbance/damage of habitats by construction vehicles. During operation, the

habitat features of the Severn Estuary Ramsar site are potentially vulnerable to the effects of water quality changes from pollution events.

During construction, the faunal features (fish and bird species) of the Severn Estuary Ramsar site are potentially vulnerable to habitat damage and mortality/injury due to water quality changes from pollutants/sedimentation, dust deposition, or the spread of INNS via construction machinery or construction workers' footwear, or physical disturbance/damage of habitats by construction vehicles. There is also the potential for loss/severance of habitats used by faunal features of the Ramsar site, and the disturbance/displacement of individuals.

During operation, the faunal features of the Severn Estuary Ramsar site are potentially vulnerable to habitat damage and mortality/injury due to water quality changes from pollution events and air quality changes from vehicle emissions, as well as habitat severance due to the introduction of barriers within existing and created reens and field ditches.

### 7.3.1 Conservation Objectives

Conservation objectives for this Ramsar site are taken from the conservation advice for the Severn Estuary EMS and are summarised as:

#### Criterion 1

The conservation objective for criterion 1 is to maintain the habitat features in favourable condition, as defined by the conservation objective for the corresponding SAC Annex I habitats in Section 4.1.3.

#### Criterion 3

The conservation objective for this criterion is to maintain the 'estuaries' feature in favourable condition, as defined by the conservation objective for the SAC 'estuaries' features in Section 4.1.3.

#### Criterion 4 and Criterion 8

The conservation objective for these criteria is to maintain the Annex II bird and fish features in favourable condition. The features will be considered to be in favourable condition when each of the following conditions are met:

- The migratory passage of both adults and juveniles of the assemblage of migratory fish species through the Severn Estuary between the Bristol Channel and any of their spawning rivers is not obstructed or impeded by physical barriers, changes in flows, or poor water quality;
- The size of the populations of the assemblage species in the Severn Estuary and the rivers which drain into it, is at least maintained and is at a level that is sustainable in the long term;
- The abundance of prey species forming the principle food resources for the assemblage species within the Estuary, is maintained; and
- Toxic contaminants in the water column and sediment are below levels which would pose a risk to the ecological objectives described above.

## Criterion 5

The conservation objective for this criterion is to maintain the waterfowl assemblage feature in a favourable condition, as defined by the conservation objective for the corresponding SPA feature in Section 7.2.1:

- The 5-year peak mean population size for the waterfowl assemblage is no less than 70,919 individuals (i.e. the 5-year peak mean between 1988/9 - 1992/3);
- The extent of saltmarsh and their associated strandlines is maintained;
- The extent of intertidal mudflats and sandflats is maintained;
- The extent of hard substrate habitats is maintained;
- Extent of vegetation of <10cm throughout the saltmarsh is maintained;
- The abundance and macroscale distribution of suitable invertebrates in intertidal mudflats and sandflats is maintained;
- The abundance and macroscale distribution of suitable invertebrates in hard substrate habitats is maintained;
- Greater than 25% cover of suitable soft leaved herbs and grasses during the winter on saltmarsh areas is maintained;
- Unrestricted bird sightlines of >500m at feeding and roosting sites are maintained; and
- Waterfowl aggregations at feeding or roosting sites are not subject to significant disturbance.

## Criterion 6

The conservation objective for this criterion is to maintain the Annex II bird features in a favourable condition, as defined by the conservation objective for the corresponding SPA feature:

### Gadwall

- The 5-year peak mean population size for the wintering gadwall population is no less than 330 (i.e. the 5-year peak mean between 1988/9 - 1992/3);
- The extent of intertidal mudflats and sandflats is maintained;
- Unrestricted bird sightlines of >200m at feeding and roosting sites are maintained; and
- Aggregations of gadwall at feeding or roosting sites are not subject to significant disturbance.

### Greater White-Fronted Goose

- The 5-year peak mean population size for the wintering European white fronted goose population is no less than 3,002 individuals (i.e. the 5-year peak mean between 1988/9-1992/3);
- The extent of saltmarsh at the Dumbles is maintained;
- The extent of intertidal mudflats and sandflats at Frampton Sands, Waveridge Sands and the Noose is maintained;
- Greater than 25% cover of suitable soft-leaved herbs and grasses is maintained during the winter on saltmarsh areas;

- Unrestricted bird sightlines of >200m at feeding and roosting sites are maintained; and
- Aggregations of European white-fronted goose at feeding or roosting sites are not subject to significant disturbance.

### Dunlin

- The 5-year peak mean population size for the wintering dunlin population is no less than 41,683 individuals (i.e. the 5-year peak mean between 1988/9 - 1992/3);
- The extent of saltmarsh and associated strandlines is maintained;
- The extent of intertidal mudflats and sandflats is maintained;
- The extent of hard substrate habitats is maintained;
- The extent of vegetation with a sward height of <10cm is maintained throughout the saltmarsh;
- The abundance and macro-distribution of suitable invertebrates in intertidal mudflats and sandflats is maintained;
- The abundance and macro-distribution of suitable invertebrates in hard substrate habitats is maintained;
- Unrestricted bird sightlines of >200m at feeding and roosting sites are maintained; and
- Aggregations of dunlin at feeding or roosting sites are not subject to significant disturbance.

### Bewick's Swan

- The 5-year peak mean population size for the Bewick's swan population is no less than 289 individuals (i.e. the 5-year peak mean between 1988/9 - 1992/3);
- The extent of saltmarsh at the Dumbles is maintained;
- The extent of intertidal mudflats and sandflats at Frampton Sands, Waveridge Sands and the Noose is maintained;
- The extent of vegetation with an effective field size of >6 ha and with unrestricted bird sightlines > 500m at feeding, roosting and refuge sites are maintained;
- Greater than 25% cover of suitable soft leaved herbs and grasses in winter season throughout the transitional saltmarsh at the Dumbles is maintained; and
- Aggregations of Bewick's swan at feeding, roosting and refuge sites are not subject to significant disturbance.

### Common Shelduck

- The 5-year peak mean population size for the wintering shelduck population is no less than 2,892 individuals (i.e. the 5-year peak mean between 1988/9 - 1992/3);
- The extent of saltmarsh is maintained;
- The extent of intertidal mudflats and sandflats is maintained;
- The extent of hard substrate habitats is maintained;

- The abundance and macro-distribution of suitable invertebrates in intertidal mudflats and sandflats is maintained;
- Unrestricted bird sightlines of >200m at feeding and roosting sites are maintained; and
- Aggregations of shelduck at feeding or roosting sites are not subject to significant disturbance.

### Common Redshank

- The 5-year peak mean population size for the wintering redshank population is no less than 2,013 individuals (i.e. the 5-year peak mean between 1988/9 - 1992/3);
- The extent of saltmarsh and associated strandlines is maintained;
- The extent of intertidal mudflats and sandflats is maintained;
- The extent of hard substrate habitats is maintained;
- The extent of vegetation with a sward height of <10cm throughout the saltmarsh is maintained;
- The abundance and macro-distribution of suitable invertebrates in intertidal mudflats and sandflats is maintained;
- The abundance and macro-distribution of suitable invertebrates in hard substrate habitats is maintained;
- Unrestricted bird sightlines of >200m at feeding and roosting sites are maintained; and
- Aggregations of redshank at feeding or roosting sites are not subject to significant disturbance.

## **7.3.2 Potential Construction Effects on the Severn Estuary Ramsar site**

### **7.3.2.1 Water Pollution/Sedimentation**

As described above in Sections 7.1.2.1 and 7.2.2.1, there is the potential for construction activities to result in a pollution incident. Impacts to habitat features of the Ramsar site are likely to be of negligible significance due to the distance between the proposed development and these habitats. However, there is the potential to negatively impact habitats within and adjacent to the proposed development boundary, upon which the qualifying bird and fish species for the Severn Estuary Ramsar site, leading to an adverse effect on the Ramsar site's integrity.

### **7.3.2.2 Dust Deposition**

As described above in Sections 7.1.2.2 and 7.2.2.2, there is the potential for construction activities to lead to dust generation causing localised changes in air quality. As above, impacts to habitat features of the Ramsar site are likely to be of negligible significance due to the distance between the proposed development and these habitats. However, localised changes in air quality have the potential to negatively impact the habitats within and adjacent to the proposed development

boundary, upon which the qualifying bird and fish species for the Severn Estuary Ramsar site, leading to an adverse effect on the Ramsar site's integrity.

### 7.3.2.3 Habitat Loss/Severance

As described above under Section 7.1.2.3 the proposed development will cause the loss of 3.96km of the ephemeral and intermittent wet field ditches. In the absence of any avoidance and/or mitigation measures, the loss/severance of habitats can lead to isolation both within and between populations and from specific resources vital for survival. The indirect effects of this could include reduced feeding success and increased competition, which could lead to an adverse effect on the qualifying fish species of the Ramsar site.

As described above under Section 7.2.2.3, during the course of the wintering birds surveys, no species listed as primary qualifying features of the Severn Estuary Ramsar site were recorded. However, teal and tufted duck which are assemblage features of the Ramsar were recorded, and shelduck (being a qualifying feature) was recorded during the breeding bird survey in 2017 and lesser black-backed gull a breeding component of the Ramsar site was also recorded during the breeding and wintering birds surveys.

Taking the mean highest percentages of the number of birds recorded on site of the Ramsar cited populations five-year mean counts, this amounts to: 0.2% of shelduck (6 birds in April 2017); 0.4% of teal (20 birds in December 2017); 0.4% of tufted duck (2 birds in March 2021); and 0.1% lesser black-backed gull breeding population (11 birds in March 2017 and January 2021).

The majority of these in both years of survey were recorded around Hendre Lake and Faendre Reen, which are being largely unaffected by the proposed development, with just two road crossings over Faendre Reen approximately 650m and 1km upstream from Hendre Lake.

A peak count of 39 assemblage feature birds (accumulative number recorded as above) was recorded in between 2017/18 and 2020/21 surveys, representing 0.05% of the Ramsar assemblage population (70,919 individuals from 5 year peak mean count 1998/99 – 2002/2003). As mentioned above, the majority of these were recorded around Hendre Lake and Faendre Reen.

As Hendre Lake and Faendre Reen both being retained, and there were no particularly large or significant aggregations of birds recorded (particularly in areas where habitat loss is occurring), as well as the abundant presence of similar habitats available for foraging and roosting to the south, east and west of the proposed development, it is considered that habitat loss or severance will not lead to an adverse effect on the qualifying bird species of the Ramsar site.

### 7.3.2.4 Spread of INNS

As described above under Sections 7.1.2.4 and 7.2.2.4, there is the potential for INNS to be spread from within the proposed development boundary elsewhere via construction worker's machinery and/or footwear, or through hydrological connections.



If these INNS are allowed to spread and proliferate as a result of construction, it is considered that this could give rise to a significant negative effect on the qualifying habitat features of the Severn Estuary Ramsar site, as well as on the habitats within and adjacent to the proposed development boundary, upon which the qualifying bird and fish species for Severn Estuary Ramsar site rely; which could lead to an adverse effect on the qualifying bird and fish species of the Ramsar site.

### 7.3.2.5 Physical Disturbance/Damage of Habitats

As described above under Section 7.1.2.5 and 7.2.2.5, there is the potential for physical disturbance/damage by construction machinery to retained habitats, upon which the qualifying bird and fish species for the Severn Estuary Ramsar site rely. In the absence of avoidance and/or mitigation measures, it is considered that this could give rise to an adverse effect on the integrity of the Ramsar site.

### 7.3.2.6 Disturbance/Displacement of Faunal Species

As described above under Sections 7.1.2.6 and 7.2.2.6, direct disturbance to the qualifying bird and fish species could arise from construction noise, vibration or lighting e.g. during movement of machinery around the site and during any piling/percussive works. Disturbance may also arise during works described above under Section 7.1.2.5. This may result in the abandonment of territory, increased predation risk and use of critical energy reserves. In the absence of any avoidance and/or mitigation measures, this may lead to an adverse effect on the qualifying fish species for the Ramsar site.

As described above, only small (<1%) numbers of shelduck, teal and tufted duck (all being qualifying features of the Ramsar) were recorded within the site. The majority of these were recorded around Hendre Lake and Faendre Reen, which are both being retained and are already subject to significant disturbance from local residents, including dog-walkers, due to public footpaths.

As no particularly large or significant aggregations of Ramsar site assemblage birds were recorded and considering the partial habituation to disturbance in the area from the general public, housing, roads and rail, and the existing St Mellons business park, along with the abundance of similar habitats available for foraging and roosting to the south, east and west of the proposed development, it is considered that direct disturbance to Ramsar site bird species will not lead to an adverse effect on the qualifying bird species of the Ramsar site.

### 7.3.2.7 Mortality/Injury of Individuals

As described above in Section 7.1.2.1, there is the potential for construction activities to result in pollution events. The localised reduction in water quality within the reen network could impact the qualifying bird and fish species described above through direct mortality or injury (e.g. through ingestion or by affecting plumage), or displacement from the area around the site.

As described above in Section 7.1.2.2, there is also the potential for construction activities to lead to dust generation. The generated dust could then impact qualifying bird and fish species through changes to air quality.

Any pollution event or dust generation could therefore give rise to an adverse effect on the integrity of the Ramsar site.

Furthermore, construction works outlined in Section 7.1.2.7 may also lead to mortality/injury of qualifying fish species in the absence of mitigation and/or avoidance measures.

### **7.3.3 Potential Operational Effects on the Severn Estuary Ramsar site**

#### **7.3.3.1 Pollution Events**

As described above in Sections 7.1.3.1 and 7.2.3.1, there is the potential for pollution events during operation (e.g. from fuel and chemical spills from roads and hard standing areas). It is considered that negative effects arising from a pollution incident on Annex I habitats within the Ramsar site are likely to be of negligible significance due to the distance between the proposed development and these Annex I habitats. However, there is the potential to negatively impact the habitats within and adjacent to the proposed development boundary, upon which the qualifying bird and fish species for the Severn Estuary Ramsar site rely.

It is considered that in the absence of avoidance and/or mitigation measures, any pollution event on site has the potential to give rise to localised effects on the Ramsar site which could be significant, which could lead to an adverse effect on the qualifying fish and bird species of the Ramsar site.

#### **7.3.3.2 Air Quality Changes**

As described above in Sections 7.1.3.2 and 7.2.3.2, there is the potential for changes in air quality during operation due to increased vehicular use of the site, which could negatively impact the habitats upon which the qualifying bird and fish species for the Severn Estuary Ramsar site rely.

As previously described, the operational phase traffic results in an exceedance of the 1% screening threshold up to 50m from the main access road in the sensitivity test. However, the area of habitat for which the qualifying bird species for Severn Estuary Ramsar site could potentially utilise (although as described within Section 6.3.2.3 above are highly unlikely to use) affected by impacts greater than 1% of the critical load is 0.5% of the total area of the Gwent Levels – Rumney and Peterstone SSSI area, and significantly smaller when considering all the habitat surrounding the Severn Estuary Ramsar site which could be potential used by Ramsar site birds. Furthermore, the removal and reduction of agricultural practices and nitrification due to the proposed development is likely to be significantly beneficial (see details provided in Section 7.1.3.2 above). As such, the negligible air pollution change on habitats with the potential to support

Ramsar site birds is considered to have no adverse effects on the integrity of the Severn Estuary Ramsar site.

### 7.3.3.3 Habitat Severance

As described above in Section 7.1.3.3, severance of habitats upon which Annex II fish species rely may occur in a number of locations where potential barriers will be introduced. In the absence of avoidance and/or mitigation measures, the impacts of severance may result in an adverse effect on the integrity of the Ramsar site.

### 7.3.3.4 Disturbance/Displacement of Faunal Species

As described above in Section 7.1.3.4 and 7.2.3.3, there is the potential for increased disturbance during operation due to increased use of the proposed development area by vehicles and the general public, and due to operational lighting, which could negatively impact the qualifying faunal species of the Severn Estuary Ramsar site. In the absence of any avoidance and/or mitigation measures, this may lead to an adverse effect on the qualifying fish species for the Ramsar site.

As described above, only small (<1%) numbers of shelduck, teal and tufted duck (all being qualifying features of the Ramsar) were recorded within the site. The majority of these were recorded around Hendre Lake and Faendre Reen, both of which are being retained and are already subject to significant disturbance from local residents, including dog-walkers, due to public footpaths.

As no particularly large or significant aggregations of Ramsar site assemblage birds were recorded and considering the partial habituation to disturbance in the area from the general public, housing, roads and rail, and the existing St Mellons business park, along with the abundance of similar habitats available for foraging and roosting to the south, east and west of the proposed development, it is considered that direct disturbance to Ramsar site bird species will not lead to an adverse effect on the qualifying bird species of the Ramsar site.

### 7.3.3.5 Mortality/Injury of Individuals

As described in Section 7.3.3.1, during operation pollutants could arise from oil fuel and chemical spills from roads and hard standing areas. There is a risk that the localised reduction in water quality could impact Annex II lamprey ammocoetes and European eel through direct mortality or injury (e.g. through ingestion), or displacement from the area around the site.

In the absence of any avoidance and/or mitigation measures, this may lead to an adverse effect on the integrity of the Ramsar site.

There is the potential for direct mortality and/or injury of birds through collisions with road traffic and/or buildings of the proposed development. However, as described above in Section 7.3.3.4, only small (<1%) numbers of shelduck, teal and tufted duck (all being qualifying features of the Ramsar) were recorded within the site. The majority of these were recorded around Hendre Lake and Faendre

Reen, which are both being retained and will allow clear flight path to them from the Severn Estuary SPA in the south. As such, it is considered that direct mortality and/or injury to SPA bird species during operation is unlikely and will not lead to an adverse effect on the integrity of the SPA.

### **7.3.4 Mitigation Measures for Construction Effects on the Severn Estuary Ramsar site**

#### **7.3.4.1 Water Pollution/Sedimentation**

The mitigation outlined in Section 7.1.4.1 is also applicable for measures to mitigate water pollution/sedimentation impacts to the Severn Estuary Ramsar site.

#### **7.3.4.2 Dust Deposition**

The mitigation outlined in Section 7.1.4.2 is also applicable for measures to mitigate dust deposition impacts to the Severn Estuary Ramsar site.

#### **7.3.4.3 Habitat Loss/Severance**

The mitigation outlined in Section 7.1.4.3 is also applicable for measures to mitigate the impacts of habitat loss/severance to the Severn Estuary Ramsar site.

#### **7.3.4.4 Spread of INNS**

The mitigation outlined in Section 7.1.4.4 is also applicable for measures to mitigate INNS impacts to the Severn Estuary Ramsar site.

#### **7.3.4.5 Physical Disturbance/Damage of Habitats**

The mitigation outlined in Sections 7.1.4.1, 7.1.4.2, 7.1.4.4 and 7.1.4.5 above is also applicable for measures to mitigate impacts of physical habitat disturbance/damage to the habitats upon which qualifying faunal species of the Severn Estuary Ramsar site rely.

#### **7.3.4.6 Disturbance/Displacement of Faunal Species**

The mitigation outlined in Section 7.1.4.6 is also applicable for measures to mitigate impacts to the Severn Estuary Ramsar site, with regards to the disturbance/displacement of qualifying fish species.

#### **7.3.4.7 Mortality/Injury of Individuals**

The mitigation outlined in Sections 7.1.4.1 and 7.1.4.2 is also applicable for measures to mitigate impacts to the Severn Estuary Ramsar site, relating to mortality/injury of qualifying bird and fish species.

### 7.3.5 Mitigation Measures for Operational Effects on the Severn Estuary Ramsar site

#### 7.3.5.1 Pollution Events

The mitigation outlined in Section 7.1.5.1 is also applicable for measures to mitigate operational pollution event impacts to the Severn Estuary Ramsar site.

#### 7.3.5.2 Habitat Severance

The mitigation outlined in Section 7.1.5.2 is also applicable for measures to mitigate impacts of habitat severance on the Severn Estuary Ramsar site.

#### 7.3.5.3 Disturbance/Displacement of Faunal Species

The mitigation outlined in Section 7.1.5.3 is also applicable for measures to mitigate impacts of disturbance/displacement of the qualifying faunal species of the Ramsar site.

#### 7.3.5.4 Mortality/Injury of Individuals

As described in Section 7.1.5.1 SuDS would be implemented across the site to ensure that surface run-off and any pollution events would not enter the reed network.

### 7.3.6 Residual Effects on the Severn Estuary Ramsar site

With the inclusion of the mitigation measures outline above, it is concluded that the proposed development is unlikely to give rise to an adverse effect on the integrity of the Severn Estuary Ramsar site.

## 7.4 River Usk SAC

The Annex I habitat present within the River Usk SAC includes water courses of plain to montane levels with the *Ranunculon fluitantis* and *Callitricho-Batrachion* vegetation. As described above, the SAC lies upstream of the proposed development site and it is considered that the spatial separation will allow for dispersal effects to avoid any potential impact pathways upon this Annex I habitat.

The Annex II species present within the River Usk SAC include sea lamprey, brook lamprey, river lamprey, twaite shad, allis shad, Atlantic salmon, bullhead, and otter.

The reens and field ditches are considered to be poorly connected to lamprey, shad and Atlantic salmon spawning grounds (areas of small stones and gravel in flowing rivers) of the upper River Usk and would therefore not form part of the migration route for these species. Bullhead (resident) prefer faster flowing water with larger substrate types to seek refuge and are therefore considered unlikely to

occur in the still waters of reens and ditches<sup>59</sup>. NRW considers that the reens and ditches of the Gwent Levels may potentially represent significant habitats for juvenile lamprey (ammocoetes) of all three species (river, brook and sea)<sup>60</sup>. Typically, juvenile lamprey live buried in fine sediment (stable) in the margins of fast flowing rivers for three to five years during their development, however they may occur in smaller, silted watercourses. As such, the assessment has been carried out under the precautionary assumption that juvenile lamprey species (ammocoetes) have the potential to be present throughout the reens on site. No other qualifying or notable fish species of the SAC are considered likely to use the reens during any stage of their life-cycle due to their lentic nature<sup>43</sup>.

Evidence of otter, including spraints, feeding remains and footprints were identified across the proposed development area, with potential lay-up sites identified at Hendre Lake, Faendre Reen, Greenlane Reen and a field ditch branching off of Ty-Ffynon Reen.

During construction, the Annex II species of the River Usk SAC are potentially vulnerable to indirect habitat damage and/or indirect mortality/injury (outside the Rive Usk designated area but within habitats for which these species also rely). These indirect effects are due to potential impacts arising from water quality changes from pollutants/sedimentation, dust deposition, the spread of INNS via construction machinery or construction workers' footwear, or physical disturbance/damage of habitats by construction vehicles. There is also the potential for loss/severance of habitats used by Annex II species, the disturbance/displacement of Annex II species, and the direct mortality/injury of Annex II species (for example, during the de-watering of field ditches) due to the presence of otter and possibly juvenile lamprey (ammocoetes) within the proposed development.

During operation, the Annex II species are potentially vulnerable to habitat damage and mortality/injury due to water quality changes resulting from urban runoff and pollution events, air quality changes from vehicle emissions, as well as habitat severance due to the introduction of temporary barriers within Railway Reen and Greenlane Reen, and disturbance/displacement from visual impact, noise and lighting.

## 7.4.1 Conservation Objectives

Conservation objectives are taken from the core management plan for this SAC and are summarised as:

### **Features 1-5 (sea lamprey, brook lamprey, river lamprey, twaite shad, allis shad, Atlantic salmon, bullhead)**

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

<sup>59</sup> Section 3.2.37, p. 15 <https://gov.wales/sites/default/files/publications/2017-10/m4-corridor-around-newport-environmental-statement-appendix-10.18-aquatic-environment-baseline-study.pdf>

<sup>60</sup> Section 3.2.36, p. 14 <https://gov.wales/sites/default/files/publications/2017-10/m4-corridor-around-newport-environmental-statement-appendix-10.18-aquatic-environment-baseline-study.pdf>

- The capacity of the habitats in the SAC to support each feature at near-natural population levels, as determined by predominantly unmodified ecological and hydromorphological processes and characteristics, should be maintained as far as possible, or restored where necessary;
- The ecological status of the water environment should be sufficient to maintain a stable or increasing population of each feature. This will include elements of water quantity and quality, physical habitat and community composition and structure;
- Flow regime, water quality and physical habitat should be maintained in, or restored as far as possible to, a near-natural state, in order to support the coherence of ecosystem structure and function across the whole area of the SAC;
- All known breeding, spawning and nursery sites of species features should be maintained as suitable habitat as far as possible, except where natural processes cause them to change;
- Flows, water quality, substrate quality and quantity at fish spawning sites and nursery areas will not be depleted by abstraction, discharges, engineering or gravel extraction activities or other impacts to the extent that these sites are damaged or destroyed;
- The river planform and profile should be predominantly unmodified. Physical modifications having an adverse effect on the integrity of the SAC, including, but not limited to, revetments on active alluvial riverbanks using stone, concrete or waste materials, unsustainable extraction of gravel, addition or release of excessive quantities of fine sediment, will be avoided;
- River habitat SSSI features should be in favourable condition. In the case of the Usk Tributaries SSSI, the SAC habitat is not underpinned by a river habitat SSSI feature. In this case, the target is to maintain the characteristic physical features of the river channel, banks and riparian zone;
- Artificial factors impacting on the capability of each species feature to occupy the full extent of its natural range should be modified where necessary to allow passage, eg. weirs, bridge sills, acoustic barriers;
- Natural factors such as waterfalls, which may limit the natural range of a species feature or dispersal between naturally isolated populations, should not be modified;
- Flows during the normal migration periods of each migratory fish species feature will not be depleted by abstraction to the extent that passage upstream to spawning sites is hindered;
- Flow objectives for assessment points in the Usk Catchment Abstraction Management Strategy will be agreed between EA and NRW as necessary.
- Levels of nutrients, in particular phosphate, will be agreed between EA and NRW for each Water Framework Directive water body in the Usk SAC, and measures taken to maintain nutrients below these levels. It is anticipated that these limits will concur with the standards used by the Review of Consents process given in Annex 2 of the core management plan;
- Levels of water quality parameters that are known to affect the distribution and abundance of SAC features will be agreed between EA and NRW for



each Water Framework Directive water body in the Usk SAC, and measures taken to maintain pollution below these levels. It is anticipated that these limits will concur with the standards used by the Review of Consents process given in Annex 3 of the core management plan;

- Potential sources of pollution not addressed in the Review of Consents, such as contaminated land, will be considered in assessing plans and projects;
- Levels of suspended solids will be agreed between EA and NRW for each Water Framework Directive water body in the Usk SAC. Measures including, but not limited to, the control of suspended sediment generated by agriculture, forestry and engineering works, will be taken to maintain suspended solids below these levels;
- The population of the feature in the SAC is stable or increasing over the long term;
- The natural range of the feature in the SAC is neither being reduced nor is likely to be reduced for the foreseeable future. The natural range is taken to mean those reaches where predominantly suitable habitat for each life stage exists over the long term. Suitable habitat is defined in terms of near-natural hydrological and geomorphological processes and forms e.g. suitable flows to allow upstream migration, depth of water and substrate type at spawning sites, and ecosystem structure and functions e.g. food supply. Suitable habitat need not be present throughout the SAC but where present must be secured for the foreseeable future. Natural factors such as waterfalls may limit the natural range of individual species. Existing artificial influences on natural range that cause an adverse effect on site integrity, such as physical barriers to migration, will be assessed in view of the fourth bullet point above; and
- There is, and will probably continue to be, a sufficiently large habitat to maintain the feature's population in the SAC on a long-term basis.

### **Feature 6 (otter)**

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- The population of otters in the SAC is stable or increasing over the long term and reflects the natural carrying capacity of the habitat within the SAC, as determined by natural levels of prey abundance and associated territorial behaviour;
- The natural range of otters in the SAC is neither being reduced nor is likely to be reduced for the foreseeable future. The natural range is taken to mean those reaches that are potentially suitable to form part of a breeding territory and/or provide routes between breeding territories. The whole area of the Usk SAC is considered to form potentially suitable breeding habitat for otters. The size of breeding territories may vary depending on prey abundance. The population size should not be limited by the availability of suitable undisturbed breeding sites. Where these are insufficient, they should be created through habitat enhancement and where necessary the provision of artificial holts. No otter breeding site should be subject to a level of disturbance that could have an adverse



effect on breeding success. Where necessary, potentially harmful levels of disturbance must be managed; and

- The safe movement and dispersal of individuals around the SAC is facilitated by the provision, where necessary, of suitable riparian habitat, and underpasses, ledges, fencing etc at road bridges and other artificial barriers.

## 7.4.2 Potential Construction Effects on the River Usk SAC

### 7.4.2.1 Water Pollution/Sedimentation

As described above in Section 7.1.2.1, in the absence of any avoidance and/or mitigation measures, there is the potential for construction activities to result in pollution events which could negatively impact the habitats upon which the qualifying faunal species for the River Usk SAC rely. For example, this pollution could negatively impact otter prey species, such as pollution intolerant salmonid fish, thus indirectly affecting otters by reducing foraging opportunities.

It is considered that in the absence of avoidance and/or mitigation measures, any pollution event on site has the potential to give rise to localised effects which could be significant, leading to an adverse effect on the integrity of the SAC.

### 7.4.2.2 Dust Deposition

As described above in Section 7.1.2.2, in the absence of any avoidance and/or mitigation measures, there is the potential for construction activities to lead to dust generation causing localised changes in air quality. This in turn has the potential to negatively impact the habitats within and adjacent to the proposed development boundary upon which the qualifying faunal species for the River Usk SAC rely.

It is considered that in the absence of avoidance and/or mitigation measures, any dust generation, or pollution event on site has the potential to give rise to localised effects which could be significant, leading to an adverse effect on the integrity of the SAC.

### 7.4.2.3 Habitat Loss/Severance

As described above under Section 7.1.2.3 the proposed development will cause the loss of 3.96km of the intermittent and ephemeral field ditches. Within the proposed development boundary, there were two reens that were assessed as having high suitability for otter which will be retained and enhanced. The field ditches that will be lost were assessed as having moderate, low, or negligible suitability, as shown in Table 13 below.

Table 12: Reen and field ditches suitability for otter - lengths in baseline and lengths lost through Proposed Development

Suitability for otter	Baseline length within planning boundary (m)	Length lost (m)
High	144	0
Moderate	3604	1452
Low	4852	829
Negligible	1088	799

The proposed development will also cause the loss of 0.92 hectares of dry woodland and 0.49 hectares of wet woodland which may be used by otter.

In the absence of any avoidance and/or mitigation measures, the loss/severance of habitats can lead to isolation both within and between populations and from specific resources vital for survival. The indirect effects of this could include reduced feeding success and increased competition, which could lead to an adverse effect on the qualifying faunal species of the River Usk SAC.

The extent of the current dispersal of otter to the surrounding areas, particularly to the east and south of the development will, however, be unchanged through the development. The culverts currently moving out of the development area will remain unchanged. The only culvert out of the development to be modified is the western most culvert under the railway within the site will be extended south by a maximum 5m; the other culvert under the railway however will remain unchanged. Otters are likely to be currently using these culverts, and/or crossing the railway, based on the otter signs found within the 2017 and 2019 surveys. As such, the extension of one culvert by a maximum of 5m is not considered enough to cause a significant barrier to otters that currently utilise the culverts under the railway.

Other than to provide emergency vehicle access there are no vehicular access roads into the development from Heol Las on the eastern side of the development, furthermore the traffic along Heol Las is not predicted to increase significantly as described within the ES Chapter 4: Traffic and Transport. As such, this is not considered a significant change to impact otter dispersal.

#### 7.4.2.4 Spread of INNS

As described above in Section 7.1.2.4, there is the potential for INNS to be spread from within the proposed development boundary elsewhere via construction worker's machinery and/or footwear, or through hydrological connections.

If these INNS are allowed to spread and proliferate as a result of construction, it is considered that this could give rise to a significant negative effect on the habitats for which the qualifying fish species of the River Usk SAC rely, leading to an adverse effect on the integrity of the SAC.

#### 7.4.2.5 Physical Disturbance/Damage of Habitats

As described above under Section 7.1.2.5, there is the potential for physical disturbance/damage by construction machinery to retained reens during in-stream works. There is also the potential for physical root damage to retained woodland habitats. These are habitats upon which the qualifying faunal species for the River Usk SAC may rely. In the absence of avoidance and/or mitigation measures, it is considered that this could give rise to an adverse effect on the integrity of the SAC.

#### 7.4.2.6 Disturbance/Displacement of Faunal Species

As described above under Section 7.1.2.6, direct disturbance to the qualifying faunal species of the River Usk SAC could arise from construction noise, vibration or lighting e.g. during movement of machinery around the site and during any piling/percussive works. Disturbance may also arise during works described above under Section 7.1.2.5. This may result in the abandonment of territory, increased predation risk and use of critical energy reserves. Otter in particular are known to be highly susceptible to human disturbance. In the absence of any avoidance and/or mitigation measures, this may lead to an adverse effect on the qualifying faunal species for the SAC.

#### 7.4.2.7 Mortality/Injury of Individuals

As described in Section 7.1.2.1, during construction pollutants could arise from machinery and/or faulty infrastructure. There is a risk that the localised reduction in water quality could impact Annex II faunal species through direct mortality or injury (e.g. through ingestion), or displacement from the area around the site.

As described in Sections 7.1.2.3, 7.1.2.5, and 7.4.2.3, in-stream works are required within some reens, and some field ditches and areas of woodland will be lost. There is a risk that these works may lead to direct mortality or injury of Annex II faunal species, for example, during the de-watering of reens/ditches to be modified/lost and during the clearance of woodland.

Direct species injury or mortality may also occur during construction due to vehicle collisions, or potentially through becoming injured or trapped in excavations.

In the absence of any avoidance and/or mitigation measures, this may lead to an adverse effect on the integrity of the SAC.

### 7.4.3 Potential Operational Effects on the River Usk SAC

#### 7.4.3.1 Pollution Events

As described above in Section 7.1.3.1, there is the potential for pollution events during operation (e.g. from fuel and chemical spills from roads and hard standing areas), which could negatively impact the habitats within and adjacent to the

proposed development boundary, upon which the qualifying faunal species for River Usk SAC rely.

It is considered that in the absence of avoidance and/or mitigation measures, any pollution event on site has the potential to give rise to localised effects which could be significant, leading to an adverse effect on the integrity of the SAC.

#### 7.4.3.2 Air Quality Changes

As described above in Sections 7.1.3.2 and 7.2.3.2, there is the potential for changes in air quality during operation due to increased vehicular use of the site, which could negatively impact the habitats upon which the qualifying faunal species for the River Usk SAC rely.

As previously described, an air quality assessment was carried out and only in the sensitivity test there was an increase in concentration of  $7.8\mu\text{g}/\text{m}^3$  at the receptor located at the main access roadside (close to Faendre Reen) which results in an increase in concentrations greater than 1% of the critical level. The operational phase traffic results in an exceedance of the 1% screening threshold up to 50m from the main access road. However, the area of the reen habitat for which otter of the River Usk SAC could rely affected by impacts greater than 1% of the critical load is negligible at 50m from the roadside when considering the vast network of reens and wet field ditches within the Gwent levels connected to the River Usk. Furthermore, in most lowland rivers and smaller waterbodies, nitrogen inputs from catchment land-use, not deposition from the atmosphere, are likely to be much more significant<sup>47,48,49</sup>. The proposed development will remove agricultural practises from the area north of the railway, and the conservation sensitive enhancement and management of the land south of the railway will restrict the use of fertilisers and reduce the grazing pressure on the fields and reen and field ditch network, which will be significantly reduce the nutrient loading into the waterbodies (see details provided in Section 7.1.3.2 above)

The air quality assessment also identified that the change in ambient annual mean NO<sub>x</sub> concentration exceeded  $0.4\mu\text{g}/\text{m}^3$  at an ancient woodland which may be of value to otter.

This area of woodland is located approximately 2.1km west of the proposed development and approximately 9.5km west of the River Usk SAC. It is bordered by the A48(M) to the north, an area of grassland and the River Rhymney to the west, and residential areas to the south and east. Based on publicly available aerial imagery, it appears to be connected to wooded habitat that extends along the length of the River Rhymney. However, based on the distance of this area of woodland from the proposed development site and the SAC, and the availability of other similar habitats to shelter otter elsewhere along the River Rhymey, it is considered that the exceedance of  $0.4\mu\text{g}/\text{m}^3$  in the ambient annual mean NO<sub>x</sub> concentration (which is also likely to be restricted to the woodland and scrub habitat adjacent to the A48(M)) at the ancient woodland site will not lead to an adverse effect on the integrity of the SAC in relation to the otter population.

In conclusion, the air pollution change on habitats with the potential to support otter which maybe associated with the River Usk is considered to have no adverse effects on the integrity of the River Usk SAC.

#### **7.4.3.3 Habitat Severance**

As described above in Section 7.1.3.3, severance of habitats upon which Annex II fish species rely may occur in a number of locations where potential barriers will be introduced. Severance of otter habitat may also occur where roads are proposed that intersect reens, particularly Faendre Reen and Greenlane Reen where potential laying up sites were recorded.

In the absence of avoidance and/or mitigation measures, the impacts of severance may result in an adverse effect on the integrity of the River Usk SAC.

#### **7.4.3.4 Disturbance/Displacement of Faunal Species**

As described above in Section 7.1.3.4, there is the potential for increased disturbance during operation due to increased use of the proposed development by vehicles and the general public, and due to operational lighting, which could negatively impact the qualifying faunal species of the River Usk SAC.

This may result in the abandonment of territory, increased predation risk and use of critical energy reserves. Otter in particular are known to be highly susceptible to human disturbance, and disturbance can subsequently lead to effects such as abandonment of territory or of young. In the absence of any avoidance and/or mitigation measures, this may lead to an adverse effect on the qualifying faunal species for the SAC.

#### **7.4.3.5 Mortality/Injury of Individuals**

There is the potential for mortality and/or injury to otter through road collision accidents, where otters are forced to cross roads through new developments particularly roads over waterbodies used by otter. Otters were found to be using the site and six resting sites where recorded throughout the site on reens, including Faendre Reen, Ty Ffynon Reen and Greenlane Reen, all of which are being crossed by roads for the operation of the proposed development. In the absence of any avoidance and/or mitigation measures, this may lead to an adverse effect on the qualifying faunal species for the SAC.

### **7.4.4 Mitigation Measures for Construction Effects on the River Usk SAC**

#### **7.4.4.1 Water Pollution/Sedimentation**

The mitigation outlined in Section 7.1.4.1 is also applicable for measures to mitigate water pollution/sedimentation impacts to the River Usk SAC.

#### 7.4.4.2 Dust Deposition

The mitigation outlined in Section 7.1.4.2 is also applicable for measures to mitigate dust deposition impacts to the River Usk SAC.

#### 7.4.4.3 Habitat Loss/Severance

The mitigation outlined in Section 7.1.4.3 is also applicable for measures to mitigate the impacts of habitat loss/severance to the River Usk SAC. Furthermore, the loss of woodland within the site will be mitigated by creation of 2.7ha of dry woodland (c. 3:1 ratio net gain) and 0.46ha of wet woodland (c. 1:1 ratio). Some of this woodland would become available before the end of the construction period, but mostly would be in very early stages of growth during the construction period.

The negative effects of habitat severance and isolation would be mitigated by careful construction programming, the maintenance of safe crossing places for otters, and the installation of temporary and/or permanent fencing to funnel otters towards these crossing which will be detailed within the final CEMP.

Furthermore, an artificial holt will be provided on Faendre Reen, or an alternative site to be identified by the ECoW in consultation with NRW, to provide a suitable breeding site for otters. No breeding sites were recorded within the site, however a number of laying up sites were recorded, with the majority along Faendre Reen. The provision of otter holts is considered to be enhancement, outside any requirements under licence.

A pre-construction surveys for otter, secured through planning conditions, will be conducted on waterbodies and associated habitat within the construction area and up to 250m from construction activities to establish the presence of any new breeding or resting sites, to ensure legal compliance and determine the requirement for an EPS licence from NRW where appropriate.

#### 7.4.4.4 Spread of INNS

The mitigation outlined in Section 7.1.4.4 is also applicable for measures to mitigate INNS impacts to the River Usk SAC.

#### 7.4.4.5 Physical Disturbance/Damage of Habitats

The mitigation outlined in Sections 7.1.4.1, 7.1.4.2, 7.1.4.4 and 7.1.4.5 above is also applicable for measures to mitigate impacts of physical habitat disturbance/damage of retained reens upon which qualifying faunal species of the River Usk SAC rely. Furthermore, damage to retained woodland habitats upon which otter may rely, will be mitigated through the preparation and implementation of a detailed Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP) which will describe how trees and hedges will be protected and managed during construction, as detailed within the outline CEMP (see Appendix A2 in the ES). The AMS will provide an instruction manual and work schedule for the site manager to inform tree and hedge root protection measures



prior to and during construction, and is likely to include information on the following:

- A schedule of remedial tree surgery and tree removal works to be completed prior to the commencement of all other operations on site
- The final location, specifications and installation details of the construction exclusion zones to include both tree protection fencing and ground protection measures
- The final details and specifications for the special engineering measures where works are proposed to take place within the Root Protection Areas (RPAs) of trees to be retained
- Arrangements for works at the tree protection orders in order to undertake special engineering measures
- The location of site compounds, site offices and facilities, including parking arrangements, and areas for the storage of materials. Access routes for heavy plant and machinery, delivery vehicles and issues related to lifting plans for proposed crane use or access to site where aerial tree crown parts may affect intended operations.
- Positions of responsibility on site, communication channels and details of intended contractors to be employed to undertake all arboricultural-related operations
- A programme setting out the sequence and timing for all works related to the trees on the site
- The system to be employed for monitoring the completion of each stage of the works and the protection measures specified
- The appointment of an Arboricultural Clerk of Works. This will be an appropriately qualified and experienced person charged with the supervision and monitoring of the works related to trees and the reporting of satisfactory completion of operations to the client and the Local Planning Authority.

#### **7.4.4.6 Disturbance/Displacement of Faunal Species**

The mitigation outlined in Section 7.1.4.6 is also applicable for measures to mitigate impacts to the River Usk SAC, with regards to the disturbance/displacement of qualifying faunal species. Nevertheless, there would be disturbance effects during the construction of the road crossings over the reens, particularly Faendre Reen where the otter laying up sites were recorded.

However, as described in Section 7.4.4.3 the negative effects of disturbance/displacement to otter would be mitigated by careful construction programming, the maintenance of safe crossing places for otters, and the installation of temporary and/or permanent fencing to funnel otters towards these crossing which will be detailed within the final CEMP.

#### 7.4.4.7 Mortality/Injury of Individuals

The mitigation outlined in Sections 7.1.4.1 and 7.1.4.2 is also applicable for measures to mitigate impacts to the River Usk SAC site, relating to mortality/injury of qualifying faunal species.

Any open excavations will be covered at night or a means of escape provided for otter, as detailed within the outline CEMP. Speed limits and work timings, which will be outlined in the final CEMP, would be implemented to reduce the risk of otter collisions with construction vehicles.

### 7.4.5 Mitigation Measures for Operational Effects on the River Usk SAC

#### 7.4.5.1 Pollution Events

The mitigation outlined in Section 7.1.5.1 is also applicable for measures to mitigate operational pollution event impacts to the River Usk SAC.

#### 7.4.5.2 Habitat Severance

The mitigation outlined in Section 7.1.5.2 is also applicable for measures to mitigate impacts of habitat severance on the River Usk SAC.

In addition, road culverts over the reens within the proposed development have been designed with otter ledges, to the Design Manual for Roads and Bridges (DMRB) specifications<sup>61</sup>. For the purpose of structure and levels design the modelling used the 1 in 100 with 25% climate change flood levels for the highest water level to ensure the ledge should be sited at least 150 mm above the highest water level and allow for 600 mm headroom. Otter fencing will be installed around the culverts designed for otter to encourage use of the culverts and discourage the otters crossing the roads.

However, if otter should be forced to cross the roads, all roads within the development will be subject to a 20mph speed limit and Cypress Drive is already subject to a 30mph limit – with speed reduction measures being introduced as identified in the Transport Assessment. Forecast traffic volumes, in the assessment year of 2028 are tabulated below for timings from dusk to dawn (the main activity period for otter), further demonstrate that collision risk to otters is considered unlikely should they find a way to cross the road, even during the mid-winter period.

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<sup>61</sup> Highways Agency (2001) DMRB Volume 10 Section 4 Part 4 HA 81/99 Nature Conservation Advice in Relation to Otters



Table 13: Forecast traffic volumes, in the assessment year of 2028, between dusk and dawn for the main access road of the proposed development

Season	Sunset/Sunrise Hrs	Traffic Forecast Period	Traffic Volume
Spring (1 May)	2030-0545	2000-0630	150
Summer (16 July)	2123-0513	2100-0530	25
Autumn (30 Sept)	1851 - 0712	1830-0800	1,025
Winter (21 Dec)	16:06 – 08:16	16:00-08:15	3,677

### 7.4.5.3 Disturbance/Displacement of Faunal Species

The mitigation outlined in Section 7.1.5.3 is also applicable for measures to mitigate impacts of disturbance/displacement of the qualifying faunal species of the River Usk SAC.

### 7.4.5.4 Mortality/Injury of Individuals

As detailed above in Section 7.4.5.2, road culverts over the reens within the proposed development have been designed with otter ledges and otter fencing to encourage use of the culverts and discourage the otters crossing the roads.

### 7.4.6 Residual Effects on the River Usk SAC

With the inclusion of the mitigation measures outline above, it is concluded that the proposed development is unlikely to give rise to an adverse effect on the integrity of the River Usk SAC.

## 7.5 In-Combination Assessment

Based on the outputs from Table 11, in-combination effects are discussed relating to the previously identified potential construction and operational effects. Any proposed mitigation is set out within the sections below.

### 7.5.1 Loss of Habitat

Only the Wentlooge Renewable Energy Hub is proposed within existing habitats which could be utilised by features, particularly avian features, of the Severn Estuary Natura 2000 sites. The Wentlooge Renewable Energy Hub produced a Shadow Habitat Regulation Assessment<sup>62</sup> concluding that there are no likely significant effects alone or in-combination (including Cardiff Hendre Lakes) to the Severn Estuary Natura 2000 sites.

The assessment went on to conclude that *'The one possible LSE<sup>63</sup> is loss of habitat to numbers of wintering lapwing (as part of the assemblage) that use the*

<sup>62</sup> Wentlooge Renewable Energy Hub, Peterstone, Newport. Shadow Habitat Regulations Assessment. October 2020. A report on behalf of Wentlooge Farmers' Solar Scheme Ltd Ref: 0475-sHRA-MW.

<sup>63</sup> Likely Significant Effect

*Site and although it is considered that the Site is not functionally linked to the SPA, large numbers do occasional use the Site and therefore the precautionary principle has been observed and compensation has been recommended that is considered to reduce the potential for likely significant effects on the integrity of the Severn Estuary Natura 2000 sites to a non-appreciable and non-significant level. In combination effects with the sites where information is available are not considered to be significant.'*

No lapwing were observed within the Cardiff Hendre Lake site during any of the ecological surveys conducted. Furthermore, as discussed only small numbers of shelduck (peak count 6), teal (peak count 20) and tufted duck (peak count 2) were recorded within the site which are features of the SPA and Ramsar site; all of which were recorded in numbers less than 1% than the cited Severn Estuary populations. Mallard and lapwing have been recommended for consideration to be added to the assemblage feature list for the SPA (SPA Review 2001<sup>34</sup>), both of which were observed within the site, however mallard were the only species recorded in numbers slightly over the 1% threshold, being 63 birds in November 2017 (amounting to 2.3% of the population). However, a large proportion of these birds are considered to be permanent residents or regularly occurring birds and thus likely to be habituated to some level of human disturbance.

Furthermore, the majority of these birds were recorded around Hendre Lake and Faendre Reen, both of which are being retained and are already subject to significant disturbance from local residents, including dog-walkers, due to public footpaths and as such are likely to be habituated to some level of human disturbance.

As such in-combination impacts in relation to habitat losses are not considered likely to lead to any adverse effects on the integrity of the International Sites identified within this report.

## 7.5.2 Disturbance (Noise and Vibration)

None of the identified plans and projects are within the primary 300m zone of influence for construction or operational effects for noise or vibration effects<sup>64</sup>. As such no in-combination effects of disturbance are likely to arise during either construction or operation of the scheme.

## 7.5.3 Air Quality

None of the in-combination plans and projects are within the air quality zone of influence of 350m for the assessment of construction dust effects<sup>65</sup>. Due to the distance of the in-combination plans and projects, no in-combination effects during construction are expected to arise. It is also anticipated that all plans and projects would employ appropriate mitigation measures to minimise the risk of dust nuisance during construction.

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<sup>64</sup> As defined within ES Chapter 9 Noise and Vibration

<sup>65</sup> As defined within ES Chapter 16 Cumulative Effects

It should be noted that traffic associated with the in-combination plans and projects has been included in the traffic data used in the air quality assessment of future year scenarios. Therefore, in-combination air quality effects arising from both construction and operational traffic have already been assessed within the information to inform the Appropriate Assessment.

#### 7.5.4 Water Resources

The Melrose Hall Development is the only committed development located within the study area that may result in in-combination effects on water resources.

It is not considered that the Melrose Hall Development and the proposed development will exacerbate flood risk in the area during construction and operation. During construction, the Melrose Hall Development is expected to incorporate good practice working methods that manage flood risk. The proposed development will be constructed through a phased approach to manage flood risk and will adhere to construction best practice guidance in the final CEMP. During the operational phase, the Melrose Hall Development would manage surface water run-off from site discharges into surface water bodies at a controlled rate. The proposed development would incorporate a series of flood risk mitigation measures which are designed to manage future flood risk, informed by flood risk modelling.

There is not considered to be an impact on surface water quality during construction and operation as a result of the Melrose Hall Development and the proposed development. As previously mentioned, during construction it is assumed that the Melrose Hall development would adopt good practice working methods during construction. The proposed development would adhere to the CEMP which contains measures to ensure surface water quality is not impacted. During operation, the Melrose Hall Development and the proposed development both include surface water drainage strategies to manage the quality and quantity of surface run off entering water bodies.

The Wentlooge Renewable Energy Hub Shadow HRA concluded that there are no likely significant effects alone or in-combination (including Cardiff Hendre Lakes) to the Severn Estuary Natura 2000 sites.

#### 7.5.5 Ecological Receptors

Due to the nature of the Gwent Levels, it is likely that the committed plans and projects assessed are hydrologically connected with the Severn Estuary sites and the River Usk SAC, creating a potential pathway of effect alongside the proposed development, however the potential for in-combination effects to specific species associated with International sites is considered unlikely provided that standard construction mitigation methods are followed for all developments.

The in-combination loss of habitats associated with the identified committed plans and projects for protected species is minimal from a review of publicly available information. It was therefore assumed within the assessments for these developments that surveys for protected and/or notable species, such as otter,

were either: not required; found no evidence of these species; or had sites which are of limited value for these species.

No other ecological receptors associated with International sites identified within the proposed development site or within the zone of influence are considered likely to have in-combination impacts with the identified committed development.

As such in-combination impacts are not considered likely to lead to any adverse effects on the integrity of the International Sites identified within this report.

## 8 Proposals for Monitoring

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### 8.1 Pre-Construction Monitoring

As described in Section 7.1.4.4 above, a pre-construction survey for INNS should be undertaken in spring, prior to commencement of the works.

As described under Section 7.4.4.3, a pre-construction survey for otter will be conducted on waterbodies and associated habitat within the construction area and up to 250m from construction activities to establish the presence of any new breeding or resting sites, to ensure legal compliance and determine the requirement for an EPS licence from NRW.

### 8.2 Monitoring During Construction

The contractor instructed to complete these works is to incorporate all recommended mitigation from this HRA into the final CEMP. All works will be monitored throughout, by the ECoW, Environmental Manger or appropriately identified person, to ensure that construction mitigation measures are working sufficiently to mitigate any of the identified risks and pathways of effect to the International Sites. Monitoring will also include all those watching briefs and activities required to ensure the safeguarding and/or translocation of species during works, such as fish translocation during the de-watering of the field ditches.

### 8.3 Post-Construction Monitoring

The OPA ES for the proposed development sets out a number of general principles for the management and monitoring proposals for created habitats and other ecological receptors within the planning boundary. Appendix E27 of the OPA ES provides further details within a strategic framework of the management and monitoring proposals of the features of the SSSI. These are not repeated here, but a summary of proposals for habitat management relevant to this assessment are given below, these being management and monitoring proposals for grassland (valuable habitat for qualifying bird species) and field ditches (valuable habitat for qualifying fish species). The full details of any management and monitoring plans would be developed from the Framework SSSI Mitigation, Management and Monitoring Strategy (Appendix E27 of the OPA ES) and finalised in the Habitat Management Plan (HMP) which will be secured by a planning condition.

For habitats, monitoring and management is most important during the early maturity and establishment period. For this reason, monitoring and management prescriptions for the first five years are extensive, thereafter periods between management and monitoring are extended up to Year 25 for more sensitive habitats.

The majority of habitats would be created during the initial phases of the project, and as such, Year 5 of the proposal is likely to coincide with the last phases of construction.

### 8.3.1 Woody Habitats (Woodland, Hedgerows and Scrub)

- Woodlands and hedgerows will be managed for the diversity of wooded plants, to benefit wildlife, including invertebrates and dormice.
- Management of grasslands would be finalised in agreement with NRW but would follow these prescriptions.
- Carry out regular inspections of the planting, quarterly up to year 5.
- Ensure a 1m diameter circle around the base of each tree and shrub is kept weed free to guarantee a high success rate of establishment of the hedgerow plants. Weed control either by use of contact weed killer (by agreement with NRW) or by manual control.
- Water as necessary to maintain healthy growth, particularly in times of low rainfall in summer, at least the first 3 years.
- All vandalised, damaged, dead, dying or diseased plants to be replaced after each growing season following planting for a period of 5 years.
- Yearly for the first 5 years, assess stakes and guards, replace any missing or damaged. Remove guards if they are beginning to restrict the development of the plants; removal all by year 5.
- Hedgerow shall be trimmed in winter on a cycle as appropriate to manage its height and spread, encourage a thick bushy habitat and benefit wildlife. Frequency to be determined by monitoring and desired height and size of hedgerows.
- Where possible, hedgerows should be allowed to grow tall and thick so that there are natural overhangs (these concentrate the invertebrates and also provide overhanging branches for the bats to rest on).
- Woodlands shall be thinned /coppiced, by tree removal, as necessary to reduce competition for space. Remove an even mix of species or remove species to restore a healthy. Frequency to be determined by monitoring.
- All trees will be formative pruned, every 5 years (if required) for the period of the management plan, to maintain their shape and remove any dead wood, crossing branches and suckers. Pruning operations must not affect the vertical growth or spread of the establishing trees.
- All hedgerow and woodland management should only be conducted between December and February to ensure no impacts to dormice.
- Pile dead wood in habitat piles scattered throughout the woodland.
- Monitoring of hedgerows and woodlands created and enhanced would be monitored for establishment for the first 5 years. Monitoring methodology and frequencies beyond this would be determined in consultation with NRW as required under the Dormouse License.

Further detailed within Appendix E27 of the OPA ES and would need to be agreed and secured through the detailed HMP.

### 8.3.2 Grasslands

- Management of grasslands would be finalised in agreement with NRW but would follow these prescriptions.

- The management of both the wet and dry species-rich grassland would follow a hay-meadow regime, with the removal of hay in late July / August followed by low density grazing in the summer and autumn.
- Grazing will not be undertaken through the winter to avoid excessive poaching and the final details of the grazing regime would be agreed with NRW.
- Where grazing is not possible (e.g. within the Wildlife Corridor), it would be necessary to maintain the grassland through mowing, with all arisings removed. The habitat for shrill carder bee and other invertebrates would be maintained by a rolling programme of cutting.
- No fertilisers or pesticides will be used in the meadow grasslands. Should herbicide use be necessary (e.g. to deal with invasive species or other undesirable species), the remedial actions would be agreed with NRW and limited to spot treatment.
- Grass margins along ree and field ditch edges will be left uncut (i.e. no hay removal), with grazing only. If they require cutting rather than grazing (due to location), then this will be done on alternate banks each year.
- Areas identified within the meadow fields as having good assemblage of forage species, and/or nesting potential for shrill carder bee will cut at the end of September or into October, and over a 2-3 year cycle, so that the grassland remains viable for late foraging shrill carder bee and that some of grassland remains undisturbed in any single year.
- Areas identified for shrill carder bee nesting and hibernation within created tussocky grass will be managed on a 3 – 4 year rotation.
- Monitoring of the grassland habitat will be carried out using Common Standards Monitoring Guidance for Lowland Grassland Habitats<sup>66</sup> by a suitably qualified ecologist in June/July in order to help determine the level of success of establishment and the potential need for additional seed or changes to management. Indicators of success would be agreed with NRW and monitored as required.
- Frequency and duration of grassland monitoring: Years 1, 2, 3, 5, 10 and 15 and every 5 years thereafter until year 25 (or as necessary if remedial actions are required).

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<sup>66</sup> JNCC (2004) Common Standards Monitoring Guidance for Lowland Grassland Habitats



### 8.3.3 Reens and field ditches

- Management proposals are in line with NRW guidance documents<sup>67,68,69,70,71</sup>, however these are indicative, and remedial actions will be dictated by the outcomes of monitoring.
- Following creation, the banks of the field ditches will remain undisturbed with the exception of management procedures described below.
- Annual grassland buffer cut (if required advised by ecologist) on alternate ditch banks, outside of water vole breeding season (March to October), for management period.
- Newly created field ditches are unlikely to require more intense management within the first five years, with the exception of the potential need to remove aquatic vegetation in late summer.
- Management would be undertaken on a staggered programme to be agreed with NRW, but would follow these prescriptions:
  - De-weeding of field ditches every 2-3 years on rotation, which would be discussed and agreed with NRW and an appropriate plan produced for the long-term implementation.
  - Casting of field ditches every 7-10 years on rotation, which would be discussed and agreed with NRW and an appropriate plan produced for the long-term implementation.
  - Wherever practicable, works will be undertaken between late August/September and December/January, so as to reduce impacts on species present, including invertebrates, and to enable plants to gain full advantage of the summer months and set seed.
- Monitoring is required to ensure that the new and retained field ditches are establishing and being maintained in an optimal condition.
- Surveys for vegetation (to describe botanical diversity) of specific 20 metre sections that allow for repeatability and comparison, in line with methodology detailed within baseline survey reports OPA ES Appendix E4 and E5 (based on guidance<sup>72 73</sup> for reen flora monitoring). Surveys will be undertaken between mid-May and the end of July, with the optimum period being between late June and early July. Surveys will cover all retained and created ditches and all retained reens. The reen and ditch network will also be surveyed for invasive non-native species.

<sup>67</sup> CCW, Nature Conservation and Physical Developments in the Gwent Levels – The Current and Future Implications. Chapter 6: Conservation Guidelines for Development Proposals on the Gwent Levels, 1991

<sup>68</sup> CCW, Interim Guidance Note One, General Guidance Monitoring of Physical Developments within the Gwent Levels SSSI. 1996

<sup>69</sup> CCW, Interim Guidance Note Two, Flora Monitoring on the Gwent Levels SSSI. 1996

<sup>70</sup> Interim Guidance Note 3, Invertebrate Monitoring on the Gwent Levels SSSI. Updated June 2004

<sup>71</sup> CCW, Interim Guidance Note Four, Water Quality Monitoring on the Gwent Levels SSSI. 1996.

<sup>72</sup> Guidance Note Two Flora Monitoring On The Gwent Levels Sites Of Special Scientific Interest Countryside Council For Wales Draft - September 1996

<sup>73</sup> Palmer, M., Drake, M. & Stewart, N. (2013). A manual for the survey and evaluation of the aquatic plant and invertebrate assemblages of grazing marsh ditch systems. Version 6 (May 2013).



- Reens and ditches will be subject to one survey visit each in Year 2, 3, 5, 10, 15, and every 5 years thereafter until year 25 (or as necessary if remedial actions are required).

Eel passes, under the Eels Regulations, require the responsible person (the owner, occupier or person in charge of the land on which the dam, structure or obstruction lies) to maintain an eel pass in an efficient state. Failure to comply is an offence. As such, any such structure will be monitored and maintained appropriately.

### 8.3.4 Protected Species Surveys

Monitoring surveys for otter will be undertaken in Years 2, 3, 5 and 10, post habitat creation, to cover retained and created field ditches (and as specified within any EPS mitigation licence if required). Additional monitoring and any required maintenance in Year 2, 3, 5 and 10 will also be required for the artificial otter holt.

## 9 Conclusion

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The proposed development comprises the construction of a business park and new transport hub facility, including ancillary uses, and infrastructure associated with; biodiversity, landscape, drainage, walking, cycling and other transport modes.

This HRA report has been produced in support of the OPA 'Cardiff Hendre Lakes' to Cardiff Council and three planning applications (for associated works) to Newport City Council.

Seven International Sites were identified within the search area (10km and all SACs designated for the presence of Annex II bat and/or fish species within 10-30km of the project): Severn Estuary SAC, SPA and Ramsar site, River Usk SAC, Mendip Limestone Grasslands SAC, North Somerset and Mendip Bats SAC, and the Wye Valley and Forest of Dean Bat Sites SAC.

The HRA Screening Assessment identified the potential pathways for effect for the Severn Estuary SAC, SPA and Ramsar site, and the River Usk SAC, via: habitat degradation, in the form of dust deposition, pollution events, sediment run-off, changes in air quality, and the spread of INNS; habitat loss/severance; physical disturbance/damage of habitats for which qualifying features rely on; disturbance/displacement to qualifying fauna and mortality/injury of individuals.

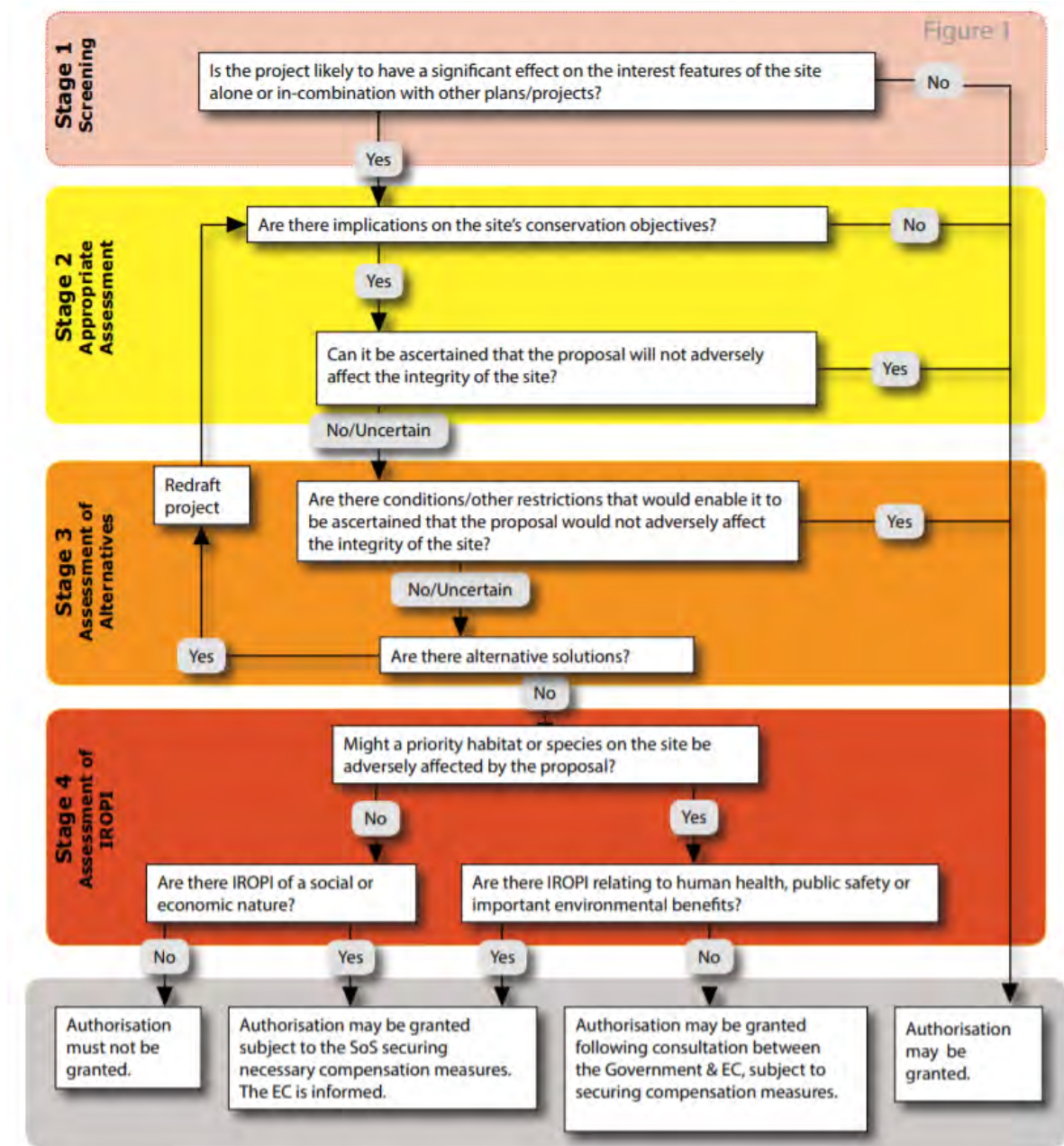
The information to inform the Appropriate Assessment considered these effects in relation to the conservation objectives for the qualifying features of the International Sites and identified suitable mitigation measures.

These measures along with the proposed monitoring are considered sufficient to ensure that the construction and operation of the proposed development do not, either alone or in-combination with other plans or projects, give rise to any adverse effects on the integrity of the International Sites.

## Appendix A

### Habitat Regulations Assessment Process

## A1 Habitat Regulations Assessment Process



Copied from: The Planning Inspectorate, 2017. Habitat Regulations Assessment relevant to nationally significant infrastructure projects. Version 8, November.

# Appendix B

## Figures

## **B1 Project Drawings**

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Figure 1: Site Location

Figure 2: Proposed Development

## **B2 Ecological Figures**

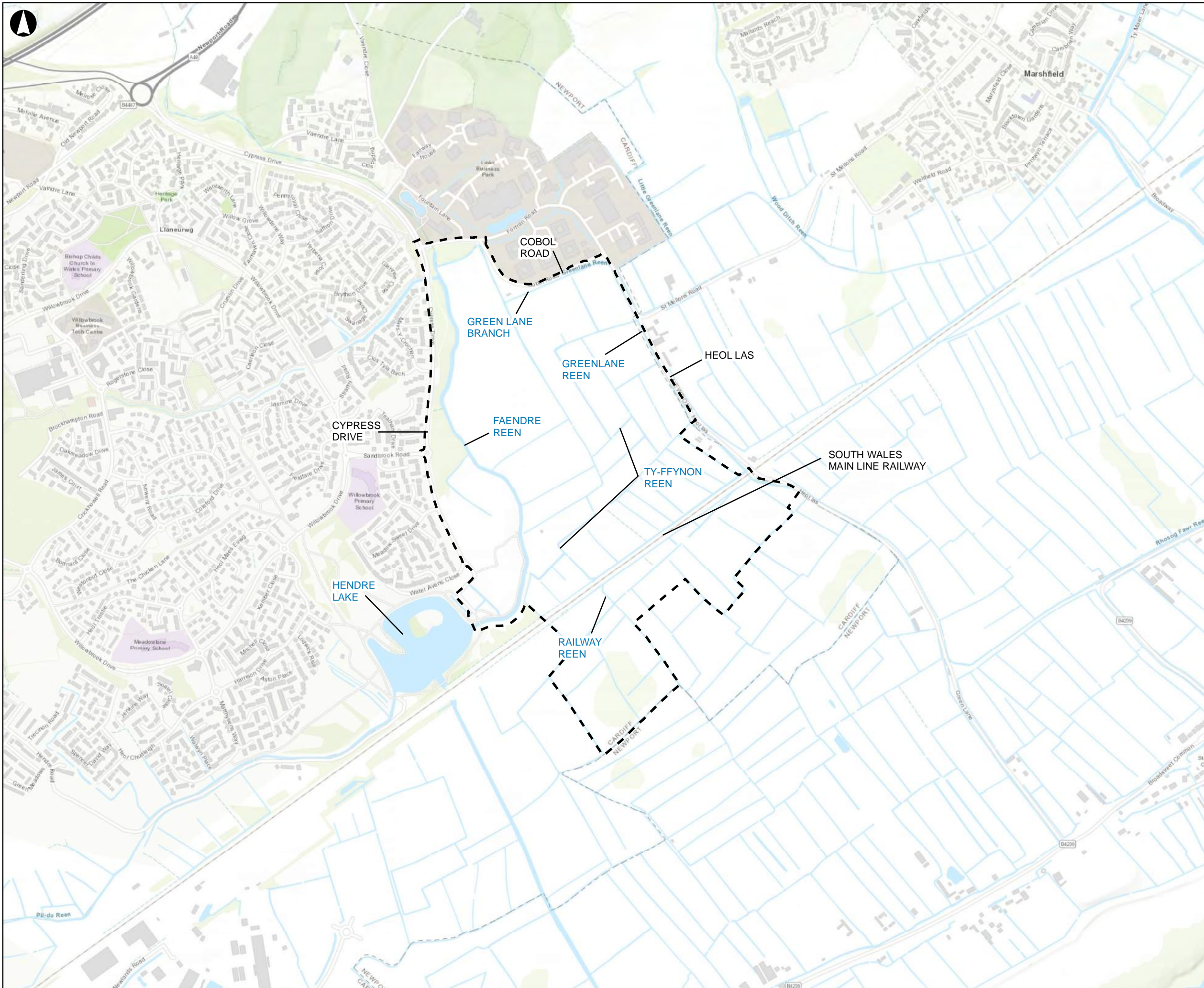
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Figure 3: Ecological Constraints

Figure 4: International Sites within 10km and bat and/or fish SACs within 10-30km of the Proposed Development

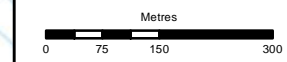
Figure 5: Wintering Bird Transect Viewshed for 2017/18 survey.





**Legend**  
 Proposed Development Boundary

S01	2020-04-06	EA	PW	PC
Issue	Date	By	Chkd	Appd



**ARUP**

Client  
**Cardiff Parkway Developments Ltd**

Job Title  
**Cardiff Hendre Lakes**

Figure Title  
**SITE LOCATION**

Scale at A3  
**1:10,000**

Job No  
**252199**      Drawing Status  
**Final**

Drawing No  
**Figure 1**      Issue  
**S01**





Development Zone	Heights			Maximum GFA of Business Park
	Min (m)	Max (m)	Max Storeys	
1a	0	48	12	50,000m <sup>2</sup>
1b	0	60	15	
2a	0	24	6	40,500m <sup>2</sup>
2b	0	48	12	
3a	0	24	6	22,500m <sup>2</sup>
3b	0	24	6	

Min height taken from proposed ground levels.  
 Max height taken from proposed ground levels.  
 Excludes rooftop plant, potential additional 4m subject to requirements  
 The maximum area of the business park (B1, B2, B8) will be 90,000m<sup>2</sup> of development

- Legend**
- ▭ Planning application boundary
  - ▬ Retained reën
  - ↔ Primary site access point
  - ↔ Secondary site access point
  - ↔ Vehicle access point
  - ↔ Active travel
  - ↔ Vehicular crossing
  - ▬ Main vehicular route
  - ▬ Local and emergency vehicular access
  - ▭ Station building and platforms
  - ▭ Surface parking for station
  - ▭ Mitigation area for habitat north of rail line
  - ▭ Ecological mitigation, access and agriculture
  - ▭ Strategic green infrastructure and access\*
  - ▭ On-plot green connections (integrated SUDs)
  - Strategic water feature\*
  - ▭ Dry ponds\*
  - ▭ Hendre Lake
  - ▭ Location of existing primary reën culvert
  - ▭ Proposed and enhanced diverted right of way
  - Potential active travel link to Heol Las
  - ▭ Development areas
  - ✱ Key public spaces
  - ▭ Land in other uses (gas pumping station/ railway)
  - ▭ Existing highway
  - ▭ Existing Overhead Pylons

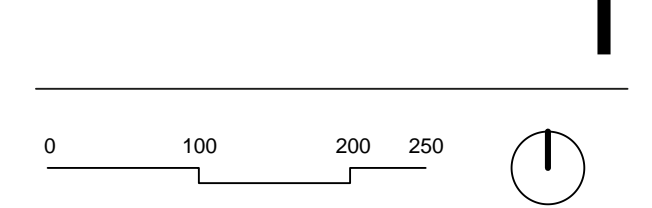
02	15/ 12 / 21	JH	DW	SC
01	11/ 01 / 21	JT	DW	SC
Issue	Date	By	Chkd	Appd

**ARUP**  
 4 Pierhead Street  
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 www.arup.com

**Client**  
 CPDL

**Project Title**  
 CARDIFF HENDRE LAKES

**Drawing Title**  
 PARAMETER PLAN 1



**Scale at A2**  
 1:5,000

**Discipline**  
 Masterplanning

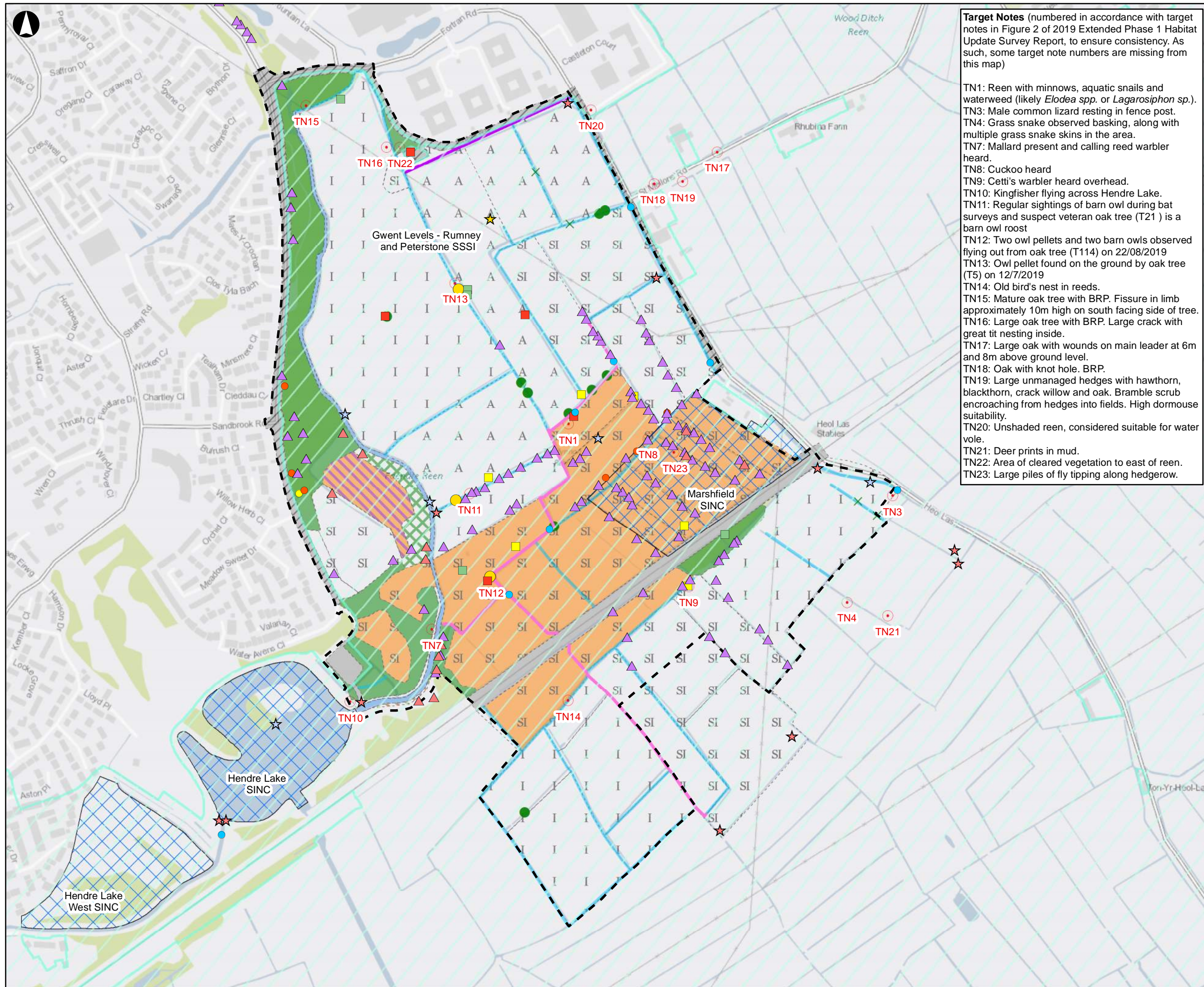
**Drawing Status**  
 Submission

**Job No** 252199-00 **Issue** 02

**Name**  
 Figure 2

\*All water features, dry ponds, structural landscaping, green connections, access roads and corridors, parking areas and plots will incorporate SuDS features throughout





**Target Notes** (numbered in accordance with target notes in Figure 2 of 2019 Extended Phase 1 Habitat Update Survey Report, to ensure consistency. As such, some target note numbers are missing from this map)

TN1: Reen with minnows, aquatic snails and waterweed (likely *Elodea spp.* or *Lagarosiphon sp.*).  
 TN3: Male common lizard resting in fence post.  
 TN4: Grass snake observed basking, along with multiple grass snake skins in the area.  
 TN7: Mallard present and calling reed warbler heard.  
 TN8: Cuckoo heard  
 TN9: Cetti's warbler heard overhead.  
 TN10: Kingfisher flying across Hendre Lake.  
 TN11: Regular sightings of barn owl during bat surveys and suspect veteran oak tree (T21) is a barn owl roost  
 TN12: Two owl pellets and two barn owls observed flying out from oak tree (T114) on 22/08/2019  
 TN13: Owl pellet found on the ground by oak tree (T5) on 12/7/2019  
 TN14: Old bird's nest in reeds.  
 TN15: Mature oak tree with BRP. Fissure in limb approximately 10m high on south facing side of tree.  
 TN16: Large oak tree with BRP. Large crack with great tit nesting inside.  
 TN17: Large oak with wounds on main leader at 6m and 8m above ground level.  
 TN18: Oak with knot hole. BRP.  
 TN19: Large unmanaged hedges with hawthorn, blackthorn, crack willow and oak. Bramble scrub encroaching from hedges into fields. High dormouse suitability.  
 TN20: Unshaded reen, considered suitable for water vole.  
 TN21: Deer prints in mud.  
 TN22: Area of cleared vegetation to east of reen.  
 TN23: Large piles of fly tipping along hedgerow.

**Legend**

**Proposed Development Boundary**

**Species**

- ▲ Dormouse presence (2017)
- ▲ Dormouse presence (2019)
- Tree with high bat roosting potential
- Tree with medium bat roosting potential
- Tree with low bat roosting potential
- ★ Otter couch (2017)
- ★ Otter lay-up (2019)
- ★ Otter spraint (2019)
- Potential barn owl nesting and/or roosting location
- Water vole presence (2017)
- Water vole presence (2019)

**Designated Sites**

- Site of Special Scientific Interest (SSSI)
- Site of Importance for Nature Conservation (SINC)

**Habitats**

- Target notes
- × Scattered scrub
- Scattered broad-leaved trees
- Standing water
- Semi-natural broadleaved woodland
- Dense scrub
- Semi-improved neutral grassland
- Improved grassland
- Marshy grassland
- Poor semi-improved grassland
- Tall ruderal
- Standing water
- Arable
- Buildings
- Gravel and concrete
- Tarmac

**Schedule 9 invasive non-native species**

- Waterweed (likely *Elodea spp.* or *Lagarosiphon spp.*)
- Japanese knotweed
- Japanese knotweed hybrid

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S01	2020-04-06	EA	PW	PC
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Issue	Date	By	Chkd	Appd

Metres

0 75 150 300

# ARUP

Client  
**Cardiff Parkway Developments Ltd**

Job Title  
**Cardiff Hendre Lakes**

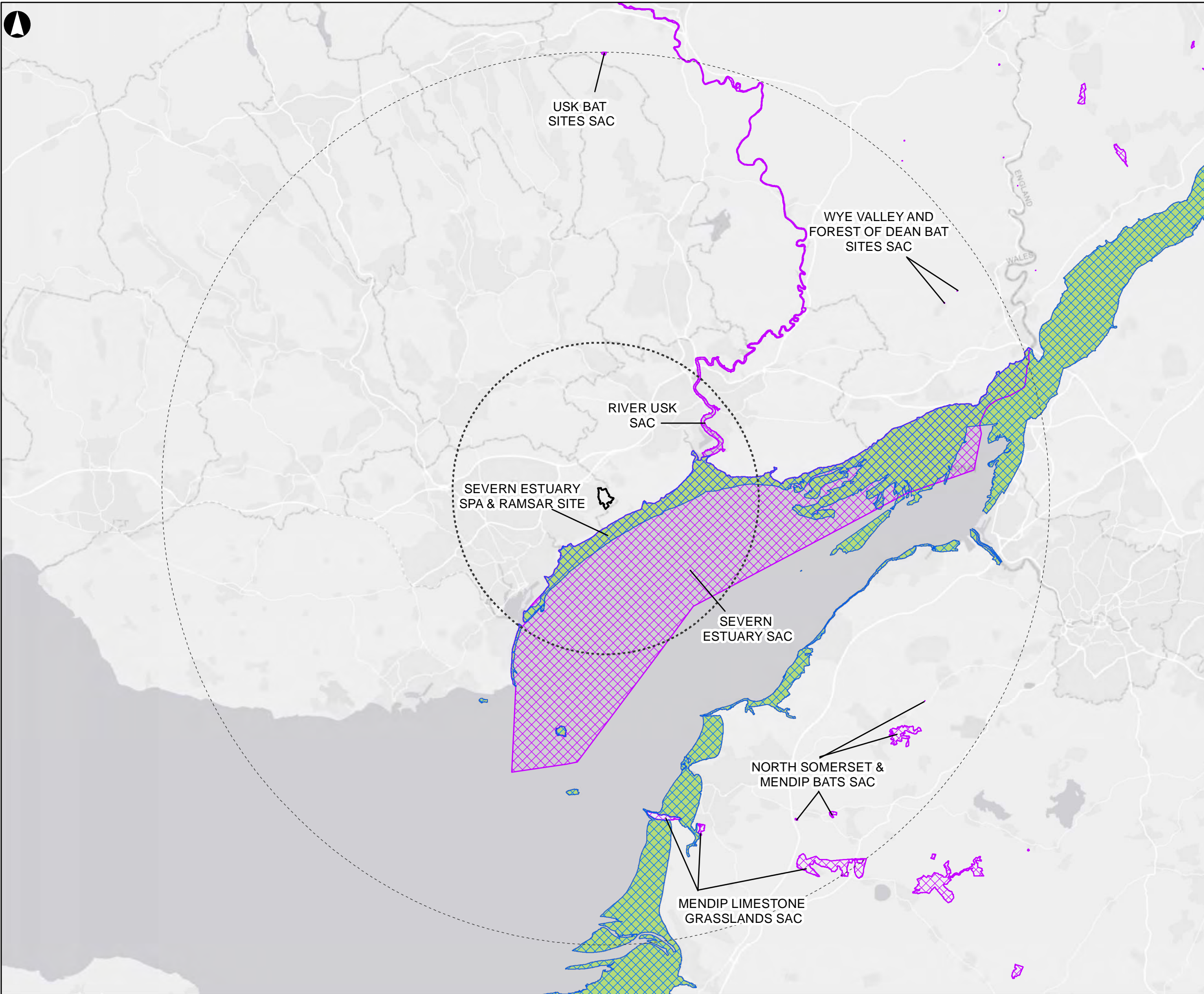
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Scale at A3  
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Job No <b>252199</b>	Drawing Status <b>Final</b>
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Drawing No <b>Figure 3</b>	Issue <b>S01</b>
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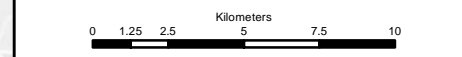
**Legend**

- Proposed Development Boundary
- Study Area - 10km Buffer
- Study Area - 30Km Buffer
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Ramsar Site

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S01	2020-06-04	EA	PW	PC
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Issue	Date	By	Chkd	Appd
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Client  
**Cardiff Parkway Developments Ltd**

Job Title  
**Cardiff Hendre Lakes**

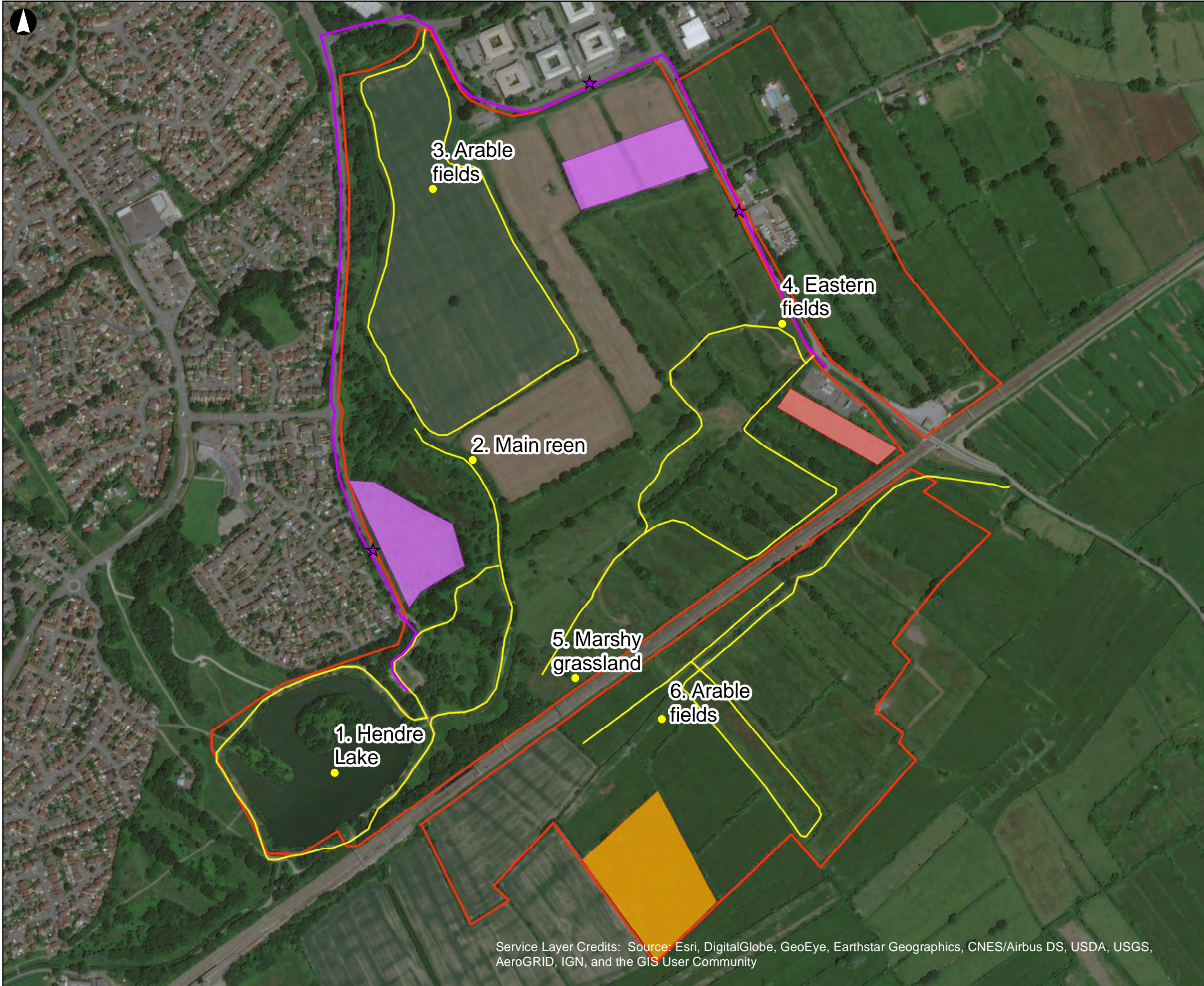
Figure Title  
**INTERNATIONAL DESIGNATIONS WITHIN 10KM AND BAT/FISH SPECIAL AREAS OF CONSERVATION (SACS) WITHIN 30KM**

Scale at A3  
**1:250,000**

Job No <b>252199</b>	Drawing Status <b>Final</b>
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Drawing No <b>Figure 4</b>	Issue <b>S01</b>
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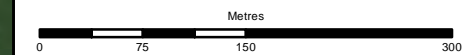


**Legend**

- Study Area Boundary
- Walked Transect Route
- Driven Transect Route
- Driven Transect Stopping Points
- Limited view from Walked Transect but visible from Driven Transect with Stops
- Limited view from Walked Transect due to access restrictions, but fields were scanned at distance through gaps in vegetation
- No view due to vegetation

F1	2021-05-24	EA	AC	PW
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Issue	Date	By	Chkd	Appd



**ARUP**

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(T)+44179765432 (F)+441179765433

Client  
**Cardiff Parkway Developments Ltd.**

Job Title  
**Cardiff Hendre Lakes**

**Wintering Bird Survey -  
Transects and Viewshed**

Scale at A3  
**1:5,500**

Job No <b>252199-00</b>	Drawing Status <b>For Issue</b>
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Drawing No <b>Figure 5</b>	Issue <b>F1</b>
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## Appendix C

### International Site Information Sheets

# NATURA 2000

## STANDARD DATA FORM

FOR SPECIAL PROTECTION AREAS (SPA)  
FOR SITES ELIGIBLE FOR IDENTIFICATION AS SITES OF COMMUNITY IMPORTANCE (SCI)  
AND  
FOR SPECIAL AREAS OF CONSERVATION (SAC)

### 1. Site identification:

1.1 Type

K

1.2 Site code

UK0013030

1.3 Compilation date

200708

1.4 Update

1.5 Relationship with other Natura 2000 sites

U | K | 9 | 0 | 1 | 5 | 0 | 2 | 2

1.6 Respondent(s)

International Designations, JNCC, Peterborough

1.7 Site name

Severn Estuary/ Môr Hafren

1.8 Site indication and designation classification dates

date site proposed as eligible as SCI	200708
date confirmed as SCI	200812
date site classified as SPA	
date site designated as SAC	201012

### 2. Site location:

2.1 Site centre location

longitude

latitude

02 58 41 W

51 28 07 N

2.2 Site area (ha)

73715.4

2.3 Site length (km)

2.5 Administrative region

NUTS code	Region name	% cover
UKL22	Cardiff and Vale of Glamorgan	1.02%
UKL21	Monmouthshire and Newport	8.39%
UKK13	Gloucestershire	6.10%
UKK11	Bristol, City of	16.92%
UKK12	North and North East Somerset, South Gloucestershire	8.12%
UKK23	Somerset	7.27%
0	Marine	52.18%

2.6 Biogeographic region

  
Alpine

  
Atlantic

  
Boreal

  
Continental

  
Macaronesia

  
Mediterranean

### 3. Ecological information:

#### 3.1 Annex I habitats

Habitat types present on the site and the site assessment for them:

Annex I habitat	% cover	Representativity	Relative surface	Conservation status	Global assessment
Sandbanks which are slightly covered by sea water all the time	15.98	C	C	B	C
Estuaries	99.95	A	A	B	B
Mudflats and sandflats not covered by seawater at low tide	27.5	A	B	B	B
Reefs	2	C	C	A	C
<i>Salicornia</i> and other annuals colonising mud and sand	0	D			
<i>Spartina</i> swards ( <i>Spartinion maritimae</i> )	0.26	D			
Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimae</i> )	0.89	A	B	B	A
Embryonic shifting dunes	0	D			

#### 3.2 Annex II species

Species name	Population				Site assessment			
	Resident	Migratory			Population	Conservation	Isolation	Global
		Breed	Winter	Stage				
<i>Petromyzon marinus</i>	Common	-	-	-	C	A	C	B
<i>Lampetra fluviatilis</i>	Common	-	-	-	C	B	C	B
<i>Alosa alosa</i>	Very rare	-	-	-	D			
<i>Alosa fallax</i>	Common	-	-	-	A	B	C	A

### 4. Site description

#### 4.1 General site character

Habitat classes	% cover
Marine areas. Sea inlets	
Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins)	99.0
Salt marshes. Salt pastures. Salt steppes	1.0
Coastal sand dunes. Sand beaches. Machair	
Shingle. Sea cliffs. Islets	
Inland water bodies (standing water, running water)	
Bogs. Marshes. Water fringed vegetation. Fens	
Heath. Scrub. Maquis and garrigue. Phygrana	
Dry grassland. Steppes	
Humid grassland. Mesophile grassland	
Alpine and sub-alpine grassland	
Improved grassland	
Other arable land	
Broad-leaved deciduous woodland	
Coniferous woodland	
Evergreen woodland	
Mixed woodland	
Non-forest areas cultivated with woody plants (including orchards, groves, vineyards, dehesas)	
Inland rocks. Screes. Sands. Permanent snow and ice	
Other land (including towns, villages, roads, waste places, mines, industrial sites)	

<b>Habitat classes</b>	<b>% cover</b>
<b>Total habitat cover</b>	<b>100%</b>

#### 4.1 Other site characteristics

##### Soil & geology:

Biogenic reef, Clay, Cobble, Gravel, Limestone/chalk, Mud, Peat, Pebble, Sand, Sandstone/mudstone, Sedimentary, Shingle

##### Geomorphology & landscape:

Cliffs, Coastal, Estuary, Intertidal rock, Intertidal sediments (including sandflat/mudflat), Islands, Open coast (including bay), Pools, Subtidal rock (including rocky reefs), Subtidal sediments (including sandbank/mudbank), Tidal rapids

#### 4.2 Quality and importance

Sandbanks which are slightly covered by sea water all the time

- for which the area is considered to support a significant presence.

Estuaries

- for which this is considered to be one of the best areas in the United Kingdom.

Mudflats and sandflats not covered by seawater at low tide

- for which this is considered to be one of the best areas in the United Kingdom.

Reefs

- for which the area is considered to support a significant presence.

Atlantic salt meadows (*Glauco-Puccinellietalia maritima*)

- for which this is considered to be one of the best areas in the United Kingdom.

*Petromyzon marinus*

- for which this is considered to be one of the best areas in the United Kingdom.

*Lampetra fluviatilis*

- for which this is considered to be one of the best areas in the United Kingdom.

*Alosa fallax*

- for which this is considered to be one of the best areas in the United Kingdom.

#### 4.3 Vulnerability

The conservation of the site features is dependent on the tidal regime. The tidal range in the Severn Estuary is the second-highest in the world and the scouring of the seabed and strong tidal streams result in natural erosion of the habitats and the presence of high sediment loads. The estuary is therefore vulnerable to large-scale interference, mainly as a result of human actions. These include land-claim, aggregate extraction, physical developments such as barrage construction and other commercial construction activities, flood defences, industrial pollution, oil spillage and tourism-based activities and disturbance.

There are several management mechanisms that seek to secure sustainable management of the Severn Estuary and its wildlife interest. Under the 1994 Habitats Regulations, a management scheme under Regulation 34 was established in 2004 in relation to the international bird interest that underpins designation as a Special Protection Area (SPA). Conservation advice has been provided under Regulation 33 for the Severn Estuary Special Area of Conservation (SAC), SPA and Ramsar site. Under the 2010 Habitat Regulations the management scheme previously produced is being reviewed and expanded to cover the not only the SPA but also the SAC and Ramsar site. The Severn Estuary Partnership is a long-standing partnership whose remit and membership extends beyond the designated area. It predates the European designations and seeks to deliver holistic management of the uses of the estuary. In Wales, Community Strategies and Local Biodiversity Action Plans also contribute to achieving the conservation aims for the Estuary.

### 5. Site protection status and relation with CORINE biotopes:

#### 5.1 Designation types at national and regional level

Code	% cover
UK01 (NNR)	3.4

*UK SAC data form*

UK00 (N/A)	77.3
UK04 (SSSI/ASSI)	22.7



# NATURA 2000

## STANDARD DATA FORM

FOR SPECIAL PROTECTION AREAS (SPA)  
FOR SITES ELIGIBLE FOR IDENTIFICATION AS SITES OF COMMUNITY IMPORTANCE (SCI)  
AND  
FOR SPECIAL AREAS OF CONSERVATION (SAC)

### 1. Site identification:

1.1 Type  1.2 Site code

1.3 Compilation date  1.4 Update

#### 1.5 Relationship with other Natura 2000 sites

U	K	0	0	1	2	6	4	2
U	K	0	0	1	3	0	0	7
U	K	0	0	1	3	0	3	0
U	K	0	0	3	0	2	0	3

1.6 Respondent(s)

1.7 Site name

#### 1.8 Site indication and designation classification dates

date site proposed as eligible as SCI	
date confirmed as SCI	
date site classified as SPA	199507
date site designated as SAC	

### 2. Site location:

#### 2.1 Site centre location

longitude	latitude
03 02 57 W	51 13 29 N

2.2 Site area (ha)  2.3 Site length (km)

#### 2.5 Administrative region

NUTS code	Region name	% cover
UK611	Avon	25.04%
UK612	Gloucestershire	21.03%
UK921	Gwent	26.04%
UK632	Somerset	24.04%
UK923	South Glamorgan	4.01%

#### 2.6 Biogeographic region

Alpine

Atlantic

Boreal

Continental

Macaronesia

Mediterranean

### 3. Ecological information:

#### 3.1 Annex I habitats

Habitat types present on the site and the site assessment for them:

Annex I habitat	% cover	Representativity	Relative surface	Conservation status	Global assessment

#### 3.2 Annex I birds and regularly occurring migratory birds not listed on Annex I

Code	Species name	Population			Site assessment			
		Resident	Migratory		Population	Conservation	Isolation	Global
			Breed	Winter				
A051	<i>Anas strepera</i>		282 I		B		C	
A041a	<i>Anser albifrons albifrons</i>		2664 I		A		B	
A149	<i>Calidris alpina alpina</i>		44624 I		B		C	
A037	<i>Cygnus columbianus bewickii</i>		280 I		B		C	
A048	<i>Tadorna tadorna</i>		3330 I		B		C	
A162	<i>Tringa totanus</i>		2330 I		B		C	

### 4. Site description:

#### 4.1 General site character

Habitat classes	% cover
Marine areas. Sea inlets	
Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins)	89.0
Salt marshes. Salt pastures. Salt steppes	6.0
Coastal sand dunes. Sand beaches. Machair	4.0
Shingle. Sea cliffs. Islets	
Inland water bodies (standing water, running water)	
Bogs. Marshes. Water fringed vegetation. Fens	
Heath. Scrub. Maquis and garrigue. Phygrana	
Dry grassland. Steppes	
Humid grassland. Mesophile grassland	
Alpine and sub-alpine grassland	
Improved grassland	1.0
Other arable land	
Broad-leaved deciduous woodland	
Coniferous woodland	
Evergreen woodland	
Mixed woodland	
Non-forest areas cultivated with woody plants (including orchards, groves, vineyards, dehesas)	
Inland rocks. Screes. Sands. Permanent snow and ice	
Other land (including towns, villages, roads, waste places, mines, industrial sites)	
<b>Total habitat cover</b>	<b>100%</b>

## 4.1 Other site characteristics

### Soil & geology:

Biogenic reef, Clay, Cobble, Gravel, Limestone/chalk, Mud, Peat, Sand, Sandstone/mudstone, Sedimentary, Shingle

### Geomorphology & landscape:

Cliffs, Estuary, Intertidal rock, Intertidal sediments (including sandflat/mudflat), Islands, Open coast (including bay), Pools, Subtidal rock (including rocky reefs), Subtidal sediments (including sandbank/mudbank), Tidal rapids

## 4.2 Quality and importance

### ARTICLE 4.1 QUALIFICATION (79/409/EEC)

#### Over winter the area regularly supports:

<i>Cygnus columbianus bewickii</i> (Western Siberia/North-eastern & North-western Europe)	3.9% of the GB population 5 year peak mean 1991/92-1995/96
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### ARTICLE 4.2 QUALIFICATION (79/409/EEC)

#### Over winter the area regularly supports:

<i>Anas strepera</i> (North-western Europe)	0.9% of the population 5 year peak mean 1991/92-1995/96
<i>Anser albifrons albifrons</i> (North-western Siberia/North-eastern & North-western Europe)	0.4% of the population 5 year peak mean 1991/92-1995/96
<i>Calidris alpina alpina</i> (Northern Siberia/Europe/Western Africa)	3.3% of the population 5 year peak mean 1991/92-1995/96
<i>Tadorna tadorna</i> (North-western Europe)	1.1% of the population 5 year peak mean 1991/92-1995/96
<i>Tringa totanus</i> (Eastern Atlantic - wintering)	1.3% of the population 5 year peak mean 1991/92-1995/96

### ARTICLE 4.2 QUALIFICATION (79/409/EEC): AN INTERNATIONALLY IMPORTANT ASSEMBLAGE OF BIRDS

#### Over winter the area regularly supports:

84317 waterfowl (5 year peak mean 01/04/1998)

#### Including:

*Cygnus columbianus bewickii* , *Anser albifrons albifrons* , *Tadorna tadorna* , *Anas strepera* , *Calidris alpina alpina* , *Tringa totanus* .

### 4.3 Vulnerability

The conservation of the site features is dependent on the tidal regime. The range is the second highest in the world and the scouring of the seabed and strong tidal streams result in natural erosion of the habitats. The estuary is therefore vulnerable to large scale interference, including human actions. These include land-claim, aggregate extraction/dredging, physical developments such as barrage construction flood defences, pollution (industrial, oil spillage), eutrophication and tourism based activities and disturbance. These issues are being addressed through existing control measures and as part of the Severn Estuary Strategy.

Since June 1995 the Severn Estuary Strategy has been working towards the sustainable management of the site, through the involvement of local authorities, interested parties and local people. This integrated approach is being further developed in conjunction with the SAC management scheme for the nature conservation interest of the estuary.

## 5. Site protection status and relation with CORINE biotopes:

### 5.1 Designation types at national and regional level

Code	% cover
UK01 (NNR)	9.0
UK04 (SSSI/ASSI)	100.2

# Information Sheet on Ramsar Wetlands (RIS)

*Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8<sup>th</sup> Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9<sup>th</sup> Conference of the Contracting Parties (2005).*

## Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

---

## 1. Name and address of the compiler of this form:

### Joint Nature Conservation Committee

Monkstone House

City Road

Peterborough

Cambridgeshire PE1 1JY

UK

Telephone/Fax: +44 (0)1733 – 562 626 / +44 (0)1733 – 555 948

Email: [RIS@JNCC.gov.uk](mailto:RIS@JNCC.gov.uk)

FOR OFFICE USE ONLY.

DD MM YY

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Designation date

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Site Reference Number

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## 2. Date this sheet was completed/updated:

Designated: 13 July 1995

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## 3. Country:

UK (England/Wales)

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## 4. Name of the Ramsar site:

Severn Estuary

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## 5. Designation of new Ramsar site or update of existing site:

**This RIS is for:** Updated information on an existing Ramsar site

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## 6. For RIS updates only, changes to the site since its designation or earlier update:

### a) Site boundary and area:

\*\* Important note: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

### b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

**7. Map of site included:**

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

**a) A map of the site, with clearly delineated boundaries, is included as:**

- i) **hard copy** (required for inclusion of site in the Ramsar List): *yes* ✓ -or- *no* ☐;
- ii) **an electronic format** (e.g. a JPEG or ArcView image) *Yes*
- iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** *yes* ✓ -or- *no* ☐;

**b) Describe briefly the type of boundary delineation applied:**

e.g. the boundary is the same as an existing protected area (nature reserve, national park etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The site boundary is the same as, or falls within, an existing protected area.

For precise boundary details, please refer to paper map provided at designation

**8. Geographical coordinates (latitude/longitude):**

51 13 29 N                      03 02 57 W

**9. General location:**

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Nearest town/city: Bristol

In the south-west of the United Kingdom, between Wales and England

**Administrative region:** Bro Morgannwg/ Vale of Glamorgan; Caerdydd/ Cardiff; Casnewydd/ Newport; Avon; City of Bristol; Fynwy/ Monmouthshire; Gloucestershire; Gwent; North Somerset; Somerset; South Glamorgan; South Gloucestershire

**10. Elevation** (average and/or max. & min.) (metres):    **11. Area** (hectares): 24662.98

Min.	-4
Max.	17
Mean	0

**12. General overview of the site:**

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The estuary's classic funnel shape, unique in Britain, is a factor causing the Severn to have the second-largest tidal range in the world (after the Bay of Fundy, Canada). This tidal regime results in plant and animal communities typical of the extreme physical conditions of liquid mud and tide swept sand and rock. The species-poor invertebrate community includes high densities of ragworms, lugworms and other invertebrates forming an important food source for passage and wintering waders.

A further consequence of the large tidal range is the extensive intertidal zone, one of the largest in the UK, comprising mudflats, sand banks, shingle, and rocky platforms.

Glassworts and annual sea-blite colonise the open mud, with beds of all three species of eelgrass *Zostera* occurring on more sheltered mud and sandbanks. Large expanses of common cord-grass also occur on the outer marshes. Heavily grazed saltmarsh fringes the estuary with a range of saltmarsh types present. The middle marsh sward is dominated by common saltmarsh-grass with typical associated species. In the upper marsh, red fescue and saltmarsh rush become more prominent.

**13. Ramsar Criteria:**

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

**1, 3, 4, 5, 6, 8**

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#### 14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

##### Ramsar criterion 1

Due to immense tidal range (second-largest in world), this affects both the physical environment and biological communities.

Habitats Directive Annex I features present on the pSAC include:

H1110 Sandbanks which are slightly covered by sea water all the time

H1130 Estuaries

H1140 Mudflats and sandflats not covered by seawater at low tide

H1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritima*)

##### Ramsar criterion 3

Due to unusual estuarine communities, reduced diversity and high productivity.

##### Ramsar criterion 4

This site is important for the run of migratory fish between sea and river via estuary. Species include Salmon *Salmo salar*, sea trout *S. trutta*, sea lamprey *Petromyzon marinus*, river lamprey *Lampetra fluviatilis*, allis shad *Alosa alosa*, twaite shad *A. fallax*, and eel *Anguilla anguilla*. It is also of particular importance for migratory birds during spring and autumn.

##### Ramsar criterion 8

The fish of the whole estuarine and river system is one of the most diverse in Britain, with over 110 species recorded. Salmon *Salmo salar*, sea trout *S. trutta*, sea lamprey *Petromyzon marinus*, river lamprey *Lampetra fluviatilis*, allis shad *Alosa alosa*, twaite shad *A. fallax*, and eel *Anguilla anguilla* use the Severn Estuary as a key migration route to their spawning grounds in the many tributaries that flow into the estuary. The site is important as a feeding and nursery ground for many fish species particularly allis shad *Alosa alosa* and twaite shad *A. fallax* which feed on mysid shrimps in the salt wedge.

##### Ramsar criterion 5

#### Assemblages of international importance:

#### Species with peak counts in winter:

70919 waterfowl (5 year peak mean 1998/99-2002/2003)

#### Ramsar criterion 6 – species/populations occurring at levels of international importance.

#### Qualifying Species/populations (as identified at designation):



**Species with peak counts in winter:**

Tundra swan , <i>Cygnus columbianus bewickii</i> , NW Europe	229 individuals, representing an average of 2.8% of the GB population (5 year peak mean 1998/9-2002/3)
Greater white-fronted goose , <i>Anser albifrons albifrons</i> , NW Europe	2076 individuals, representing an average of 35.8% of the GB population (5 year peak mean for 1996/7-2000/01)
Common shelduck , <i>Tadorna tadorna</i> , NW Europe	3223 individuals, representing an average of 1% of the population (5 year peak mean 1998/9-2002/3)
Gadwall , <i>Anas strepera strepera</i> , NW Europe	241 individuals, representing an average of 1.4% of the GB population (5 year peak mean 1998/9-2002/3)
Dunlin , <i>Calidris alpina alpina</i> , W Siberia/W Europe	25082 individuals, representing an average of 1.8% of the population (5 year peak mean 1998/9-2002/3)
Common redshank , <i>Tringa totanus totanus</i> ,	2616 individuals, representing an average of 1% of the population (5 year peak mean 1998/9-2002/3)

**Species/populations identified subsequent to designation for possible future consideration under criterion 6.**

**Species regularly supported during the breeding season:**

Lesser black-backed gull , <i>Larus fuscus graellsii</i> , W Europe/Mediterranean/W Africa	4167 apparently occupied nests, representing an average of 2.8% of the breeding population (Seabird 2000 Census)
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**Species with peak counts in spring/autumn:**

Ringed plover , <i>Charadrius hiaticula</i> , Europe/Northwest Africa	740 individuals, representing an average of 1% of the population (5 year peak mean 1998/9-2002/3)
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**Species with peak counts in winter:**

Eurasian teal , <i>Anas crecca</i> , NW Europe	4456 individuals, representing an average of 1.1% of the population (5 year peak mean 1998/9-2002/3)
Northern pintail , <i>Anas acuta</i> , NW Europe	756 individuals, representing an average of 1.2% of the population (5 year peak mean 1998/9-2002/3)

Contemporary data and information on waterbird trends at this site and their regional (sub-national) and national contexts can be found in the Wetland Bird Survey report, which is updated annually. See [www.bto.org/survey/webs/webs-alerts-index.htm](http://www.bto.org/survey/webs/webs-alerts-index.htm).

See Sections 21/22 for details of noteworthy species

Details of bird species occurring at levels of National importance are given in Section 22

**15. Biogeography** (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

**a) biogeographic region:**

Atlantic

**b) biogeographic regionalisation scheme** (include reference citation):

Council Directive 92/43/EEC

**16. Physical features of the site:**

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	alluvium, basic, biogenic reef, clay, cobble, gravel, limestone/chalk, mud, neutral, nutrient-rich, peat, sand, sandstone/mudstone, sedimentary, shingle
Geomorphology and landscape	cliffs, coastal, estuary, floodplain, intertidal rock, intertidal sediments (including sandflat/mudflat), islands, lowland, open coast (including bay), pools, subtidal rock (including rocky reefs), subtidal sediments (including sandbank/mudbank), tidal rapids
Nutrient status	eutrophic
pH	circumneutral
Salinity	brackish / mixosaline, saline / euhaline
Soil	mainly mineral
Water permanence	usually permanent
Summary of main climatic features	Annual averages (Cardiff, 1971–2000) ( <a href="http://www.metoffice.com/climate/uk/averages/19712000/sites/cardiff.html">www.metoffice.com/climate/uk/averages/19712000/sites/cardiff.html</a> ) Max. daily temperature: 14.3° C Min. daily temperature: 6.8° C Days of air frost: 33.0 Rainfall: 1111.7 mm Hrs. of sunshine: 1518.0

**General description of the Physical Features:**

The Severn Estuary is a large estuary with extensive intertidal mudflats and sandflats, rocky platforms and islands. Saltmarsh fringes the coast backed by grazing marsh with freshwater ditches and occasional brackish ditches. The seabed is rock and gravel with subtidal sandbanks. The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have the second-highest tidal range in the world. This tidal regime results in plant and animal communities typical of the extreme physical conditions of liquid mud and tide-swept sand and rock. A further consequence of the large tidal range is an extensive intertidal zone, one of the largest in the UK.

**17. Physical features of the catchment area:**

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

The Severn Estuary is a large estuary with extensive intertidal mudflats and sandflats, rocky platforms and islands. Saltmarsh fringes the coast backed by grazing marsh with freshwater ditches and occasional brackish ditches. The seabed is rock and gravel with subtidal sandbanks. The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have the second-highest tidal range in the world. This tidal regime results in plant and animal communities typical of the extreme physical conditions of liquid mud and tide-swept sand and rock. A further consequence of the large tidal range is an extensive intertidal zone, one of the largest in the UK.

**18. Hydrological values:**

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Shoreline stabilisation and dissipation of erosive forces, Sediment trapping

**19. Wetland types:**

Inland wetland, Marine/coastal wetland

Code	Name	% Area
G	Tidal flats	84.1
H	Salt marshes	4.7
D	Rocky shores	4.7
E	Sand / shingle shores (including dune systems)	4.4
Tp	Freshwater marshes / pools: permanent	1
B	Marine beds (e.g. sea grass beds)	0.9
F	Estuarine waters	0.2

**20. General ecological features:**

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The large tidal range leads to strong tidal streams and high turbidity, producing communities characteristic of the extreme physical conditions of liquid mud and tide-swept sand and rock. Broad intertidal flats with areas of unstable sand and muddy flats support high densities of invertebrates. Intertidal rock platforms support a wide variety of invertebrate species. There are large areas of subtidal sand, rock and gravel with a variety of aquatic estuarine communities including *Sabellaria alveolata* reef. Areas of saltmarsh fringe the estuary, mostly grazed with a range of vegetation communities. There are gradual and stepped transitions between bare mudflat to upper marsh and grassland. Main vegetation types are: upper saltmarsh with *Festuca rubra* and *Juncus gerardii*; middle marsh dominated by *Puccinellia maritima* with *Glaux maritima* and *Triglochin maritima*; dense monocultures of *Spartina anglica* at the edge of the mudflats-brackish pools and depressions with *Phragmites australis* and *Bolboschoenus maritimus*.

Ecosystem services

**21. Noteworthy flora:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

**Nationally important species occurring on the site.****Higher Plants.**

*Aster linosyris* (nationally rare),  
*Alopecurus bulbosus*, *Althaea officinalis*, *Bupleurum tenuissimum*, *Hordeum marinum*, *Lepidium latifolium*, *Petroselinum segetum*, *Puccinellia rupestris*, *Trifolium squamosum*, *Zostera marina/angustifolia*, *Zostera noltei* (all nationally scarce)

**22. Noteworthy fauna:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

**Birds****Species currently occurring at levels of national importance:****Species regularly supported during the breeding season:**

Herring gull , *Larus argentatus argentatus*, NW 1540 apparently occupied nests, representing an average of 1.1% of the GB population (Seabird Europe and Iceland/W Europe ) 2000 Census)

**Species with peak counts in spring/autumn:**

Little egret , <i>Egretta garzetta</i> , West Mediterranean	17 individuals, representing an average of 1% of the GB population (5 year peak mean 1998/9-2002/3)
Ruff , <i>Philomachus pugnax</i> , Europe/W Africa	12 individuals, representing an average of 1.7% of the GB population (5 year peak mean 1998/9-2002/3)
Whimbrel , <i>Numenius phaeopus</i> , Europe/Western Africa	333 individuals, representing an average of 11.1% of the GB population (5 year peak mean 1998/9-2002/3 - spring peak)
Eurasian curlew , <i>Numenius arquata arquata</i> , N. a. <i>arquata</i> Europe (breeding)	2021 individuals, representing an average of 1.3% of the GB population (5 year peak mean 1998/9-2002/3)
Common greenshank , <i>Tringa nebularia</i> , Europe/W Africa	26 individuals, representing an average of 4.3% of the GB population (5 year peak mean 1998/9-2002/3)
<b>Species with peak counts in winter:</b>	
Eurasian wigeon , <i>Anas penelope</i> , NW Europe	4658 individuals, representing an average of 1.1% of the GB population (5 year peak mean 1998/9-2002/3)
Northern shoveler , <i>Anas clypeata</i> , NW & C Europe	297 individuals, representing an average of 2% of the GB population (5 year peak mean 1998/9-2002/3)
Common pochard , <i>Aythya ferina</i> , NE & NW Europe	1118 individuals, representing an average of 1.8% of the GB population (5 year peak mean 1998/9-2002/3)
Water rail , <i>Rallus aquaticus</i> , Europe	11 individuals, representing an average of 2.4% of the GB population (5 year peak mean 1998/9-2002/3)
Spotted redshank , <i>Tringa erythropus</i> , Europe/W Africa	10 individuals, representing an average of 7.3% of the GB population (5 year peak mean 1998/9-2002/3)

### Species Information

Species occurring at levels of international importance on the site.

#### Fish.

*Alosa alosa* (IUCN Red data book – threatened; Habitats Directive Annex II, Annex V (S1102)),  
*Alosa fallax* (IUCN Red data book – threatened; Habitats Directive Annex II, Annex V (S1103))  
*Lampetra fluviatilis* (IUCN Red data book – threatened; Habitats Directive Annex II (S1099)),  
*Petromyzon marinus* (Habitats Directive Annex II (S1095))

### Nationally important species occurring on the site.

#### Invertebrates.

*Tenellia adspersa* (nationally rare); *Corophium lacustre* (nationally scarce); *Gammarus insensibilis* (nationally scarce)

## 23. Social and cultural values:

Describe if the site has any general social and/or cultural values e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

Aesthetic  
 Archaeological/historical site  
 Environmental education/ interpretation

Fisheries production  
 Livestock grazing  
 Non-consumptive recreation  
 Scientific research  
 Sport fishing  
 Sport hunting  
 Tourism  
 Traditional cultural  
 Transportation/navigation

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? No

If Yes, describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

**24. Land tenure/ownership:**

Ownership category	On-site	Off-site
Non-governmental organisation (NGO)	+	+
Local authority, municipality etc.	+	+
National/Crown Estate	+	
Private	+	+
Public/communal	+	+
Other	+	

**25. Current land (including water) use:**

Activity	On-site	Off-site
Nature conservation	+	+
Tourism	+	+
Recreation	+	+
Current scientific research	+	+
Fishing: commercial	+	+
Fishing: recreational/sport	+	+
Gathering of shellfish	+	
Bait collection	+	
Arable agriculture (unspecified)		+
Grazing (unspecified)	+	+
Permanent pastoral agriculture		+

Hunting: recreational/sport	+	+
Industrial water supply	+	
Industry	+	+
Sewage treatment/disposal	+	+
Harbour/port	+	+
Flood control	+	+
Mineral exploration (excl. hydrocarbons)	+	+
Mining/quarrying	+	+
Transport route	+	+
Urban development		+
Military activities	+	+

**26. Factors (past, present or potential) adversely affecting the site’s ecological character, including changes in land (including water) use and development projects:**

*Explanation of reporting category:*

1. Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.
2. Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.

NA = Not Applicable because no factors have been reported.

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
Dredging	1		+	+	+
Erosion	1		+		+
Recreational/tourism disturbance (unspecified)	1		+	+	

For category 2 factors only.

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?

Is the site subject to adverse ecological change? NO

**27. Conservation measures taken:**

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
Site/ Area of Special Scientific Interest (SSSI/ASSI)	+	+

National Nature Reserve (NNR)	+	
Special Protection Area (SPA)	+	
Land owned by a non-governmental organisation for nature conservation	+	+
Management agreement	+	+
Site management statement/plan implemented	+	
Other	+	
Management plan in preparation	+	+

**b) Describe any other current management practices:**

The management of Ramsar sites in the UK is determined by either a formal management plan or through other management planning processes, and is overseen by the relevant statutory conservation agency. Details of the precise management practises are given in these documents.

**28. Conservation measures proposed but not yet implemented:**

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No information available

**29. Current scientific research and facilities:**

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

**Contemporary.**

**Fauna.**

Numbers of migratory and wintering wildfowl and waders are monitored annually as part of the national Wetland Birds Survey (WeBS) organised by the British Trust for Ornithology, Wildfowl & Wetlands Trust, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee.

Wildfowl shooting monitoring. Returns received annually from Wildfowling Clubs.

**Completed.**

**Flora and Fauna.**

CCW/EN Marine Intertidal Phase 1 survey of the biotopes of the Severn Estuary in 2003/4 BTO Research report 335 for CCW/EN (November 2003). Low tide distribution of waterbirds of Severn Estuary SPA. Results of 2002/03 WeBS low tide counts and a historical analysis (Burton *et al.* 2003).

WWT Wetlands Advisory Service. Report for CCW (April 2003). Baseline bird monitoring of the River Severn.

Joint Nature Conservation Committee (1997) Subtidal biotope survey at mouth of the River Parrett.

Joint Nature Conservation Committee (1997) Upper estuary intertidal rocky shore survey.

Mettam, C (1997) *Biotopes in the subtidal sandbanks of the Severn estuary*. Report to English Nature

**30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:**

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

There are fixed interpretation panels and hides at Bridgwater Bay, Newport Wetlands Reserve, Flat Holm LNR and field centre. Interpretation boards at Black Rock.

**31. Current recreation and tourism:**

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

**Activities, Facilities provided and Seasonality.**

Walking, dog walking, and birdwatching are concentrated along the sea walls all the year round and on the saltmarsh and sandy beaches.

Bathing, beach recreation, including sand yachting and wind surfing are practised on the sandy beaches, mainly in the summer.



There are boat clubs/marinas in the sub-estuaries with sailing, motor boats, and jet skiing. Angling is carried out from the shore and small boats. There is a certain amount of bait digging. Wildfowling is carried out from September to February all around the Estuary; consents and further management measures are being addressed. There are agreed refuge areas for the birds.

### 32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.  
 Head, Natura 2000 and Ramsar Team, Department for Environment, Food and Rural Affairs,  
 European Wildlife Division, Zone 1/07, Temple Quay House, 2 The Square, Temple Quay, Bristol,  
 BS1 6EB  
 Head, Countryside Division, Welsh Assembly Government, Cathays Park, Cardiff, CF1 3NQ

### 33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Site Designations Manager, English Nature, Sites and Surveillance Team, Northminster House,  
 Northminster Road, Peterborough, PE1 1UA, UK / Site Safeguard Officer, International  
 Designations, Countryside Council for Wales, Maes-y-Ffynnon, Penrhosgarnedd, Bangor,  
 Gwynedd, LL57 2DW

### 34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

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# NATURA 2000 – STANDARD DATA FORM

## **Special Areas of Conservation under the EC Habitats Directive (includes candidate SACs, Sites of Community Importance and designated SACs).**

Each Natura 2000 site in the United Kingdom has its own Standard Data Form containing site-specific information. The data form for this site has been generated from the Natura 2000 Database submitted to the European Commission on the following date:

22/12/2015

The information provided here, follows the officially agreed site information format for Natura 2000 sites, as set out in the [Official Journal of the European Union recording the Commission Implementing Decision of 11 July 2011](#) (2011/484/EU).

The Standard Data Forms are generated automatically for all of the UK's Natura 2000 sites using the European Environment Agency's Natura 2000 software. The structure and format of these forms is exactly as produced by the EEA's Natura 2000 software (except for the addition of this coversheet and the end notes). The content matches exactly the data submitted to the European Commission.

Please note that these forms contain a number of codes, all of which are explained either within the data forms themselves or in the end notes.

Further technical documentation may be found here  
[http://bd.eionet.europa.eu/activities/Natura\\_2000/reference\\_portal](http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal)

As part of the December 2015 submission, several sections of the UK's previously published Standard Data Forms have been updated. For details of the approach taken by the UK in this submission please refer to the following document:  
[http://jncc.defra.gov.uk/pdf/Natura2000\\_StandardDataForm\\_UKApproach\\_Dec2015.pdf](http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf)

More general information on Special Areas of Conservation (SACs) in the United Kingdom is available from the [SAC home page on the JNCC website](#). This webpage also provides links to Standard Data Forms for all SACs in the UK.

Date form generated by the Joint Nature Conservation Committee  
25 January 2016.



# NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),  
Proposed Sites for Community Importance (pSCI),  
Sites of Community Importance (SCI) and  
for Special Areas of Conservation (SAC)

SITE UK0013007  
SITENAME River Usk/ Afon Wysg

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- [2. SITE LOCATION](#)
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- [4. SITE DESCRIPTION](#)
- [5. SITE PROTECTION STATUS AND RELATION WITH CORINE BIOTOPES](#)
- [6. SITE MANAGEMENT](#)

## 1. SITE IDENTIFICATION

<b>1.1 Type</b> B	<b>1.2 Site code</b> UK0013007	<a href="#">Back to top</a>
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### 1.3 Site name

River Usk/ Afon Wysg

<b>1.4 First Compilation date</b> 1998-03	<b>1.5 Update date</b> 2015-12
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### 1.6 Respondent:

**Name/Organisation:** Joint Nature Conservation Committee

**Address:** Joint Nature Conservation Committee Monkstone House City Road Peterborough  
PE1 1JY

**Email:**

**Date site proposed as SCI:** 1998-03

**Date site confirmed as SCI:** 2004-12

**Date site designated as SAC:** 2004-12

**National legal reference of SAC designation:**

Regulations 11 and 13-15 of the Conservation of Habitats and Species Regulations 2010  
(<http://www.legislation.gov.uk/uksi/2010/490/contents/made>).

## 2. SITE LOCATION

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## 2.1 Site-centre location [decimal degrees]:

### Longitude

-3.013888889

### Latitude

51.79583333

## 2.2 Area [ha]:

967.97

## 2.3 Marine area [%]

0.0

## 2.4 Sitelength [km]:

0.0

## 2.5 Administrative region code and name

### NUTS level 2 code

### Region Name

UKL1	West Wales and The Valleys
UKL2	East Wales









## 2.6 Biogeographical Region(s)

Atlantic (100.0  
%)

## 3. ECOLOGICAL INFORMATION

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### 3.1 Habitat types present on the site and assessment for them

Annex I Habitat types						Site assessment			
Code	PF	NP	Cover [ha]	Cave [number]	Data quality	A B C D	A B C		
						Representativity	Relative Surface	Conservation	Global
1130 			134.55		G	D			
1140 			123.9		G	D			
1330 			29.04		M	D			
3260 			29.04		M	B	C	B	C
9130 			4.84		G	D			
9180 	X		21.3		G	D			
91A0 			12.58		G	D			
91D0 	X		2.9		G	D			

91E0	X	43.56		G	D				
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- **PF:** for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter "X" in the column PF to indicate the priority form.
- **NP:** in case that a habitat type no longer exists in the site enter: x (optional)
- **Cover:** decimal values can be entered
- **Caves:** for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation)

### 3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species			Population in the site							Site assessment				
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	A B C D		A B C	
						Min	Max				Pop.	Con.	Iso.	Gl
F	1102	<a href="#">Alosa alosa</a>			p				P	DD	C	C	C	C
F	1103	<a href="#">Alosa fallax</a>			p				P	DD	A	B	C	A
I	1092	<a href="#">Austropotamobius pallipes</a>			p				P	DD	D			
F	1163	<a href="#">Cottus gobio</a>			p				P	DD	B	B	C	B
F	1099	<a href="#">Lampetra fluviatilis</a>			p				P	DD	B	A	C	A
F	1096	<a href="#">Lampetra planeri</a>			p				P	DD	B	B	C	A
M	1355	<a href="#">Lutra lutra</a>			p	11	50	i		M	C	B	C	B
I	1029	<a href="#">Margaritifera margaritifera</a>			p				P	DD	D			
F	1095	<a href="#">Petromyzon marinus</a>			p				P	DD	B	B	C	B
M	1303	<a href="#">Rhinolophus hipposideros</a>			p				P	DD	D			
F	1106	<a href="#">Salmo salar</a>			p				P	DD	A	C	C	A

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

## 4. SITE DESCRIPTION



#### 4.1 General site character

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Habitat class	% Cover
N23	2.1
N16	10.1
N02	26.8
N03	4.5
N07	3.8
N06	37.9
N14	2.0
N08	3.4
N10	1.4
N09	8.0
<b>Total Habitat Cover</b>	<b>99.99999999999999</b>

#### Other Site Characteristics

1 Terrestrial: Soil & Geology: alluvium, mud, nutrient-rich, limestone, basic, neutral, shingle, sandstone, acidic, peat, clay, nutrient-poor, sediment  
 Terrestrial: Geomorphology and landscape: valley, floodplain, coastal, lowland, upland, island  
 3 Marine: Geology: mud  
 4 Marine: Geomorphology: estuary

#### 4.2 Quality and importance

Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation for which the area is considered to support a significant presence. Petromyzon marinus for which this is considered to be one of the best areas in the United Kingdom. Lampetra fluviatilis for which this is considered to be one of the best areas in the United Kingdom. Lampetra planeri for which this is considered to be one of the best areas in the United Kingdom. Alosa alosa for which the area is considered to support a significant presence. Alosa fallax for which this is considered to be one of the best areas in the United Kingdom. Salmo salar for which this is considered to be one of the best areas in the United Kingdom. Cottus gobio for which this is considered to be one of the best areas in the United Kingdom. Lutra lutra for which this is considered to be one of the best areas in the United Kingdom.

#### 4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
M	I01		B
L	B07		B
M	J03		I
M	B02		B
L	H05		O
H	H01		B
H	A04		I
H	J02		I

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [i o b]
M	J03		I

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

## 4.5 Documentation

The Natural Resources Wales weblink below provides access to information on its designated sites. Detailed information about this Natura 2000 site can be accessed via the Management Plan link provided in Section 6.2. See also the 'UK Approach' document for more information (link via the JNCC website).

Link(s): <https://naturalresources.wales/conservation-biodiversity-and-wildlife/find-protected-areas-of-land-and-seas/designated-s>  
[http://jncc.defra.gov.uk/pdf/Natura2000\\_StandardDataForm\\_UKApproach\\_Dec2015.pdf](http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf)

## 5. SITE PROTECTION STATUS (optional)

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### 5.1 Designation types at national and regional level:

Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
UK04	100.0				

## 6. SITE MANAGEMENT

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### 6.1 Body(ies) responsible for the site management:

Organisation:	Natural Resources Wales
Address:	
Email:	

### 6.2 Management Plan(s):

An actual management plan does exist:

<input checked="" type="checkbox"/>	Yes	Name: RIVER USK / AFON WYSG Link: <a href="https://www.naturalresources.wales/media/673384/River_Usk%20SAC%20core%20plan.pdf">https://www.naturalresources.wales/media/673384/River_Usk%20SAC%20core%20plan.pdf</a>
<input type="checkbox"/>	No, but in preparation	
<input type="checkbox"/>	No	

## EXPLANATION OF CODES USED IN THE NATURA 2000 STANDARD DATA FORMS

The codes in the table below are also explained in the [official European Union guidelines for the Standard Data Form](#). The relevant page is shown in the table below.

### 1.1 Site type

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C	SAC area the same as SPA. Note in the UK Natura 2000 submission this is only used for Gibraltar	53

### 3.1 Habitat representativity

CODE	DESCRIPTION	PAGE NO
A	Excellent	57
B	Good	57
C	Significant	57
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### 3.1 Habitat code

CODE	DESCRIPTION	PAGE NO
1110	Sandbanks which are slightly covered by sea water all the time	57
1130	Estuaries	57
1140	Mudflats and sandflats not covered by seawater at low tide	57
1150	Coastal lagoons	57
1160	Large shallow inlets and bays	57
1170	Reefs	57
1180	Submarine structures made by leaking gases	57
1210	Annual vegetation of drift lines	57
1220	Perennial vegetation of stony banks	57
1230	Vegetated sea cliffs of the Atlantic and Baltic Coasts	57
1310	Salicornia and other annuals colonizing mud and sand	57
1320	Spartina swards ( <i>Spartinion maritimae</i> )	57
1330	Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimae</i> )	57
1340	Inland salt meadows	57
1420	Mediterranean and thermo-Atlantic halophilous scrubs ( <i>Sarcocornetea fruticosi</i> )	57
2110	Embryonic shifting dunes	57
2120	Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")	57
2130	Fixed coastal dunes with herbaceous vegetation ("grey dunes")	57
2140	Decalcified fixed dunes with <i>Empetrum nigrum</i>	57
2150	Atlantic decalcified fixed dunes ( <i>Calluno-Ulicetea</i> )	57
2160	Dunes with <i>Hippophila rhamnoides</i>	57
2170	Dunes with <i>Salix repens</i> ssp. <i>argentea</i> ( <i>Salicion arenariae</i> )	57
2190	Humid dune slacks	57
21A0	Machairs (* in Ireland)	57
2250	Coastal dunes with <i>Juniperus</i> spp.	57
2330	Inland dunes with open <i>Corynephorus</i> and <i>Agrostis</i> grasslands	57
3110	Oligotrophic waters containing very few minerals of sandy plains ( <i>Littorelletalia uniflorae</i> )	57
3130	Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i>	57
3140	Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.	57
3150	Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation	57

CODE	DESCRIPTION	PAGE NO
3160	Natural dystrophic lakes and ponds	57
3170	Mediterranean temporary ponds	57
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3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation	57
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5130	Juniperus communis formations on heaths or calcareous grasslands	57
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6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	57
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6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	57
6520	Mountain hay meadows	57
7110	Active raised bogs	57
7120	Degraded raised bogs still capable of natural regeneration	57
7130	Blanket bogs (* if active bog)	57
7140	Transition mires and quaking bogs	57
7150	Depressions on peat substrates of the Rhynchosporion	57
7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae	57
7220	Petrifying springs with tufa formation (Cratoneurion)	57
7230	Alkaline fens	57
7240	Alpine pioneer formations of the Caricion bicoloris-atrofuscae	57
8110	Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	57
8120	Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii)	57
8210	Calcareous rocky slopes with chasmophytic vegetation	57
8220	Siliceous rocky slopes with chasmophytic vegetation	57
8240	Limestone pavements	57
8310	Caves not open to the public	57
8330	Submerged or partially submerged sea caves	57
9120	Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion)	57
9130	Asperulo-Fagetum beech forests	57
9160	Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli	57
9180	Tilio-Acerion forests of slopes, screes and ravines	57
9190	Old acidophilous oak woods with Quercus robur on sandy plains	57
91A0	Old sessile oak woods with Ilex and Blechnum in the British Isles	57
91C0	Caledonian forest	57
91D0	Bog woodland	57
91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	57
91J0	Taxus baccata woods of the British Isles	57

## APPENDIX C2

### 3.1 Relative surface

CODE	DESCRIPTION	PAGE NO
A	15%-100%	58
B	2%-15%	58
C	< 2%	58

### 3.1 Conservation status habitat

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	59
B	Good conservation	59
C	Average or reduced conservation	59

### 3.1 Global grade habitat

CODE	DESCRIPTION	PAGE NO
A	Excellent value	59
B	Good value	59
C	Significant value	59

### 3.2 Population (abbreviated to 'Pop.' in data form)

CODE	DESCRIPTION	PAGE NO
A	15%-100%	62
B	2%-15%	62
C	< 2%	62
D	Non-significant population	62

### 3.2 Conservation status species (abbreviated to 'Con.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	63
B	Good conservation	63
C	Average or reduced conservation	63

### 3.2 Isolation (abbreviated to 'Iso.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Population (almost) Isolated	63
B	Population not-isolated, but on margins of area of distribution	63
C	Population not-isolated within extended distribution range	63

### 3.2 Global Grade (abbreviated to 'Glo.' Or 'G.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent value	63
B	Good value	63
C	Significant value	63

### 3.3 Assemblages types

CODE	DESCRIPTION	PAGE NO
WATR	Non breeding waterfowl assemblage	UK specific code
SBA	Breeding seabird assemblage	UK specific code
BBA	Breeding bird assemblage (applies only to sites classified pre 2000)	UK specific code

#### 4.1 Habitat class code

CODE	DESCRIPTION	PAGE NO
N01	Marine areas, Sea inlets	65
N02	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	65
N03	Salt marshes, Salt pastures, Salt steppes	65
N04	Coastal sand dunes, Sand beaches, Machair	65
N05	Shingle, Sea cliffs, Islets	65
N06	Inland water bodies (Standing water, Running water)	65
N07	Bogs, Marshes, Water fringed vegetation, Fens	65
N08	Heath, Scrub, Maquis and Garrigue, Phygrana	65
N09	Dry grassland, Steppes	65
N10	Humid grassland, Mesophile grassland	65
N11	Alpine and sub-Alpine grassland	65
N14	Improved grassland	65
N15	Other arable land	65
N16	Broad-leaved deciduous woodland	65
N17	Coniferous woodland	65
N19	Mixed woodland	65
N21	Non-forest areas cultivated with woody plants (including Orchards, groves, Vineyards, Dehesas)	65
N22	Inland rocks, Screes, Sands, Permanent Snow and ice	65
N23	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	65
N25	Grassland and scrub habitats (general)	65
N26	Woodland habitats (general)	65

#### 4.3 Threats code

CODE	DESCRIPTION	PAGE NO
A01	Cultivation	65
A02	Modification of cultivation practices	65
A03	Mowing / cutting of grassland	65
A04	Grazing	65
A05	Livestock farming and animal breeding (without grazing)	65
A06	Annual and perennial non-timber crops	65
A07	Use of biocides, hormones and chemicals	65
A08	Fertilisation	65
A10	Restructuring agricultural land holding	65
A11	Agriculture activities not referred to above	65
B01	Forest planting on open ground	65
B02	Forest and Plantation management & use	65
B03	Forest exploitation without replanting or natural regrowth	65
B04	Use of biocides, hormones and chemicals (forestry)	65
B06	Grazing in forests/ woodland	65
B07	Forestry activities not referred to above	65
C01	Mining and quarrying	65
C02	Exploration and extraction of oil or gas	65
C03	Renewable abiotic energy use	65
D01	Roads, paths and railroads	65
D02	Utility and service lines	65
D03	Shipping lanes, ports, marine constructions	65
D04	Airports, flightpaths	65
D05	Improved access to site	65
E01	Urbanised areas, human habitation	65
E02	Industrial or commercial areas	65

CODE	DESCRIPTION	PAGE NO
E03	Discharges	65
E04	Structures, buildings in the landscape	65
E06	Other urbanisation, industrial and similar activities	65
F01	Marine and Freshwater Aquaculture	65
F02	Fishing and harvesting aquatic resources	65
F03	Hunting and collection of wild animals (terrestrial), including damage caused by game (excessive density), and taking/removal of terrestrial animals (including collection of insects, reptiles, amphibians, birds of prey, etc.), trapping, poisoning, poaching, predator control, accidental capture (e.g. due to fishing gear), etc.)	65
F04	Taking / Removal of terrestrial plants, general	65
F05	Illegal taking/ removal of marine fauna	65
F06	Hunting, fishing or collecting activities not referred to above	65
G01	Outdoor sports and leisure activities, recreational activities	65
G02	Sport and leisure structures	65
G03	Interpretative centres	65
G04	Military use and civil unrest	65
G05	Other human intrusions and disturbances	65
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)	65
H02	Pollution to groundwater (point sources and diffuse sources)	65
H03	Marine water pollution	65
H04	Air pollution, air-borne pollutants	65
H05	Soil pollution and solid waste (excluding discharges)	65
H06	Excess energy	65
H07	Other forms of pollution	65
I01	Invasive non-native species	65
I02	Problematic native species	65
I03	Introduced genetic material, GMO	65
J01	Fire and fire suppression	65
J02	Human induced changes in hydraulic conditions	65
J03	Other ecosystem modifications	65
K01	Abiotic (slow) natural processes	65
K02	Biocenotic evolution, succession	65
K03	Interspecific faunal relations	65
K04	Interspecific floral relations	65
K05	Reduced fecundity/ genetic depression	65
L05	Collapse of terrain, landslide	65
L07	Storm, cyclone	65
L08	Inundation (natural processes)	65
L10	Other natural catastrophes	65
M01	Changes in abiotic conditions	65
M02	Changes in biotic conditions	65
U	Unknown threat or pressure	65
XO	Threats and pressures from outside the Member State	65

### 5.1 Designation type codes

CODE	DESCRIPTION	PAGE NO
UK00	No Protection Status	67
UK01	National Nature Reserve	67
UK02	Marine Nature Reserve	67
UK04	Site of Special Scientific Interest (UK)	67



# NATURA 2000 – STANDARD DATA FORM

## **Special Areas of Conservation under the EC Habitats Directive (includes candidate SACs, Sites of Community Importance and designated SACs).**

Each Natura 2000 site in the United Kingdom has its own Standard Data Form containing site-specific information. The data form for this site has been generated from the Natura 2000 Database submitted to the European Commission on the following date:

22/12/2015

The information provided here, follows the officially agreed site information format for Natura 2000 sites, as set out in the [Official Journal of the European Union recording the Commission Implementing Decision of 11 July 2011](#) (2011/484/EU).

The Standard Data Forms are generated automatically for all of the UK's Natura 2000 sites using the European Environment Agency's Natura 2000 software. The structure and format of these forms is exactly as produced by the EEA's Natura 2000 software (except for the addition of this coversheet and the end notes). The content matches exactly the data submitted to the European Commission.

Please note that these forms contain a number of codes, all of which are explained either within the data forms themselves or in the end notes.

Further technical documentation may be found here  
[http://bd.eionet.europa.eu/activities/Natura\\_2000/reference\\_portal](http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal)

As part of the December 2015 submission, several sections of the UK's previously published Standard Data Forms have been updated. For details of the approach taken by the UK in this submission please refer to the following document:  
[http://jncc.defra.gov.uk/pdf/Natura2000\\_StandardDataForm\\_UKApproach\\_Dec2015.pdf](http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf)

More general information on Special Areas of Conservation (SACs) in the United Kingdom is available from the [SAC home page on the JNCC website](#). This webpage also provides links to Standard Data Forms for all SACs in the UK.

Date form generated by the Joint Nature Conservation Committee  
25 January 2016.



# NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),  
Proposed Sites for Community Importance (pSCI),  
Sites of Community Importance (SCI) and  
for Special Areas of Conservation (SAC)

SITE UK0030203  
SITENAME Mendip Limestone Grasslands

## TABLE OF CONTENTS

- [1. SITE IDENTIFICATION](#)
- [2. SITE LOCATION](#)
- [3. ECOLOGICAL INFORMATION](#)
- [4. SITE DESCRIPTION](#)
- [5. SITE PROTECTION STATUS AND RELATION WITH CORINE BIOTOPES](#)
- [6. SITE MANAGEMENT](#)

## 1. SITE IDENTIFICATION

<b>1.1 Type</b> B	<b>1.2 Site code</b> UK0030203	<a href="#">Back to top</a>
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### 1.3 Site name

Mendip Limestone Grasslands

<b>1.4 First Compilation date</b> 2001-01	<b>1.5 Update date</b> 2015-12
--	-----------------------------------

### 1.6 Respondent:

**Name/Organisation:** Joint Nature Conservation Committee  
**Address:** Joint Nature Conservation Committee Monkstone House City Road Peterborough  
PE1 1JY  
**Email:**

**Date site proposed as SCI:** 2001-01  
**Date site confirmed as SCI:** 2004-12  
**Date site designated as SAC:** 2005-04

**National legal reference of SAC designation:**

Regulations 11 and 13-15 of the Conservation of Habitats and Species Regulations 2010  
(<http://www.legislation.gov.uk/uksi/2010/490/contents/made>).

## 2. SITE LOCATION

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## 2.1 Site-centre location [decimal degrees]:

### Longitude

-2.859166667

### Latitude

51.296666667

## 2.2 Area [ha]:

415.24

## 2.3 Marine area [%]

0.0

## 2.4 Sitelength [km]:

0.0

## 2.5 Administrative region code and name

### NUTS level 2 code

### Region Name

UKK2	Dorset and Somerset
UKK1	Gloucestershire, Wiltshire and Bristol/Bath area

## 2.6 Biogeographical Region(s)

Atlantic (100.0  
%)

## 3. ECOLOGICAL INFORMATION

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### 3.1 Habitat types present on the site and assessment for them

Annex I Habitat types						Site assessment			
Code	PF	NP	Cover [ha]	Cave [number]	Data quality	A B C D	A B C		
						Representativity	Relative Surface	Conservation	Global
4030			84.71		G	B	C	C	C
6210			158.21		G	A	C	A	B
8310			2.91		G	B	C	C	C
9180	X		19.93		G	B	C	C	C

- **PF:** for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter "X" in the column PF to indicate the priority form.
- **NP:** in case that a habitat type no longer exists in the site enter: x (optional)
- **Cover:** decimal values can be entered
- **Caves:** for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation)

### 3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site					Site assessment				
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	A B C D		A B C	
						Min	Max				Pop.	Con.	Iso.	Glo.
M	1304	<a href="#">Rhinolophus ferrumequinum</a>			p	11	50	i		M	C	B	C	C
M	1303	<a href="#">Rhinolophus hipposideros</a>			p	11	50	i		M	D			

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

## 4. SITE DESCRIPTION

### 4.1 General site character

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Habitat class	% Cover
N09	38.0
N22	7.0
N16	10.0
N08	45.0
<b>Total Habitat Cover</b>	<b>100</b>

### Other Site Characteristics

1 Terrestrial: Soil & Geology: basic, sedimentary, limestone, nutrient-poor 2 Terrestrial: Geomorphology and landscape: hilly, escarpment, caves

### 4.2 Quality and importance

European dry heaths for which the area is considered to support a significant presence. Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco-Brometalia) for which this is considered to be one of the best areas in the United Kingdom. Caves not open to the public for which the area is considered to support a significant presence. Tilio-Acerion forests of slopes, screes and ravines for which the area is considered to support a significant presence. Rhinolophus ferrumequinum for which the area is considered to support a significant presence.

### 4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
H	A02		I
H	K02		I
H	H04		B
H	K04		I

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [i o b]
H	B02		I
H	A04		I
H	A02		I

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

#### 4.5 Documentation

Conservation Objectives - the Natural England links below provide access to the Conservation Objectives (and other site-related information) for its terrestrial and inshore Natura 2000 sites, including conservation advice packages and supporting documents for European Marine Sites within English waters and for cross-border sites. See also the 'UK Approach' document for more information (link via the JNCC website).

Link(s): [http://jncc.defra.gov.uk/pdf/Natura2000\\_StandardDataForm\\_UKApproach\\_Dec2015.pdf](http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf)

<http://publications.naturalengland.org.uk/category/6490068894089216>

<http://publications.naturalengland.org.uk/category/3212324>

## 5. SITE PROTECTION STATUS (optional)

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### 5.1 Designation types at national and regional level:

Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
UK04	100.0				

## 6. SITE MANAGEMENT

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### 6.1 Body(ies) responsible for the site management:

Organisation:	Natural England
Address:	
Email:	

### 6.2 Management Plan(s):

An actual management plan does exist:

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No, but in preparation
<input checked="" type="checkbox"/>	No

### 6.3 Conservation measures (optional)

For available information, including on Conservation Objectives, see Section 4.5.

## EXPLANATION OF CODES USED IN THE NATURA 2000 STANDARD DATA FORMS

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7110	Active raised bogs	57
7120	Degraded raised bogs still capable of natural regeneration	57
7130	Blanket bogs (* if active bog)	57
7140	Transition mires and quaking bogs	57
7150	Depressions on peat substrates of the Rhynchosporion	57
7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae	57
7220	Petrifying springs with tufa formation (Cratoneurion)	57
7230	Alkaline fens	57
7240	Alpine pioneer formations of the Caricion bicoloris-atrofuscae	57
8110	Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	57
8120	Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii)	57
8210	Calcareous rocky slopes with chasmophytic vegetation	57
8220	Siliceous rocky slopes with chasmophytic vegetation	57
8240	Limestone pavements	57
8310	Caves not open to the public	57
8330	Submerged or partially submerged sea caves	57
9120	Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion)	57
9130	Asperulo-Fagetum beech forests	57
9160	Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli	57
9180	Tilio-Acerion forests of slopes, screes and ravines	57
9190	Old acidophilous oak woods with Quercus robur on sandy plains	57
91A0	Old sessile oak woods with Ilex and Blechnum in the British Isles	57
91C0	Caledonian forest	57
91D0	Bog woodland	57
91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	57
91J0	Taxus baccata woods of the British Isles	57

### 3.1 Relative surface

CODE	DESCRIPTION	PAGE NO
A	15%-100%	58
B	2%-15%	58
C	< 2%	58

### 3.1 Conservation status habitat

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	59
B	Good conservation	59
C	Average or reduced conservation	59

### 3.1 Global grade habitat

CODE	DESCRIPTION	PAGE NO
A	Excellent value	59
B	Good value	59
C	Significant value	59

### 3.2 Population (abbreviated to 'Pop.' in data form)

CODE	DESCRIPTION	PAGE NO
A	15%-100%	62
B	2%-15%	62
C	< 2%	62
D	Non-significant population	62

### 3.2 Conservation status species (abbreviated to 'Con.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	63
B	Good conservation	63
C	Average or reduced conservation	63

### 3.2 Isolation (abbreviated to 'Iso.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Population (almost) Isolated	63
B	Population not-isolated, but on margins of area of distribution	63
C	Population not-isolated within extended distribution range	63

### 3.2 Global Grade (abbreviated to 'Glo.' Or 'G.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent value	63
B	Good value	63
C	Significant value	63

### 3.3 Assemblages types

CODE	DESCRIPTION	PAGE NO
WATR	Non breeding waterfowl assemblage	UK specific code
SBA	Breeding seabird assemblage	UK specific code
BBA	Breeding bird assemblage (applies only to sites classified pre 2000)	UK specific code



#### 4.1 Habitat class code

CODE	DESCRIPTION	PAGE NO
N01	Marine areas, Sea inlets	65
N02	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	65
N03	Salt marshes, Salt pastures, Salt steppes	65
N04	Coastal sand dunes, Sand beaches, Machair	65
N05	Shingle, Sea cliffs, Islets	65
N06	Inland water bodies (Standing water, Running water)	65
N07	Bogs, Marshes, Water fringed vegetation, Fens	65
N08	Heath, Scrub, Maquis and Garrigue, Phygrana	65
N09	Dry grassland, Steppes	65
N10	Humid grassland, Mesophile grassland	65
N11	Alpine and sub-Alpine grassland	65
N14	Improved grassland	65
N15	Other arable land	65
N16	Broad-leaved deciduous woodland	65
N17	Coniferous woodland	65
N19	Mixed woodland	65
N21	Non-forest areas cultivated with woody plants (including Orchards, groves, Vineyards, Dehesas)	65
N22	Inland rocks, Screes, Sands, Permanent Snow and ice	65
N23	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	65
N25	Grassland and scrub habitats (general)	65
N26	Woodland habitats (general)	65

#### 4.3 Threats code

CODE	DESCRIPTION	PAGE NO
A01	Cultivation	65
A02	Modification of cultivation practices	65
A03	Mowing / cutting of grassland	65
A04	Grazing	65
A05	Livestock farming and animal breeding (without grazing)	65
A06	Annual and perennial non-timber crops	65
A07	Use of biocides, hormones and chemicals	65
A08	Fertilisation	65
A10	Restructuring agricultural land holding	65
A11	Agriculture activities not referred to above	65
B01	Forest planting on open ground	65
B02	Forest and Plantation management & use	65
B03	Forest exploitation without replanting or natural regrowth	65
B04	Use of biocides, hormones and chemicals (forestry)	65
B06	Grazing in forests/ woodland	65
B07	Forestry activities not referred to above	65
C01	Mining and quarrying	65
C02	Exploration and extraction of oil or gas	65
C03	Renewable abiotic energy use	65
D01	Roads, paths and railroads	65
D02	Utility and service lines	65
D03	Shipping lanes, ports, marine constructions	65
D04	Airports, flightpaths	65
D05	Improved access to site	65
E01	Urbanised areas, human habitation	65
E02	Industrial or commercial areas	65

CODE	DESCRIPTION	PAGE NO
E03	Discharges	65
E04	Structures, buildings in the landscape	65
E06	Other urbanisation, industrial and similar activities	65
F01	Marine and Freshwater Aquaculture	65
F02	Fishing and harvesting aquatic resources	65
F03	Hunting and collection of wild animals (terrestrial), including damage caused by game (excessive density), and taking/removal of terrestrial animals (including collection of insects, reptiles, amphibians, birds of prey, etc., trapping, poisoning, poaching, predator control, accidental capture (e.g. due to fishing gear), etc.)	65
F04	Taking / Removal of terrestrial plants, general	65
F05	Illegal taking/ removal of marine fauna	65
F06	Hunting, fishing or collecting activities not referred to above	65
G01	Outdoor sports and leisure activities, recreational activities	65
G02	Sport and leisure structures	65
G03	Interpretative centres	65
G04	Military use and civil unrest	65
G05	Other human intrusions and disturbances	65
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)	65
H02	Pollution to groundwater (point sources and diffuse sources)	65
H03	Marine water pollution	65
H04	Air pollution, air-borne pollutants	65
H05	Soil pollution and solid waste (excluding discharges)	65
H06	Excess energy	65
H07	Other forms of pollution	65
I01	Invasive non-native species	65
I02	Problematic native species	65
I03	Introduced genetic material, GMO	65
J01	Fire and fire suppression	65
J02	Human induced changes in hydraulic conditions	65
J03	Other ecosystem modifications	65
K01	Abiotic (slow) natural processes	65
K02	Biocenotic evolution, succession	65
K03	Interspecific faunal relations	65
K04	Interspecific floral relations	65
K05	Reduced fecundity/ genetic depression	65
L05	Collapse of terrain, landslide	65
L07	Storm, cyclone	65
L08	Inundation (natural processes)	65
L10	Other natural catastrophes	65
M01	Changes in abiotic conditions	65
M02	Changes in biotic conditions	65
U	Unknown threat or pressure	65
XO	Threats and pressures from outside the Member State	65

### 5.1 Designation type codes

CODE	DESCRIPTION	PAGE NO
UK00	No Protection Status	67
UK01	National Nature Reserve	67
UK02	Marine Nature Reserve	67
UK04	Site of Special Scientific Interest (UK)	67

# NATURA 2000 – STANDARD DATA FORM

## **Special Areas of Conservation under the EC Habitats Directive (includes candidate SACs, Sites of Community Importance and designated SACs).**

Each Natura 2000 site in the United Kingdom has its own Standard Data Form containing site-specific information. The data form for this site has been generated from the Natura 2000 Database submitted to the European Commission on the following date:

22/12/2015

The information provided here, follows the officially agreed site information format for Natura 2000 sites, as set out in the [Official Journal of the European Union recording the Commission Implementing Decision of 11 July 2011](#) (2011/484/EU).

The Standard Data Forms are generated automatically for all of the UK's Natura 2000 sites using the European Environment Agency's Natura 2000 software. The structure and format of these forms is exactly as produced by the EEA's Natura 2000 software (except for the addition of this coversheet and the end notes). The content matches exactly the data submitted to the European Commission.

Please note that these forms contain a number of codes, all of which are explained either within the data forms themselves or in the end notes.

Further technical documentation may be found here  
[http://bd.eionet.europa.eu/activities/Natura\\_2000/reference\\_portal](http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal)

As part of the December 2015 submission, several sections of the UK's previously published Standard Data Forms have been updated. For details of the approach taken by the UK in this submission please refer to the following document:  
[http://jncc.defra.gov.uk/pdf/Natura2000\\_StandardDataForm\\_UKApproach\\_Dec2015.pdf](http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf)

More general information on Special Areas of Conservation (SACs) in the United Kingdom is available from the [SAC home page on the JNCC website](#). This webpage also provides links to Standard Data Forms for all SACs in the UK.

Date form generated by the Joint Nature Conservation Committee  
25 January 2016.



# NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),  
Proposed Sites for Community Importance (pSCI),  
Sites of Community Importance (SCI) and  
for Special Areas of Conservation (SAC)

SITE UK0030052  
SITENAME North Somerset and Mendip Bats

## TABLE OF CONTENTS

- [1. SITE IDENTIFICATION](#)
- [2. SITE LOCATION](#)
- [3. ECOLOGICAL INFORMATION](#)
- [4. SITE DESCRIPTION](#)
- [5. SITE PROTECTION STATUS AND RELATION WITH CORINE BIOTOPES](#)
- [6. SITE MANAGEMENT](#)

## 1. SITE IDENTIFICATION

<b>1.1 Type</b> B	<b>1.2 Site code</b> UK0030052	<a href="#">Back to top</a>
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### 1.3 Site name

North Somerset and Mendip Bats

<b>1.4 First Compilation date</b> 1998-03	<b>1.5 Update date</b> 2015-12
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### 1.6 Respondent:

**Name/Organisation:** Joint Nature Conservation Committee

**Address:** Joint Nature Conservation Committee Monkstone House City Road Peterborough  
PE1 1JY

**Email:**

**Date site proposed as SCI:** 1998-03

**Date site confirmed as SCI:** 2004-12

**Date site designated as SAC:** 2005-04

**National legal reference of SAC designation:**

Regulations 11 and 13-15 of the Conservation of Habitats and Species Regulations 2010  
(<http://www.legislation.gov.uk/uksi/2010/490/contents/made>).

## 2. SITE LOCATION

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## 2.1 Site-centre location [decimal degrees]:

### Longitude

-2.746388889

### Latitude

51.28611111

## 2.2 Area [ha]:

555.93

## 2.3 Marine area [%]

0.0

## 2.4 Sitelength [km]:

0.0

## 2.5 Administrative region code and name

### NUTS level 2 code

### Region Name

UKK1	Gloucestershire, Wiltshire and Bristol/Bath area
UKK2	Dorset and Somerset

## 2.6 Biogeographical Region(s)

Atlantic (100.0  
%)

## 3. ECOLOGICAL INFORMATION

[Back to top](#)

### 3.1 Habitat types present on the site and assessment for them

Annex I Habitat types						Site assessment			
Code	PF	NP	Cover [ha]	Cave [number]	Data quality	A B C D	A B C		
						Representativity	Relative Surface	Conservation	Global
4030			10.56		G	D			
6210			151.77		G	B	C	A	B
8310			10.01		G	C	C	B	C
9180	X		138.43		G	B	C	B	B

- **PF:** for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter "X" in the column PF to indicate the priority form.
- **NP:** in case that a habitat type no longer exists in the site enter: x (optional)
- **Cover:** decimal values can be entered
- **Caves:** for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation)

### 3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site					Site assessment				
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	A B C D		A B C	
						Min	Max				Pop.	Con.	Iso.	Glo.
I	1065	<a href="#">Euphydryas (Eurodryas, Hypodryas) aurinia</a>			p				P	DD	D			
M	1304	<a href="#">Rhinolophus ferrumequinum</a>			p	101	250	i		M	B	A	C	A
M	1303	<a href="#">Rhinolophus hipposideros</a>			p	101	250	i		M	C	B	C	B

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

## 4. SITE DESCRIPTION

### 4.1 General site character

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Habitat class	% Cover
N23	1.0
N08	22.5
N16	30.0
N09	27.5
N19	19.0
<b>Total Habitat Cover</b>	<b>100</b>

### Other Site Characteristics

1 Terrestrial: Soil & Geology: sedimentary,nutrient-poor,basic,limestone 2 Terrestrial: Geomorphology and landscape: hilly,lowland,caves

### 4.2 Quality and importance

Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco-Brometalia) for which this is considered to be one of the best areas in the United Kingdom. Caves not open to the public for which the area is considered to support a significant presence. Tilio-Acerion forests of slopes, screes and ravines for

which this is considered to be one of the best areas in the United Kingdom. *Rhinolophus ferrumequinum* for which this is considered to be one of the best areas in the United Kingdom. *Rhinolophus hipposideros* for which this is considered to be one of the best areas in the United Kingdom.

### 4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
H	U		O
H	E06		B
H	B02		I
H	K04		I
H	A04		I

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [i o b]
H	A04		I
H	B02		I
H	A02		I

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

### 4.5 Documentation

Conservation Objectives - the Natural England links below provide access to the Conservation Objectives (and other site-related information) for its terrestrial and inshore Natura 2000 sites, including conservation advice packages and supporting documents for European Marine Sites within English waters and for cross-border sites. See also the 'UK Approach' document for more information (link via the JNCC website).

Link(s): [http://jncc.defra.gov.uk/pdf/Natura2000\\_StandardDataForm\\_UKApproach\\_Dec2015.pdf](http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf)

<http://publications.naturalengland.org.uk/category/6490068894089216>

<http://publications.naturalengland.org.uk/category/3212324>

## 5. SITE PROTECTION STATUS (optional)

### 5.1 Designation types at national and regional level:

[Back to top](#)

Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
UK04	100.0				

## 6. SITE MANAGEMENT

### 6.1 Body(ies) responsible for the site management:

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Organisation:	Natural England
Address:	
Email:	

### 6.2 Management Plan(s):

An actual management plan does exist:

<input type="checkbox"/> Yes
<input type="checkbox"/>

No, but in preparation

No

### 6.3 Conservation measures (optional)

For available information, including on Conservation Objectives, see Section 4.5.



## EXPLANATION OF CODES USED IN THE NATURA 2000 STANDARD DATA FORMS

The codes in the table below are also explained in the [official European Union guidelines for the Standard Data Form](#). The relevant page is shown in the table below.

### 1.1 Site type

CODE	DESCRIPTION	PAGE NO
A	Designated Special Protection Area	53
B	SAC (includes candidates Special Areas of Conservation, Sites of Community Importance and designated SAC)	53
C	SAC area the same as SPA. Note in the UK Natura 2000 submission this is only used for Gibraltar	53

### 3.1 Habitat representativity

CODE	DESCRIPTION	PAGE NO
A	Excellent	57
B	Good	57
C	Significant	57
D	Non-significant presence	57

### 3.1 Habitat code

CODE	DESCRIPTION	PAGE NO
1110	Sandbanks which are slightly covered by sea water all the time	57
1130	Estuaries	57
1140	Mudflats and sandflats not covered by seawater at low tide	57
1150	Coastal lagoons	57
1160	Large shallow inlets and bays	57
1170	Reefs	57
1180	Submarine structures made by leaking gases	57
1210	Annual vegetation of drift lines	57
1220	Perennial vegetation of stony banks	57
1230	Vegetated sea cliffs of the Atlantic and Baltic Coasts	57
1310	Salicornia and other annuals colonizing mud and sand	57
1320	Spartina swards (Spartinion maritimae)	57
1330	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	57
1340	Inland salt meadows	57
1420	Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)	57
2110	Embryonic shifting dunes	57
2120	Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	57
2130	Fixed coastal dunes with herbaceous vegetation ("grey dunes")	57
2140	Decalcified fixed dunes with Empetrum nigrum	57
2150	Atlantic decalcified fixed dunes (Calluno-Ulicetea)	57
2160	Dunes with Hippophila rhamnoides	57
2170	Dunes with Salix repens ssp. argentea (Salicion arenariae)	57
2190	Humid dune slacks	57
21A0	Machairs (* in Ireland)	57
2250	Coastal dunes with Juniperus spp.	57
2330	Inland dunes with open Corynephorus and Agrostis grasslands	57
3110	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)	57
3130	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea	57
3140	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	57
3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	57

CODE	DESCRIPTION	PAGE NO
3160	Natural dystrophic lakes and ponds	57
3170	Mediterranean temporary ponds	57
3180	Turloughs	57
3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation	57
4010	Northern Atlantic wet heaths with Erica tetralix	57
4020	Temperate Atlantic wet heaths with Erica ciliaris and Erica tetralix	57
4030	European dry heaths	57
4040	Dry Atlantic coastal heaths with Erica vagans	57
4060	Alpine and Boreal heaths	57
4080	Sub-Arctic Salix spp. scrub	57
5110	Stable xerothermophilous formations with Buxus sempervirens on rock slopes (Berberidion p.p.)	57
5130	Juniperus communis formations on heaths or calcareous grasslands	57
6130	Calaminarian grasslands of the Violetalia calaminariae	57
6150	Siliceous alpine and boreal grasslands	57
6170	Alpine and subalpine calcareous grasslands	57
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	57
6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	57
6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	57
6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	57
6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	57
6520	Mountain hay meadows	57
7110	Active raised bogs	57
7120	Degraded raised bogs still capable of natural regeneration	57
7130	Blanket bogs (* if active bog)	57
7140	Transition mires and quaking bogs	57
7150	Depressions on peat substrates of the Rhynchosporion	57
7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae	57
7220	Petrifying springs with tufa formation (Cratoneurion)	57
7230	Alkaline fens	57
7240	Alpine pioneer formations of the Caricion bicoloris-atrofuscae	57
8110	Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	57
8120	Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii)	57
8210	Calcareous rocky slopes with chasmophytic vegetation	57
8220	Siliceous rocky slopes with chasmophytic vegetation	57
8240	Limestone pavements	57
8310	Caves not open to the public	57
8330	Submerged or partially submerged sea caves	57
9120	Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion roburi-petraeae or Ilici-Fagenion)	57
9130	Asperulo-Fagetum beech forests	57
9160	Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli	57
9180	Tilio-Acerion forests of slopes, screes and ravines	57
9190	Old acidophilous oak woods with Quercus robur on sandy plains	57
91A0	Old sessile oak woods with Ilex and Blechnum in the British Isles	57
91C0	Caledonian forest	57
91D0	Bog woodland	57
91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	57
91J0	Taxus baccata woods of the British Isles	57

### 3.1 Relative surface

CODE	DESCRIPTION	PAGE NO
A	15%-100%	58
B	2%-15%	58
C	< 2%	58

### 3.1 Conservation status habitat

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	59
B	Good conservation	59
C	Average or reduced conservation	59

### 3.1 Global grade habitat

CODE	DESCRIPTION	PAGE NO
A	Excellent value	59
B	Good value	59
C	Significant value	59

### 3.2 Population (abbreviated to 'Pop.' in data form)

CODE	DESCRIPTION	PAGE NO
A	15%-100%	62
B	2%-15%	62
C	< 2%	62
D	Non-significant population	62

### 3.2 Conservation status species (abbreviated to 'Con.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	63
B	Good conservation	63
C	Average or reduced conservation	63

### 3.2 Isolation (abbreviated to 'Iso.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Population (almost) Isolated	63
B	Population not-isolated, but on margins of area of distribution	63
C	Population not-isolated within extended distribution range	63

### 3.2 Global Grade (abbreviated to 'Glo.' Or 'G.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent value	63
B	Good value	63
C	Significant value	63

### 3.3 Assemblages types

CODE	DESCRIPTION	PAGE NO
WATR	Non breeding waterfowl assemblage	UK specific code
SBA	Breeding seabird assemblage	UK specific code
BBA	Breeding bird assemblage (applies only to sites classified pre 2000)	UK specific code

#### 4.1 Habitat class code

CODE	DESCRIPTION	PAGE NO
N01	Marine areas, Sea inlets	65
N02	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	65
N03	Salt marshes, Salt pastures, Salt steppes	65
N04	Coastal sand dunes, Sand beaches, Machair	65
N05	Shingle, Sea cliffs, Islets	65
N06	Inland water bodies (Standing water, Running water)	65
N07	Bogs, Marshes, Water fringed vegetation, Fens	65
N08	Heath, Scrub, Maquis and Garrigue, Phygrana	65
N09	Dry grassland, Steppes	65
N10	Humid grassland, Mesophile grassland	65
N11	Alpine and sub-Alpine grassland	65
N14	Improved grassland	65
N15	Other arable land	65
N16	Broad-leaved deciduous woodland	65
N17	Coniferous woodland	65
N19	Mixed woodland	65
N21	Non-forest areas cultivated with woody plants (including Orchards, groves, Vineyards, Dehesas)	65
N22	Inland rocks, Screes, Sands, Permanent Snow and ice	65
N23	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	65
N25	Grassland and scrub habitats (general)	65
N26	Woodland habitats (general)	65

#### 4.3 Threats code

CODE	DESCRIPTION	PAGE NO
A01	Cultivation	65
A02	Modification of cultivation practices	65
A03	Mowing / cutting of grassland	65
A04	Grazing	65
A05	Livestock farming and animal breeding (without grazing)	65
A06	Annual and perennial non-timber crops	65
A07	Use of biocides, hormones and chemicals	65
A08	Fertilisation	65
A10	Restructuring agricultural land holding	65
A11	Agriculture activities not referred to above	65
B01	Forest planting on open ground	65
B02	Forest and Plantation management & use	65
B03	Forest exploitation without replanting or natural regrowth	65
B04	Use of biocides, hormones and chemicals (forestry)	65
B06	Grazing in forests/ woodland	65
B07	Forestry activities not referred to above	65
C01	Mining and quarrying	65
C02	Exploration and extraction of oil or gas	65
C03	Renewable abiotic energy use	65
D01	Roads, paths and railroads	65
D02	Utility and service lines	65
D03	Shipping lanes, ports, marine constructions	65
D04	Airports, flightpaths	65
D05	Improved access to site	65
E01	Urbanised areas, human habitation	65
E02	Industrial or commercial areas	65

CODE	DESCRIPTION	PAGE NO
E03	Discharges	65
E04	Structures, buildings in the landscape	65
E06	Other urbanisation, industrial and similar activities	65
F01	Marine and Freshwater Aquaculture	65
F02	Fishing and harvesting aquatic resources	65
F03	Hunting and collection of wild animals (terrestrial), including damage caused by game (excessive density), and taking/removal of terrestrial animals (including collection of insects, reptiles, amphibians, birds of prey, etc.), trapping, poisoning, poaching, predator control, accidental capture (e.g. due to fishing gear), etc.)	65
F04	Taking / Removal of terrestrial plants, general	65
F05	Illegal taking/ removal of marine fauna	65
F06	Hunting, fishing or collecting activities not referred to above	65
G01	Outdoor sports and leisure activities, recreational activities	65
G02	Sport and leisure structures	65
G03	Interpretative centres	65
G04	Military use and civil unrest	65
G05	Other human intrusions and disturbances	65
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)	65
H02	Pollution to groundwater (point sources and diffuse sources)	65
H03	Marine water pollution	65
H04	Air pollution, air-borne pollutants	65
H05	Soil pollution and solid waste (excluding discharges)	65
H06	Excess energy	65
H07	Other forms of pollution	65
I01	Invasive non-native species	65
I02	Problematic native species	65
I03	Introduced genetic material, GMO	65
J01	Fire and fire suppression	65
J02	Human induced changes in hydraulic conditions	65
J03	Other ecosystem modifications	65
K01	Abiotic (slow) natural processes	65
K02	Biocenotic evolution, succession	65
K03	Interspecific faunal relations	65
K04	Interspecific floral relations	65
K05	Reduced fecundity/ genetic depression	65
L05	Collapse of terrain, landslide	65
L07	Storm, cyclone	65
L08	Inundation (natural processes)	65
L10	Other natural catastrophes	65
M01	Changes in abiotic conditions	65
M02	Changes in biotic conditions	65
U	Unknown threat or pressure	65
XO	Threats and pressures from outside the Member State	65

### 5.1 Designation type codes

CODE	DESCRIPTION	PAGE NO
UK00	No Protection Status	67
UK01	National Nature Reserve	67
UK02	Marine Nature Reserve	67
UK04	Site of Special Scientific Interest (UK)	67

# NATURA 2000 – STANDARD DATA FORM

## **Special Areas of Conservation under the EC Habitats Directive (includes candidate SACs, Sites of Community Importance and designated SACs).**

Each Natura 2000 site in the United Kingdom has its own Standard Data Form containing site-specific information. The data form for this site has been generated from the Natura 2000 Database submitted to the European Commission on the following date:

22/12/2015

The information provided here, follows the officially agreed site information format for Natura 2000 sites, as set out in the [Official Journal of the European Union recording the Commission Implementing Decision of 11 July 2011](#) (2011/484/EU).

The Standard Data Forms are generated automatically for all of the UK's Natura 2000 sites using the European Environment Agency's Natura 2000 software. The structure and format of these forms is exactly as produced by the EEA's Natura 2000 software (except for the addition of this coversheet and the end notes). The content matches exactly the data submitted to the European Commission.

Please note that these forms contain a number of codes, all of which are explained either within the data forms themselves or in the end notes.

Further technical documentation may be found here  
[http://bd.eionet.europa.eu/activities/Natura\\_2000/reference\\_portal](http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal)

As part of the December 2015 submission, several sections of the UK's previously published Standard Data Forms have been updated. For details of the approach taken by the UK in this submission please refer to the following document:  
[http://jncc.defra.gov.uk/pdf/Natura2000\\_StandardDataForm\\_UKApproach\\_Dec2015.pdf](http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf)

More general information on Special Areas of Conservation (SACs) in the United Kingdom is available from the [SAC home page on the JNCC website](#). This webpage also provides links to Standard Data Forms for all SACs in the UK.

Date form generated by the Joint Nature Conservation Committee  
25 January 2016.



# NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),  
Proposed Sites for Community Importance (pSCI),  
Sites of Community Importance (SCI) and  
for Special Areas of Conservation (SAC)

SITE UK0014794

SITENAME Wye Valley and Forest of Dean Bat Sites/ Safleoedd Ystlumod Dyffryn Gwy a Fforest y Ddena

## TABLE OF CONTENTS

- [1. SITE IDENTIFICATION](#)
- [2. SITE LOCATION](#)
- [3. ECOLOGICAL INFORMATION](#)
- [4. SITE DESCRIPTION](#)
- [5. SITE PROTECTION STATUS AND RELATION WITH CORINE BIOTOPES](#)
- [6. SITE MANAGEMENT](#)

## 1. SITE IDENTIFICATION

<b>1.1 Type</b> B	<b>1.2 Site code</b> UK0014794	<a href="#">Back to top</a>
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### 1.3 Site name

Wye Valley and Forest of Dean Bat Sites/ Safleoedd Ystlumod Dyffryn Gwy a Fforest y Ddena

<b>1.4 First Compilation date</b> 1996-01	<b>1.5 Update date</b> 2015-12
--	-----------------------------------

### 1.6 Respondent:

**Name/Organisation:** Joint Nature Conservation Committee  
**Address:** Joint Nature Conservation Committee Monkstone House City Road Peterborough  
PE1 1JY  
**Email:**

<b>Date site proposed as SCI:</b>	1996-01
<b>Date site confirmed as SCI:</b>	2004-12
<b>Date site designated as SAC:</b>	2005-04
<b>National legal reference of SAC designation:</b>	Regulations 11 and 13-15 of the Conservation of Habitats and Species Regulations 2010 ( <a href="http://www.legislation.gov.uk/uksi/2010/490/contents/made">http://www.legislation.gov.uk/uksi/2010/490/contents/made</a> ).

## 2. SITE LOCATION

## 2.1 Site-centre location [decimal degrees]:

[Back to top](#)

### Longitude

-2.5725

### Latitude

51.7375

## 2.2 Area [ha]:

144.82

## 2.3 Marine area [%]

0.0

## 2.4 Sitelength [km]:

0.0

## 2.5 Administrative region code and name

### NUTS level 2 code

### Region Name

UKL1	West Wales and The Valleys
UKK1	Gloucestershire, Wiltshire and Bristol/Bath area

## 2.6 Biogeographical Region(s)

Atlantic (100.0  
%)

## 3. ECOLOGICAL INFORMATION

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### 3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species			Population in the site							Site assessment				
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	A B C D		A B C	
						Min	Max				Pop.	Con.	Iso.	Glc
M	1323	<a href="#">Myotis bechsteini</a>			p	1	5	i		M	D			
M	1304	<a href="#">Rhinolophus ferrumequinum</a>			p	251	500	i		M	B	A	B	B
M	1303	<a href="#">Rhinolophus hipposideros</a>			p	1001	10000	i		M	A	A	C	A

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with



some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

## 4. SITE DESCRIPTION

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### 4.1 General site character

Habitat class	% Cover
N16	26.2
N23	73.8
<b>Total Habitat Cover</b>	<b>100</b>

### Other Site Characteristics

1 Terrestrial: Soil & Geology: limestone 2 Terrestrial: Geomorphology and landscape: lowland, valley, hilly

### 4.2 Quality and importance

Rhinolophus ferrumequinum for which this is considered to be one of the best areas in the United Kingdom. Rhinolophus hipposideros for which this is considered to be one of the best areas in the United Kingdom.

### 4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
H	J03		B
H	G01		I
H	J02		B

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [i o b]
H	E04		I
H	D05		I
H	A02		I

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification, T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

### 4.5 Documentation

Conservation Objectives - the Natural England links below provide access to the Conservation Objectives (and other site-related information) for its terrestrial and inshore Natura 2000 sites, including conservation advice packages and supporting documents for European Marine Sites within English waters and for cross-border sites. The Natural Resources Wales weblink below provides access to information on its designated sites. Detailed information about this Natura 2000 site can be accessed via the Management Plan link provided in Section 6.2. See also the 'UK Approach' document for more information (link via the JNCC website).

Link(s): <http://publications.naturalengland.org.uk/category/3212324>  
[http://jncc.defra.gov.uk/pdf/Natura2000\\_StandardDataForm\\_UKApproach\\_Dec2015.pdf](http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf)

<http://publications.naturalengland.org.uk/category/6490068894089216>

<https://naturalresources.wales/conservation-biodiversity-and-wildlife/find-protected-areas-of-land-and-seas/designated-s>

## 5. SITE PROTECTION STATUS (optional)

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### 5.1 Designation types at national and regional level:

Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
UK04	100.0				

## 6. SITE MANAGEMENT

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### 6.1 Body(ies) responsible for the site management:

Organisation:	Natural Resources Wales
Address:	
Email:	

Organisation:	Natural England
Address:	
Email:	

### 6.2 Management Plan(s):

An actual management plan does exist:

<input checked="" type="checkbox"/>	Yes	Name: WYE VALLEY AND FOREST OF DEAN BAT SITES / SAFLEOEDD YSTLUMOD DYFFRYN FFOREST Y DDENA Link: <a href="https://www.naturalresources.wales/media/674312/Wye%20Valley%20Bats%20Core%20Plan%20TRK%2031%20Oct%202019">https://www.naturalresources.wales/media/674312/Wye%20Valley%20Bats%20Core%20Plan%20TRK%2031%20Oct%202019</a>
<input type="checkbox"/>	No, but in preparation	
<input type="checkbox"/>	No	

### 6.3 Conservation measures (optional)

For available information, including on Conservation Objectives, see Section 4.5.

## EXPLANATION OF CODES USED IN THE NATURA 2000 STANDARD DATA FORMS

The codes in the table below are also explained in the [official European Union guidelines for the Standard Data Form](#). The relevant page is shown in the table below.

### 1.1 Site type

CODE	DESCRIPTION	PAGE NO
A	Designated Special Protection Area	53
B	SAC (includes candidates Special Areas of Conservation, Sites of Community Importance and designated SAC)	53
C	SAC area the same as SPA. Note in the UK Natura 2000 submission this is only used for Gibraltar	53

### 3.1 Habitat representativity

CODE	DESCRIPTION	PAGE NO
A	Excellent	57
B	Good	57
C	Significant	57
D	Non-significant presence	57

### 3.1 Habitat code

CODE	DESCRIPTION	PAGE NO
1110	Sandbanks which are slightly covered by sea water all the time	57
1130	Estuaries	57
1140	Mudflats and sandflats not covered by seawater at low tide	57
1150	Coastal lagoons	57
1160	Large shallow inlets and bays	57
1170	Reefs	57
1180	Submarine structures made by leaking gases	57
1210	Annual vegetation of drift lines	57
1220	Perennial vegetation of stony banks	57
1230	Vegetated sea cliffs of the Atlantic and Baltic Coasts	57
1310	Salicornia and other annuals colonizing mud and sand	57
1320	Spartina swards ( <i>Spartinion maritimae</i> )	57
1330	Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimae</i> )	57
1340	Inland salt meadows	57
1420	Mediterranean and thermo-Atlantic halophilous scrubs ( <i>Sarcocornetea fruticosi</i> )	57
2110	Embryonic shifting dunes	57
2120	Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")	57
2130	Fixed coastal dunes with herbaceous vegetation ("grey dunes")	57
2140	Decalcified fixed dunes with <i>Empetrum nigrum</i>	57
2150	Atlantic decalcified fixed dunes ( <i>Calluno-Ulicetea</i> )	57
2160	Dunes with <i>Hippophila rhamnoides</i>	57
2170	Dunes with <i>Salix repens</i> ssp. <i>argentea</i> ( <i>Salicion arenariae</i> )	57
2190	Humid dune slacks	57
21A0	Machairs (* in Ireland)	57
2250	Coastal dunes with <i>Juniperus</i> spp.	57
2330	Inland dunes with open <i>Corynephorus</i> and <i>Agrostis</i> grasslands	57
3110	Oligotrophic waters containing very few minerals of sandy plains ( <i>Littorelletalia uniflorae</i> )	57
3130	Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i>	57
3140	Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.	57
3150	Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation	57

CODE	DESCRIPTION	PAGE NO
3160	Natural dystrophic lakes and ponds	57
3170	Mediterranean temporary ponds	57
3180	Turloughs	57
3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation	57
4010	Northern Atlantic wet heaths with Erica tetralix	57
4020	Temperate Atlantic wet heaths with Erica ciliaris and Erica tetralix	57
4030	European dry heaths	57
4040	Dry Atlantic coastal heaths with Erica vagans	57
4060	Alpine and Boreal heaths	57
4080	Sub-Arctic Salix spp. scrub	57
5110	Stable xerothermophilous formations with Buxus sempervirens on rock slopes (Berberidion p.p.)	57
5130	Juniperus communis formations on heaths or calcareous grasslands	57
6130	Calaminarian grasslands of the Violetalia calaminariae	57
6150	Siliceous alpine and boreal grasslands	57
6170	Alpine and subalpine calcareous grasslands	57
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	57
6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	57
6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	57
6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	57
6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	57
6520	Mountain hay meadows	57
7110	Active raised bogs	57
7120	Degraded raised bogs still capable of natural regeneration	57
7130	Blanket bogs (* if active bog)	57
7140	Transition mires and quaking bogs	57
7150	Depressions on peat substrates of the Rhynchosporion	57
7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae	57
7220	Petrifying springs with tufa formation (Cratoneurion)	57
7230	Alkaline fens	57
7240	Alpine pioneer formations of the Caricion bicoloris-atrofuscae	57
8110	Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	57
8120	Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii)	57
8210	Calcareous rocky slopes with chasmophytic vegetation	57
8220	Siliceous rocky slopes with chasmophytic vegetation	57
8240	Limestone pavements	57
8310	Caves not open to the public	57
8330	Submerged or partially submerged sea caves	57
9120	Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion)	57
9130	Asperulo-Fagetum beech forests	57
9160	Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli	57
9180	Tilio-Acerion forests of slopes, screes and ravines	57
9190	Old acidophilous oak woods with Quercus robur on sandy plains	57
91A0	Old sessile oak woods with Ilex and Blechnum in the British Isles	57
91C0	Caledonian forest	57
91D0	Bog woodland	57
91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	57
91J0	Taxus baccata woods of the British Isles	57

### 3.1 Relative surface

CODE	DESCRIPTION	PAGE NO
A	15%-100%	58
B	2%-15%	58
C	< 2%	58

### 3.1 Conservation status habitat

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	59
B	Good conservation	59
C	Average or reduced conservation	59

### 3.1 Global grade habitat

CODE	DESCRIPTION	PAGE NO
A	Excellent value	59
B	Good value	59
C	Significant value	59

### 3.2 Population (abbreviated to 'Pop.' in data form)

CODE	DESCRIPTION	PAGE NO
A	15%-100%	62
B	2%-15%	62
C	< 2%	62
D	Non-significant population	62

### 3.2 Conservation status species (abbreviated to 'Con.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	63
B	Good conservation	63
C	Average or reduced conservation	63

### 3.2 Isolation (abbreviated to 'Iso.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Population (almost) Isolated	63
B	Population not-isolated, but on margins of area of distribution	63
C	Population not-isolated within extended distribution range	63

### 3.2 Global Grade (abbreviated to 'Glo.' Or 'G.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent value	63
B	Good value	63
C	Significant value	63

### 3.3 Assemblages types

CODE	DESCRIPTION	PAGE NO
WATR	Non breeding waterfowl assemblage	UK specific code
SBA	Breeding seabird assemblage	UK specific code
BBA	Breeding bird assemblage (applies only to sites classified pre 2000)	UK specific code

#### 4.1 Habitat class code

CODE	DESCRIPTION	PAGE NO
N01	Marine areas, Sea inlets	65
N02	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	65
N03	Salt marshes, Salt pastures, Salt steppes	65
N04	Coastal sand dunes, Sand beaches, Machair	65
N05	Shingle, Sea cliffs, Islets	65
N06	Inland water bodies (Standing water, Running water)	65
N07	Bogs, Marshes, Water fringed vegetation, Fens	65
N08	Heath, Scrub, Maquis and Garrigue, Phygrana	65
N09	Dry grassland, Steppes	65
N10	Humid grassland, Mesophile grassland	65
N11	Alpine and sub-Alpine grassland	65
N14	Improved grassland	65
N15	Other arable land	65
N16	Broad-leaved deciduous woodland	65
N17	Coniferous woodland	65
N19	Mixed woodland	65
N21	Non-forest areas cultivated with woody plants (including Orchards, groves, Vineyards, Dehesas)	65
N22	Inland rocks, Screes, Sands, Permanent Snow and ice	65
N23	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	65
N25	Grassland and scrub habitats (general)	65
N26	Woodland habitats (general)	65

#### 4.3 Threats code

CODE	DESCRIPTION	PAGE NO
A01	Cultivation	65
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D03	Shipping lanes, ports, marine constructions	65
D04	Airports, flightpaths	65
D05	Improved access to site	65
E01	Urbanised areas, human habitation	65
E02	Industrial or commercial areas	65

CODE	DESCRIPTION	PAGE NO
E03	Discharges	65
E04	Structures, buildings in the landscape	65
E06	Other urbanisation, industrial and similar activities	65
F01	Marine and Freshwater Aquaculture	65
F02	Fishing and harvesting aquatic resources	65
F03	Hunting and collection of wild animals (terrestrial), including damage caused by game (excessive density), and taking/removal of terrestrial animals (including collection of insects, reptiles, amphibians, birds of prey, etc.), trapping, poisoning, poaching, predator control, accidental capture (e.g. due to fishing gear), etc.)	65
F04	Taking / Removal of terrestrial plants, general	65
F05	Illegal taking/ removal of marine fauna	65
F06	Hunting, fishing or collecting activities not referred to above	65
G01	Outdoor sports and leisure activities, recreational activities	65
G02	Sport and leisure structures	65
G03	Interpretative centres	65
G04	Military use and civil unrest	65
G05	Other human intrusions and disturbances	65
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)	65
H02	Pollution to groundwater (point sources and diffuse sources)	65
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L10	Other natural catastrophes	65
M01	Changes in abiotic conditions	65
M02	Changes in biotic conditions	65
U	Unknown threat or pressure	65
XO	Threats and pressures from outside the Member State	65

### 5.1 Designation type codes

CODE	DESCRIPTION	PAGE NO
UK00	No Protection Status	67
UK01	National Nature Reserve	67
UK02	Marine Nature Reserve	67
UK04	Site of Special Scientific Interest (UK)	67

## NATURA 2000 – STANDARD DATA FORM

**Special Protection Areas (SPAs) classified under Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version), also known as the ‘Birds Directive’**

and

**Special Areas of Conservation (SACs) (includes candidate SACs, Sites of Community Importance (SCIs) and designated SACs) designated under Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, also known as the ‘Habitats Directive’**

Each Natura 2000 site in the United Kingdom has its own Standard Data Form containing site-specific information.

The information provided here follows the officially agreed site information format for Natura 2000 sites, as set out in the [Official Journal of the European Union recording the Commission Implementing Decision of 11 July 2011 \(2011/484/EU\)](#).

The Standard Data Forms are generated automatically for all of the UK’s Natura 2000 sites using the European Environment Agency’s Natura 2000 software. The structure and format of these forms is exactly as produced by the EEA’s Natura 2000 software (except for the addition of this coversheet and the end notes). The content matches exactly the data submitted to the European Commission.

Please note that these forms contain a number of codes, all of which are explained either within the data forms themselves or in the end notes.

Further technical documentation may be found here:  
[http://bd.eionet.europa.eu/activities/Natura\\_2000/reference\\_portal](http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal)

In December 2015, several sections of the UK’s previously published Standard Data Forms were updated. For details of the approach taken by the UK in this submission please refer to the following document:

[http://jncc.defra.gov.uk/pdf/Natura2000\\_StandardDataForm\\_UKApproach\\_Dec2015.pdf](http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf).

These changes formed part of the UK Submission to the European Commission on 22/12/2015.

More general information on Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) in the United Kingdom, including in Gibraltar, is available from the [SPA homepage](#) and [SAC homepage](#) on the JNCC website. These webpages also provide links to Standard Data Forms for all Natura 2000 sites in the UK.

Date Standard Data Form generated by the Joint Nature Conservation Committee:	14 <sup>th</sup> November 2017 (UK Tranche 56)
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# NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),  
Proposed Sites for Community Importance (pSCI),  
Sites of Community Importance (SCI) and  
for Special Areas of Conservation (SAC)

SITE UK0014784  
SITENAME Usk Bat Sites/ Safleoedd Ystlumod Wysg

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- [1. SITE IDENTIFICATION](#)
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- [6. SITE MANAGEMENT](#)
- [7. MAP OF THE SITE](#)

## 1. SITE IDENTIFICATION

<b>1.1 Type</b> B	<b>1.2 Site code</b> UK0014784	<a href="#">Back to top</a>
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### 1.3 Site name

Usk Bat Sites/ Safleoedd Ystlumod Wysg

<b>1.4 First Compilation date</b> 1996-10	<b>1.5 Update date</b> 2017-11
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### 1.6 Respondent:

**Name/Organisation:** Joint Nature Conservation Committee  
**Address:** Joint Nature Conservation Committee, Monkstone House, City Road,  
Peterborough, PE1 1JY  
**Email:**

**Date site proposed as SCI:** 1996-10  
**Date site confirmed as SCI:** 2004-12  
**Date site designated as SAC:** 2004-12

**National legal reference of SAC designation:**

Regulations 11 and 13-15 of the Conservation of Habitats and Species Regulations 2010  
(<http://www.legislation.gov.uk/uksi/2010/490/contents/made>).

## 2. SITE LOCATION

## 2.1 Site-centre location [decimal degrees]:

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### Longitude

-3.176

### Latitude

51.824

## 2.2 Area [ha]:

1686.025

## 2.3 Marine area [%]

0.0

## 2.4 Sitelength [km]:

0.0

## 2.5 Administrative region code and name

### NUTS level 2 code

### Region Name

UKL1	West Wales and The Valleys
UKL2	East Wales

## 2.6 Biogeographical Region(s)

Atlantic (100.0  
%)

# 3. ECOLOGICAL INFORMATION

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## 3.1 Habitat types present on the site and assessment for them

Annex I Habitat types						Site assessment			
Code	PF	NP	Cover [ha]	Cave [number]	Data quality	A B C D	A B C		
						Representativity	Relative Surface	Conservation	Global
3160			6.74		G	D			
4030			338.8		G	C	C	C	C
7110	X		0.22		G	D			
7120			3.4		G	C	C	C	C
7130	X		121.3		G	B	C	B	C
7220	X		0.17		M	D			
7230			1.68		G	D			
8210			8.42		G	C	C	A	C

8310			11.79		G	C		C	B	C
9180	X		50.54		M	C		C	B	C

- **PF:** for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter "X" in the column PF to indicate the priority form.
- **NP:** in case that a habitat type no longer exists in the site enter: x (optional)
- **Cover:** decimal values can be entered
- **Caves:** for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation)

### 3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species			Population in the site							Site assessment				
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	A B C D			
						Min	Max				Pop.	Con.	Iso.	Glo.
M	1308	<a href="#">Barbastella barbastellus</a>			p				P	DD	D			
M	1323	<a href="#">Myotis bechsteinii</a>			p				P	DD	D			
M	1304	<a href="#">Rhinolophus ferrumequinum</a>			p				P	DD	D			
M	1303	<a href="#">Rhinolophus hipposideros</a>			p	501	1000	i		M	B	B	C	B

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

## 4. SITE DESCRIPTION

### 4.1 General site character

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Habitat class	% Cover
N07	40.2
N22	3.0
N23	4.8

N14	5.3
N09	3.8
N16	3.4
N08	32.2
N10	3.0
N11	3.9
N06	0.4
<b>Total Habitat Cover</b>	<b>100</b>

### Other Site Characteristics

1 Terrestrial: Soil & Geology: nutrient-poor, nutrient-rich, acidic, sedimentary, basic, limestone, sandstone, peat. 2 Terrestrial: Geomorphology and landscape: escarpment, caves, upland, valley, crags/ledges, lowland

### 4.2 Quality and importance

European dry heaths for which the area is considered to support a significant presence. Degraded raised bogs still capable of natural regeneration for which the area is considered to support a significant presence. Calcareous rocky slopes with chasmophytic vegetation for which the area is considered to support a significant presence. which is considered to be rare as its total extent in the United Kingdom is estimated to be less than 1000 hectares. Caves not open to the public for which the area is considered to support a significant presence. Tilio-Acerion forests of slopes, screes and ravines for which the area is considered to support a significant presence. Blanket bogs for which the area is considered to support a significant presence. Rhinolophus hipposideros for which this is considered to be one of the best areas in the United Kingdom.

### 4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
M	I01		B
H	A04		I
H	H04		B
M	J02		B
L	I02		B
M	E06		I
M	K04		B

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [i o b]
M	D05		I
M	A04		I

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

### 4.5 Documentation

The Natural Resources Wales weblink below provides access to information on its designated sites. Detailed information about this Natura 2000 site can be accessed via the Management Plan link provided in Section 6.2. See also the 'UK Approach' document for more information (link via the JNCC website).

Link(s): <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/find-protected-areas-c>

[http://jncc.defra.gov.uk/pdf/Natura2000\\_StandardDataForm\\_UKApproach\\_Dec2015.pdf](http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf)

## 5. SITE PROTECTION STATUS (optional)

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### 5.1 Designation types at national and regional level:

Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
UK04	100.0	UK01	3.9		

## 6. SITE MANAGEMENT

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### 6.1 Body(ies) responsible for the site management:

Organisation:	Natural Resources Wales
Address:	
Email:	

### 6.2 Management Plan(s):

An actual management plan does exist:

<input checked="" type="checkbox"/>	Yes	Name: USK BAT SITES / SAFLEODD YSTLUMOD WYSG
		Link: <a href="https://www.naturalresources.wales/media/674281/Usk%20Bat%20Sites%20Management%20Plan%20Feb%2008.pdf">https://www.naturalresources.wales/media/674281/Usk%20Bat%20Sites%20Management%20Plan%20Feb%2008.pdf</a>
<input type="checkbox"/>	No, but in preparation	
<input type="checkbox"/>	No	

## 7. MAP OF THE SITES

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INSPIRE ID:

Map delivered as PDF in electronic format (optional)

Yes  No

Reference(s) to the original map used for the digitalisation of the electronic boundaries (optional).

## EXPLANATION OF CODES USED IN THE NATURA 2000 STANDARD DATA FORMS

The codes in the table below are also explained in the [official European Union guidelines for the Standard Data Form](#). The relevant corresponding page number is shown in the table below.

### 1.1 Site type

CODE	DESCRIPTION	PAGE NO
A	SPA (classified Special Protection Area)	53
B	cSAC, SCI or SAC (candidate Special Area of Conservation, Site of Community Importance, designated Special Area of Conservation)	53
C	SPA area/boundary is the same as the cSAC/SCI/SAC i.e. a co-classified/designated site (Note: in the UK Natura 2000 submission, this is only used in Gibraltar)	53

### 3.1 Habitat representativity

CODE	DESCRIPTION	PAGE NO
A	Excellent representativity	57
B	Good representativity	57
C	Significant representativity	57
D	Non-significant presence	57

### 3.1 Habitat code

CODE	DESCRIPTION	PAGE NO
1110	Sandbanks which are slightly covered by sea water all the time	57
1130	Estuaries	57
1140	Mudflats and sandflats not covered by seawater at low tide	57
1150	Coastal lagoons	57
1160	Large shallow inlets and bays	57
1170	Reefs	57
1180	Submarine structures made by leaking gases	57
1210	Annual vegetation of drift lines	57
1220	Perennial vegetation of stony banks	57
1230	Vegetated sea cliffs of the Atlantic and Baltic Coasts	57
1310	Salicornia and other annuals colonizing mud and sand	57
1320	Spartina swards (Spartinion maritimae)	57
1330	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	57
1340	Inland salt meadows	57
1420	Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)	57
2110	Embryonic shifting dunes	57
2120	Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	57
2130	Fixed coastal dunes with herbaceous vegetation ("grey dunes")	57
2140	Decalcified fixed dunes with Empetrum nigrum	57
2150	Atlantic decalcified fixed dunes (Calluno-Ulicetea)	57
2160	Dunes with Hippophaë rhamnoides	57
2170	Dunes with Salix repens ssp. argentea (Salicion arenariae)	57
2190	Humid dune slacks	57
21A0	Machairs (* in Ireland)	57
2250	Coastal dunes with Juniperus spp.	57
2330	Inland dunes with open Corynephorus and Agrostis grasslands	57
3110	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)	57
3130	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea	57
3140	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	57
3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	57

CODE	DESCRIPTION	PAGE NO
3160	Natural dystrophic lakes and ponds	57
3170	Mediterranean temporary ponds	57
3180	Turloughs	57
3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation	57
4010	Northern Atlantic wet heaths with Erica tetralix	57
4020	Temperate Atlantic wet heaths with Erica ciliaris and Erica tetralix	57
4030	European dry heaths	57
4040	Dry Atlantic coastal heaths with Erica vagans	57
4060	Alpine and Boreal heaths	57
4080	Sub-Arctic Salix spp. scrub	57
5110	Stable xerothermophilous formations with Buxus sempervirens on rock slopes (Berberidion p.p.)	57
5130	Juniperus communis formations on heaths or calcareous grasslands	57
6130	Calaminarian grasslands of the Violetalia calaminariae	57
6150	Siliceous alpine and boreal grasslands	57
6170	Alpine and subalpine calcareous grasslands	57
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	57
6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	57
6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	57
6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	57
6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	57
6520	Mountain hay meadows	57
7110	Active raised bogs	57
7120	Degraded raised bogs still capable of natural regeneration	57
7130	Blanket bogs (* if active bog)	57
7140	Transition mires and quaking bogs	57
7150	Depressions on peat substrates of the Rhynchosporion	57
7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae	57
7220	Petrifying springs with tufa formation (Cratoneurion)	57
7230	Alkaline fens	57
7240	Alpine pioneer formations of the Caricion bicoloris-atrofuscae	57
8110	Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	57
8120	Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii)	57
8210	Calcareous rocky slopes with chasmophytic vegetation	57
8220	Siliceous rocky slopes with chasmophytic vegetation	57
8240	Limestone pavements	57
8310	Caves not open to the public	57
8330	Submerged or partially submerged sea caves	57
9120	Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion roburi-petraeae or Ilici-Fagenion)	57
9130	Asperulo-Fagetum beech forests	57
9160	Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli	57
9180	Tilio-Acerion forests of slopes, screes and ravines	57
9190	Old acidophilous oak woods with Quercus robur on sandy plains	57
91A0	Old sessile oak woods with Ilex and Blechnum in the British Isles	57
91C0	Caledonian forest	57
91D0	Bog woodland	57
91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	57
91J0	Taxus baccata woods of the British Isles	57

### 3.1 Relative surface

CODE	DESCRIPTION	PAGE NO
A	> 15%-100%	58
B	> 2%-15%	58
C	≤ 2%	58

### 3.1 Degree of conservation

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	59
B	Good conservation	59
C	Average or reduced conservation	59

### 3.1 Global assessment

CODE	DESCRIPTION	PAGE NO
A	Excellent value	59
B	Good value	59
C	Significant value	59

### 3.2 Population (abbreviated to 'Pop.' in data form)

CODE	DESCRIPTION	PAGE NO
A	> 15%-100%	62
B	> 2%-15%	62
C	≤ 2%	62
D	Non-significant population	62

### 3.2 Degree of conservation (abbreviated to 'Con.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	63
B	Good conservation	63
C	Average or reduced conservation	63

### 3.2 Isolation (abbreviated to 'Iso.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Population (almost) Isolated	63
B	Population not-isolated, but on margins of area of distribution	63
C	Population not-isolated within extended distribution range	63

### 3.2 Global assessment (abbreviated to 'Glo.' or 'G.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent value	63
B	Good value	63
C	Significant value	63

### 3.3 Assemblages types

CODE	DESCRIPTION	PAGE NO
WATR	Non-breeding waterbird assemblage	UK specific code
SBA	Breeding seabird assemblage	UK specific code
BBA	Breeding bird assemblage (applies only to sites classified pre 2000)	UK specific code



#### 4.1 Habitat class code

CODE	DESCRIPTION	PAGE NO
N01	Marine areas, Sea inlets	65
N02	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	65
N03	Salt marshes, Salt pastures, Salt steppes	65
N04	Coastal sand dunes, Sand beaches, Machair	65
N05	Shingle, Sea cliffs, Islets	65
N06	Inland water bodies (Standing water, Running water)	65
N07	Bogs, Marshes, Water fringed vegetation, Fens	65
N08	Heath, Scrub, Maquis and Garrigue, Phygrana	65
N09	Dry grassland, Steppes	65
N10	Humid grassland, Mesophile grassland	65
N11	Alpine and sub-Alpine grassland	65
N14	Improved grassland	65
N15	Other arable land	65
N16	Broad-leaved deciduous woodland	65
N17	Coniferous woodland	65
N19	Mixed woodland	65
N21	Non-forest areas cultivated with woody plants (including Orchards, groves, Vineyards, Dehesas)	65
N22	Inland rocks, Scree, Sands, Permanent Snow and ice	65
N23	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	65
N25	Grassland and scrub habitats (general)	65
N26	Woodland habitats (general)	65

#### 4.3 Threats code

CODE	DESCRIPTION	PAGE NO
A01	Cultivation	65
A02	Modification of cultivation practices	65
A03	Mowing / cutting of grassland	65
A04	Grazing	65
A05	Livestock farming and animal breeding (without grazing)	65
A06	Annual and perennial non-timber crops	65
A07	Use of biocides, hormones and chemicals	65
A08	Fertilisation	65
A10	Restructuring agricultural land holding	65
A11	Agriculture activities not referred to above	65
B01	Forest planting on open ground	65
B02	Forest and Plantation management & use	65
B03	Forest exploitation without replanting or natural regrowth	65
B04	Use of biocides, hormones and chemicals (forestry)	65
B06	Grazing in forests/ woodland	65
B07	Forestry activities not referred to above	65
C01	Mining and quarrying	65
C02	Exploration and extraction of oil or gas	65
C03	Renewable abiotic energy use	65
D01	Roads, paths and railroads	65
D02	Utility and service lines	65
D03	Shipping lanes, ports, marine constructions	65
D04	Airports, flightpaths	65
D05	Improved access to site	65
E01	Urbanised areas, human habitation	65
E02	Industrial or commercial areas	65

CODE	DESCRIPTION	PAGE NO
E03	Discharges	65
E04	Structures, buildings in the landscape	65
E06	Other urbanisation, industrial and similar activities	65
F01	Marine and Freshwater Aquaculture	65
F02	Fishing and harvesting aquatic resources	65
F03	Hunting and collection of wild animals (terrestrial), including damage caused by game (excessive density), and taking/removal of terrestrial animals (including collection of insects, reptiles, amphibians, birds of prey, etc., trapping, poisoning, poaching, predator control, accidental capture (e.g. due to fishing gear), etc.)	65
F04	Taking / Removal of terrestrial plants, general	65
F05	Illegal taking/ removal of marine fauna	65
F06	Hunting, fishing or collecting activities not referred to above	65
G01	Outdoor sports and leisure activities, recreational activities	65
G02	Sport and leisure structures	65
G03	Interpretative centres	65
G04	Military use and civil unrest	65
G05	Other human intrusions and disturbances	65
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)	65
H02	Pollution to groundwater (point sources and diffuse sources)	65
H03	Marine water pollution	65
H04	Air pollution, air-borne pollutants	65
H05	Soil pollution and solid waste (excluding discharges)	65
H06	Excess energy	65
H07	Other forms of pollution	65
I01	Invasive non-native species	65
I02	Problematic native species	65
I03	Introduced genetic material, GMO	65
J01	Fire and fire suppression	65
J02	Human induced changes in hydraulic conditions	65
J03	Other ecosystem modifications	65
K01	Abiotic (slow) natural processes	65
K02	Biocenotic evolution, succession	65
K03	Interspecific faunal relations	65
K04	Interspecific floral relations	65
K05	Reduced fecundity/ genetic depression	65
L05	Collapse of terrain, landslide	65
L07	Storm, cyclone	65
L08	Inundation (natural processes)	65
L10	Other natural catastrophes	65
M01	Changes in abiotic conditions	65
M02	Changes in biotic conditions	65
U	Unknown threat or pressure	65
XO	Threats and pressures from outside the Member State	65

## 5.1 Designation type codes

<b>CODE</b>	<b>DESCRIPTION</b>	<b>PAGE NO</b>
UK00	No Protection Status	67
UK01	National Nature Reserve	67
UK04	Site of Special Scientific Interest (UK)	67
UK05	Marine Conservation Zone	67
UK06	Nature Conservation Marine Protected Area	67
UK86	Special Area (Channel Islands)	67
UK98	Area of Special Scientific Interest (NI)	67
IN00	Ramsar Convention site	67
IN08	Special Protection Area (SPA, EC Birds Directive)	67
IN09	Special Area of Conservation (SAC, EC Habitats Directive)	67

## Appendix D

### Desk Study Summary

## D1 Desk Study Summary

Table D1: Summary of protected and notable species records within 2km of the site boundary (extended to 5km for bats). Data are from the 10-year period between 2007 and 2016. Distances are approximate.

Species/Group	Scientific Name	Status <sup>74</sup>	Summary of Records	Year of nearest record
<b>Reptiles and Amphibians</b>				
Great crested newt	<i>Triturus cristatus</i>	EPS, WCA	One record from 950m away north-east.	2008
Palmate newt	<i>Lissotriton helveticus</i>	WCA	Ten records from Cath Cobb Woodlands, Marshfield and Trowbirdge, Cardiff. The closest record is 1100m north-east.	2009
Smooth newt	<i>Lissotriton vulgaris</i>	WCA	One record from Trowbridge, Cardiff (1370m west).	2009
Common frog	<i>Rana temporaria</i>	WCA	16 records, with one record on site.	2009
Common toad	<i>Bufo bufo</i>	WCA	19 records with two on site, both from Hendre Lake.	2016
Slow worm	<i>Anguis fragilis</i>	WCA	12 records with the closest record from 750m north-east. Records area also from 2014 950m west.	2008
Common lizard	<i>Zootoca vivipara</i>	WCA	Five records with the closest from 750m away.	2008
Grass snake	<i>Natrix helvetica</i>	WCA	Six records with the closest from 500m away.	2016
<b>Bats</b>				
Unidentified bat	<i>Chiroptera</i>	EPS, WCA	43 records with the closest from 115m away.	2008
Myotis bat	<i>Myotis</i> spp.	EPS, WCA	12 records with the closest from 880m north-west.	2013
Natterer's bat	<i>Myotis nattereri</i>	EPS, WCA	Two records with the closest from 1km away.	2014
Whiskered bat	<i>Myotis mystacinus</i>	EPS, WCA	Three records, including roosts; closest roost is approximately 650m away.	2015
Brown long-eared bat	<i>Plecotus auritus</i>	EPS, WCA	10 records including roosts; closest roost is approximately 930m away.	2015

<sup>74</sup> EPS = European Protected Species as listed under Schedule 2 of the Conservation of Habitats and Species Regulations (2010)

WCA = Species protected under Schedule 5 (animals) or Schedule 8 (plants) of the Wildlife and Countryside Act (1981) as amended

Species/Group	Scientific Name	Status <sup>74</sup>	Summary of Records	Year of nearest record
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	EPS, WCA	87 records with the closest from 170m away. Records include roosts from within 1km; confidential.	2015
Nathusius' pipistrelle	<i>Pipistrellus nathusii</i>	EPS, WCA	Three records with the closest from 900m away	2014
Greater horseshoe bat	<i>Rhinolophus ferrumequinum</i>	EPS, WCA	7 records with the closest from 4.1km away; confidential.	2015
Lesser horseshoe bat	<i>Rhinolophus hipposideros</i>	EPS, WCA	Three records with the closest from 5.8km away; confidential.	2010
Pipistrelle species	<i>Pipistrellus</i> spp.	EPS, WCA	113 records, including roosts. Closest known roost is approximately 750m away from the site.	2009
Serotine	<i>Eptesicus serotinus</i>	EPS, WCA	Six records with the closest from 1km.	2014
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	EPS, WCA	36 records with the closest from 170m away. Closest known roost is approximately 1km away from the site.	2015
Daubenton's bat	<i>Myotis daubentonii</i>	EPS, WCA	Eight records with the closest from 900m away.	2014
Leisler's bat	<i>Nyctalus leisleri</i>	EPS, WCA	One record from 1.8km away.	2010
<b>Riparian Mammals</b>				
Otter	<i>Lutra lutra</i>	EPS, WCA	Four records of otter with the closest on site of a spraint.	2010
Water vole	<i>Arvicola amphibius</i>	WCA	One record on site from Hendre Lake.	2010
<b>Other mammals</b>				
Badger <sup>75</sup>	<i>Meles meles</i>	BA	Five records with the closest from 1km away north.	2014
Brown hare	<i>Lepus europaeus</i>	WCA	One record from 1.7km away.	2008
Hedgehog	<i>Erinaceus europaeus</i>	WCA	22 records with the closest on site near Hendre Lake.	2013
Hazel dormouse	<i>Muscardinus avellanarius</i>	EPS, WCA	11 records with the closest from 880m away.	2015
<b>Birds</b>				
A total of 31 bird species listed on Schedule 1 of the Wildlife and Countryside Act 1981 have been recorded within the 2km search area since 2006. Of these 31 species, three species have the potential to have nested at the site. These species are the barn owl, kingfisher <i>Alcedo atthis</i> and Cetti's warbler, which could nest in old trees on site, bankside habitat or reedbeds/scrub at				

<sup>75</sup> BA = Protection of Badgers Act (1992)

Species/Group	Scientific Name	Status <sup>74</sup>	Summary of Records	Year of nearest record
Hendre Lake, respectively. The other 28 species are unlikely to nest on site given a lack of suitable breeding habitat or that they are winter/passage bird species, e.g. redwing <i>Turdus iliacus</i> . SEWBReC also provided numerous records of Section 7 <sup>76</sup> birds.				
<b>Section 7 Invertebrates and Plants</b>				
SEWBReC returned data on Section 7 species within the 2km search area. These included brown-banded carder-bee <i>Bombus humilis</i> (three records; two on site from 2016), shrill carder-bee <i>Bombus slyvarum</i> (10 records with two on site from 2016), dingy skipper <i>Erynnis tages</i> (six records from approximately 20m off site in 2011), large wainscot <i>Rhizedra lutosa</i> (one record from 600m off site in 2011), tubular water-dropwort <i>Oenanthe fistulosa</i> (three records from >1km off site from 2009 - 2014), sea barley <i>Hordeum marinum</i> (seven records from approximately 1.4km and beyond from 2010 to 2015). All the above species are also listed on the UK Biodiversity Action Plan.				
<b>Invasive Species</b>				
SEWBReC provided data on invasive species within 2km of the site boundary. Species recorded on site included the American mink <i>Neovison vison</i> (two records on site in 2009), Canada goose (99 records from 2008 - present), zebra mussel <i>Dreissena polymorpha</i> (one record from 2015) and red-eared terrapin <i>Trachemys scripta</i> (one record from 2016 in Hendre Lake). Cherry laurel <i>Prunus laurocerasus</i> (two records in 2016) and harlequin ladybird <i>Harmonia axyridis</i> (two records from 2013 and 2016) were recorded from within 150m of the site boundary. Of the invasive species recorded within the search area only American mink and Canada goose are recorded on Schedule 9 of the Wildlife and Countryside Act 1981, where these species are illegal to release or allow to escape into the wild.				
<b>Fish</b>				
<p>No European eel were recorded within the desk study search area. However, the reens are known to support a large population of European eel, which dominate the fish stocks in these features. The results of two fyke net surveys, undertaken by Countryside Council for Wales (CCW) in the summers of 2008 and 2009 in the Rhosog Fawr Reen (Rumney and Peterstone SSSI) support these broad conclusions with European eel recorded in both years. Furthermore, eel have been fished from Hendre Lake<sup>78</sup>.</p> <p>No lamprey species were recorded within the desk study search area. However, NRW considers that the reens and ditches of the Gwent Levels may potentially represent significant habitats for juvenile lamprey (ammocoetes) of all three species (river, brook and sea)<sup>77</sup>. Typically, juvenile lamprey live buried in mud in the margins of fast flowing rivers for three to five years during their development, however and may occur in smaller, silted watercourses.</p> <p>The reens are known to support a mixed population of coarse fish, including roach (<i>Rutilus rutilus</i>), tench (<i>Tinca tinca</i>), bream (<i>Abramis brama</i>) and carp (<i>Cyprinus carpio</i>); all characteristic of slow-flowing or still water. The results of two fyke net surveys, undertaken by CCW in the summers of 2008 and 2009 in the Rhosog Fawr Reen (Rumney and Peterstone SSSI) recorded roach, rudd (<i>Scardinius erythrophthalmus</i>), perch (<i>Perca fluviatilis</i>) and three-spined stickleback (<i>Gasterosteus aculeatus</i>). Hendre Lake is also known to stock bream and carp, with mature eel and pike commonly being caught<sup>78</sup>.</p>				

<sup>76</sup> Species listed on Section 7 of the Environment (Wales) Act 2016.

<sup>77</sup> Section 3.2.36, p. 14 <https://gov.wales/sites/default/files/publications/2017-10/m4-corridor-around-newport-environmental-statement-appendix-10.18-aquatic-environment-baseline-study.pdf>

<sup>78</sup> <https://clubfaw.weebly.com/hendre-lake.html#>

## Appendix E

Wintering Bird Survey Timing,  
Weather and Tidal States



## E1 2017/18 Wintering Birds Survey

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Visit	Month	Date	Temp (°C)	Wind Speed (Beaufort Scale)	Wind Direction	Cloud Cover (%)	Conditions	Start Time (est.)	End Time (est.)	Tidal State <sup>79</sup>
1	Nov	16/11/2017	11	1	SW	25	Dry.	08:00	12:00	High tide – 05:22 Low tide – 11:28 High tide – 17:41 Low tide – 23:56
2	Dec	19/12/2017	1	1	W	25	Sunny, with frost at survey start. Ice present in reens.	08:50	12:45	Low tide – 01:24 High tide – 07:30 Low tide – 13:42 High tide – 19:57
3	Jan	17/01/2018	4	1	S	25	Dry.	08:40	12:40	Low tide – 01:02 High tide – 07:13 Low tide – 13:22 High tide – 19:30
4	Feb	09/02/2018	3	2	W	40	Light snow at start.	08:00	12:00	High tide – 00:50 Low tide – 06:37 High tide – 13:20 Low tide – 19:10
5	Mar	20/03/2018	3	1	N	15	Dry.	07:40	11:40	Low tide – 02:51 High tide – 08:49 Low tide – 15:07 High tide – 21:04

<sup>79</sup> Taken from <https://tidetimes.org.uk/cardiff-tide-times>

## E2 2020/21 Wintering Birds Survey

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### Diurnal Surveys

Date	High Tide	Low Tide	Start/End time	Cloud Cover (Oktets)	Wind (Beaufort/direction)	Temp (°C)	Precipitation
23/10/2020	12:14	18.11	12:00 – 15:00	1-4	1-3 W	14-15	Nil
			15:15-18:15	2-3	1-2 NW	15-12	Nil
19/11/2020	08:58	15:13	08:40 – 12:10	7-8	1-2 NW	9-10	Nil
			13:30-15:30	6-4	2-1 NW	12-10	Nil
11/12/2020	15:57	09:42	09:30-12:30	7-6	1-2 SW	9-10	Oc. light showers
			13:00-16:00	6-7	1 SW	10	Nil
15/01/2021	08:28	14:45	08:30-11:00	8	1 S	4-5	Nil
			11:45-14:40	8	1-2 S	5	Nil
08/02/2021	15:45	09:28	09:30-12:00	3-5	2-3 NE	3	Nil
			13:15-15:45	3-5	2-3 NE	3-2	Nil
04/03/2021	09:45	16:02	09:30-11:00	8	1 NW	6-7	Nil
			12:30-16:00	7-8	2-1 NW	8-6	Nil

### Nocturnal Surveys

Date	Sunset	High Tide	Start/End time	Cloud Cover (Oktets)	Wind (Beaufort/direction)	Temp (°C)	Precipitation
16/11/2020	16:21	18:59	18:35-21:45	7-8	2 W-SW	12-11	Infrequent light rain
12/01/2021	16:29	17:57	17:25-20:30	4-3	1 S	5-4	Nil
01/03/2021	17:53	20:07	20:05-23:15	4	2 W	6-4	Nil