

St. Modwen Developments Ltd.
Coed Darcy
Sustainability Statement

Final | 24 November 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.

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Ove Arup & Partners Ltd
63 St Thomas Street
Bristol BS1 6JZ
United Kingdom
www.arup.com

ARUP

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			Prepared by	Checked by	Approved by
		Name	Shannon Smart	Andy Luke	David Littler
		Signature			
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1 Introduction

1.1 Purpose

On behalf of St. Modwen Developments Ltd, Arup has been commissioned to support the planning application for the proposed development of circa 1,800 dwellings, a primary school, retail and employment space and supporting infrastructure at Coed Darcy ('the proposed development'). As part of the planning application documentation, a sustainability statement is required by Neath Port Talbot County Borough Council ('NPTCBC') as the local planning authority, to demonstrate the consideration of sustainable development issues within the proposed development design.

This sustainability statement presents how the design and the proposals of the proposed development will address key sustainable development issues, and best practice measures, as well as meeting national and local policy requirements.

This statement provides a summary of the key sustainability issues embedded into the design. The approach to the sustainability review and documents that has been undertaken to support the integration of sustainable measures within the proposed development design is set out in Section 2.

1.2 The Applicant

St. Modwen Developments Ltd ('the applicant') is a developer with over 30 years' experience in delivering properties across UK, including South Wales. This includes experience in the delivery of homes, industrial and logistic assets and strategic land and regeneration. The applicant has a number of sustainability commitments relating to the developments that they deliver, including in relation to biodiversity, waste reduction, carbon reduction and health and wellbeing. Further information on these commitments and aspirations is provided in Section 3 of this report.

Outline planning permission was previously obtained for the site in 2008 (reference P2005/0393) which included for 4,000 new homes, business and retail space and commercial, education and community facilities along with associated highways, infrastructure and landscaping. There have been a number of applications submitted for the site for various works. Aside from infrastructure and remediation works (including the northern access road), phases 1A and 1B have been delivered by Persimmon Homes and comprise the development of approximately 300 new homes which have been built out and occupied.

Since the outline application was granted, there has been ongoing discussion and dialogue between the applicant and NPTCBC about the deliverability of the site and the implementation of the planning permission. As a result of these discussions, the applicant is looking to submit a new outline application for a revised scheme at the Coed Darcy site.

1.3 The Proposed Development

The proposed development will provide a new residential-led mixed use community. Outline planning permission is sought with all matters reserved except access, for the following development description:

“Outline planning application, with all matters reserved except for strategic access, for residential uses (C2 & C3 use class), including land for education (D1 use class) with associated public open space, commercial uses (A1, A2, A3, B1, D1 & D2), commercial / employment (B2 & B8) uses, public open space, highway works, sustainable drainage, ecological mitigation and enhancement, landscaping, ground remediation, and associated engineering and infrastructure works.”

The proposed development has been developed through an iterative design and the Environmental Impact Assessment (EIA) process. For a full description of the proposed development please see Chapter 3 of the Environmental Statement (ES) in Volume I. The Parameter Plans and Illustrative Masterplan (which shows how the development can be delivered within the parameters) are also provided in ES Volume 2.

1.4 Structure of the Report

This Sustainability Statement report has been structured as follows:

- Section 2: Sustainability Approach – Outlines how sustainability principles and measures have been identified;
- Section 3: Key Aims and Aspirations – Outlines the applicant’s sustainability aspirations;
- Section 4: Sustainable Development in Wales – Outlines relevant national and local policy;
- Section 5: Biodiversity and Nature Conservation – Identifies measures to promote biodiversity;
- Section 6: Environmental Pollution and Protection – Identifies measures to protect the environment from pollution;
- Section 7: Climate Change and Low Carbon Energy – Outlines measures to reduce contributions to climate change and adapt to future climate change;
- Section 8: Resource and Waste Management – Outlines measures to reduce waste and use of resource;
- Section 9: Sustainable Communities and Social Value – Outlines how the proposed development will support new and existing communities;
- Section 10: Mobility, Connectivity and Active Travel – Outlines how the proposed development will support the use of a range of transport modes.

2 Sustainability Approach

A review of the following documents was undertaken to identify the key sustainability issues and policies that were most relevant to the proposed development based on the nature of the development and its location, and should therefore be prioritised for attention within the design process:

- National and local policy including the relevant Local Plan and the Local Wellbeing Plan developed in response to the Future Generations Act.
- The applicant's corporate sustainability policy.
- Relevant sustainable development goals.
- A review of the environmental and social context of the site based on initial findings within the EIA.

This process identified the following priority areas on which the strategy has focussed to ensure that the design prioritises those sustainability issues that are most relevant to the location of the proposed development:

- Biodiversity and Nature Conservation
- Environmental Pollution and Protection
- Climate Change and Low Carbon Energy
- Resource and Waste Management
- Sustainable Communities and Social Value
- Mobility, Connectivity and Active Travel

This statement is also supported by a number of assessments and design documents which have been prepared as part of the planning application submission and should be read alongside this statement. These have been referenced throughout the statement and include the following:

- Parameter Plans;
- Design and Access Statement;
- Flood Risk Assessment;
- Drainage Strategy;
- Environmental Statement;
- Energy Strategy;
- Transport Assessment;
- Framework Travel Plan; and
- Framework Resource Efficiency Plan.

3 Key Aims and Aspirations

This section outlines the applicant's sustainability commitments and aspirations for the proposed development which have been used to identify sustainable development principles and measures to be incorporated into the development proposals.

3.1 St. Modwen's Sustainable Business Approach

St. Modwen has developed a sustainable business approach to help deliver responsible and sustainable development. The six core areas which they have identified as their focus are illustrated on Figure 1 below. These include commitments that directly relate to the design and implementation of the developments that they deliver (such as achieving biodiversity net gain across their developments) and also commitments that relate to how they operate as a business (such as implementing National Equality Standard plans). Each of these focus areas and aspirations associated with each are outlined in the sections below. The applicant's sustainable business commitments will inform their approach to the ongoing design and development of the proposed development.



Figure 1. Figure illustrating St. Modwen's sustainability business approach¹

3.1.1 Net Carbon Reduction

St. Modwen has undertaken activities to reduce their carbon footprint associated with their operations and developments. This has included reducing their operational carbon footprint in 2020 by 30% versus 2019, through more efficient facilities and purchasing renewable electricity. They have also determined 2025 and 2040 carbon footprints to help prioritise action plans. St. Modwen included modern methods of construction (MMC) in 21% of homes in 2020 and switched

¹ <https://www.stmodwen.co.uk/st-modwen-to-be-fully-net-zero-carbon-by-2040-as-it-launches-six-pronged-sustainability-framework/>

to a green fleet provider as part of the transition to using electric vehicles. St. Modwen's plans and aspirations for 2021 in relation to carbon reductions are:

- Embed net zero carbon reduction plans in each business unit (St. Modwen Homes, St. Modwen Logistics, and Strategic Land & Regeneration).
- Carry out energy audits to improve energy efficiencies across managed assets.
- c. 60% of 2021 projects to be BREEAM Very Good or Excellent, rising to c. 80% in 2022.
- Establish low-carbon strategies for new projects and developments.
- Prepare to meet future energy and efficiency standards, and trial Passivehaus technologies.
- 30% of homes include MMC.
- Plan for all new homes to be supplied with 100% Renewable Energy Guarantees of Origin (REGO) backed electricity.
- Reduce carbon emissions from travel and commuting, through green fleet roll-out and maximising the benefits of agile working.

3.1.2 Biodiversity and Sustainable Environments

St. Modwen has taken steps to reduce their impact on the environment including through reducing waste by 15% to date and delivering new open green spaces which promote wildlife as part of their developments. They have also worked with the Environment Bank to carry out baseline biodiversity assessments across priority sites and built partnerships with local wildlife organisations such as the Woodland Trust, the National Forest Company and Staffordshire Wildlife Trust² to help promote biodiversity. Future plans and aspirations in relation to biodiversity and waste include:

- Evaluating biodiversity opportunities for each new site and ensuring they deliver over a 10% biodiversity net gain.
- By 2025, cut St. Modwen Homes site waste by a third and increase its recycling rate to 99%.
- Roll out biodiversity code and training to development teams across all business units.
- Establish landscaping design and maintenance for biodiversity guide, and translate into contractor requirements.
- Create Company-wide waste targets with supporting policy and guidance metrics.

² <https://www.stmodwen.co.uk/st-modwen-creates-new-wildlife-haven-and-bluebell-woodland-in-branston-staffordshire/>

3.1.3 Diversity and Inclusion

St. Modwen has taken steps to promote diversity and inclusion across their business including holding company wide awareness events, providing line managers with diversity and inclusion awareness training and updating policies and procedures to reflect diversity and inclusion considerations. In 2021, St. Modwen will continue with these activities and also aims to:

- Implement a National Equality Standard plan.
- Develop new approach to resourcing with diversity key performance indicators at each development stage.
- Communicate expectations on diversity and inclusion to suppliers and partners, and build in as part of supplier selection process.
- Pilot mentoring programme with apprentices, graduates and trainees specifically targeting females and those from a Black, Asian and minority ethnic (BAME) background.

3.1.4 Education & Future Skills

St. Modwen has undertaken activities to support skills development including through the delivery of webinars to education partners, work placements, piloting virtual work experience projects for women and taking part in the Open Doors events. Future aims and aspirations in relation to education include:

- To invest 1% of the company's cash profits every year into education partnerships by 2025, making a positive impact on over 20,000 young people.
- Identify opportunities where there are both internal and external benefits from education investment.
- Ensure all major projects have an education and skills plan in place to contribute to the target.
- Increase graduates, internships and trainees into the company and set an appropriate future target.

3.1.5 Health and Wellbeing

St. Modwen's ambition is to be bold in the pursuit of wellbeing to boost the happiness, health and satisfaction of their people, as well as making a meaningful, positive impact on the health and wellbeing of the communities that they operate in and the places they deliver. They have undertaken a range of activities to support wellbeing, including setting up wellbeing hub for employees, promoted key wellness campaigns, trained line managers in mental health awareness and created Mental Health First Aiders. Future actions also include:

- Conduct a Health & Wellbeing employee survey to set a baseline.
- Identify key areas of focus and an action plan for 2021 and beyond.
- Develop a plan to support the wellbeing of contractors and partners.

- Create a community engagement strategy to ensure all development sites contribute to community health and wellbeing.

3.1.6 Responsible Operating Practices and Partnerships

St. Modwen aims to work with their supply chain to embed responsible operating practices and deliver to their Supply Chain Charter requirements. During 2020, St. Modwen developed a draft supply chain charter which they aim to launch in 2021, piloting it with key suppliers. The draft charter will be benchmarked against industry best practice and leading peers.

3.2 Aspirations for the Proposed Development

In terms of specific aspirations for the proposed development, St. Modwen aims to provide an exemplar housing development which provides biodiversity enhancements and targets low or near zero carbon. The proposed development will also be designed to create an innovative and sustainable new ‘15-minute neighbourhood’ (whereby most basic day-to-day needs can be accessed within a 15 minute walk of your home) to meet the current and future needs of Neath and the Swansea Bay region. The masterplan also aims to create a development that is inclusive and accessible to all and integrate health and wellbeing into the built environment through meeting places, increased connectivity and biophilic principles.

3.3 Alignment with United Nations Sustainable Development Goals (SDGs)

The United Nations (UN) SDGs lead in guiding sustainable development on a global scale. The SDGs are an important part of the 2030 Agenda for Sustainable Development, which was adopted by all UN Member States in 2015.



Figure 2: UN SDGs

There are 17 SDG (presented on Figure 2 above) and associated targets which the global community will aim to achieve in order to help create peace and prosperity for people and the planet, now and into the future. The following SDGs are of particular relevance and can be supported by the proposed development:

- Good health and well-being.
- Quality education.
- Affordable and clean energy.
- Decent work and economic growth.
- Sustainable cities and communities.
- Responsible consumption and production.
- Climate action.
- Life on land.

4 Sustainable Development - Policy Context

This section sets out legislation and national and local policy relevant to the proposed development, including the elements of the planning policy framework that relate to sustainable development and will form part of the decision making framework for the development. This has helped informed the identification of key sustainable development priority areas for the proposed development as noted in Section 2.

4.1 National Legislation

4.1.1 The Planning Act

The Planning (Wales) Act 2015³ aims to improve the existing planning process to ensure the right development is located in the right place, ensuring that the development and use of land contribute to the well-being of Wales.

4.1.2 The Well-Being of Future Generations Act

The Well-Being of Future Generations (Wales) Act 2015⁴ provides the framework for sustainable development in Wales, defined as improving the social, economic, environmental and cultural well-being of Wales.

Under this legislation, public bodies listed in the Act have a duty to carry out sustainable development. Section 2 of the Act defines this as:

“Sustainable development means the process of improving the economic, social, environmental and cultural well-being of Wales by taking action, in accordance with the sustainable development principle, aimed at achieving the well-being goals.”

The Act defines seven national well-being goals and outlines five ways of working that will help public bodies deliver the well-being goals.

The Future Generations Framework for projects was published in draft by the Office of the Future Generations Commissioner for Wales. It was created *“to support the public sector and others in Wales to deliver projects and infrastructure fit for the future”*⁵. The Framework provides a series of prompts to consider through project development and delivery, which can be used to align the project with the local well-being objectives set by public bodies, well-being goals and embed the ways of working (see Section 4.3.2 for further details on well-being).

³ National Assembly for Wales (2015) ‘Planning (Wales) Act 2015’. Available at: <https://www.legislation.gov.uk/anaw/2015/4/contents/enacted>

⁴ National Assembly for Wales (2015) ‘Well-being of Future Generations (Wales) Act’. Available at: http://www.legislation.gov.uk/anaw/2015/2/pdfs/anaw_20150002_en.pdf

⁵ Future Generations Commissioner for Wales (2017) ‘Future Generations Framework’. Available at: https://futuregenerations.wales/resources_posts/future-generations-framework/

National indicators for Wales have been set by Welsh Ministers to measure progress towards the achievement of the national well-being goals⁶. There are 46 national indicators, which include both quantitative and qualitative measures of economic, social, environmental and cultural well-being.

Each public body listed in the Act (including local authorities) must set and publish wellbeing objectives. These objectives will show how each public body will work to achieve the vision for Wales set out in the well-being goals. Public bodies must then take action to make sure they meet the objectives they set (see Section 4.3.2 for further details on well-being).

4.1.3 Environment Act

The Environment (Wales) Act 2016⁷ provides a framework for sustainable natural resources management in Wales. The Act aims to “*promote sustainable management of natural resources*” (Welsh Government, 2016) and seeks to enable Wales’ resources to be managed in a more proactive, sustainable and joined up way.

The Act puts in place statutory greenhouse gas emission reduction targets and carbon budgets to support their delivery, these targets and initiatives help set a clear path for decarbonisation. The Act also defines measures for the collection and disposal of waste, fisheries licensing information and regulatory regimes for flood risk management and land drainage.

4.1.4 Active Travel Act

The Active Travel (Wales) Act 2013⁸ places a legal requirement on local authorities in Wales to map and plan for suitable routes for active travel, and to build and improve their infrastructure for walking and cycling every year. Welsh Government and local authorities must promote walking and cycling as a mode of transport so that local communities rely less on cars when making short journeys.

4.2 National Policy and Strategies

4.2.1 Planning Policy Wales

Published in February 2021, the 11th edition of Planning Policy Wales (PPW)⁹ sets out the land use planning policies of the Welsh Government. It aims to see that “*the planning system contributes towards the delivery of sustainable*

⁶ Welsh Government (2016) ‘National indicators’. Available at: <https://gov.wales/topics/people-and-communities/people/future-generations-act/national-indicators>

⁷ National Assembly for Wales (2016) ‘Environment (Wales) Act’ Available: <http://www.assembly.wales/Research%20Documents/15-030-Environment/15-030.pdf>

⁸ National Assembly for Wales (2013) ‘Active Travel (Wales) Act 2013’ Available: <https://www.legislation.gov.uk/anaw/2013/7/contents/enacted>

⁹ Welsh Government (2021) ‘Planning Policy Wales, Edition 11’. Available: <https://gov.wales/planning-policy-wales>

development and improves the social, economic, environmental and cultural well-being of Wales”.

Future Wales – the National Plan 2040

Future Wales¹⁰, published in February 2021, outlines the Welsh Government’s strategies for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, delivering growth in the right areas, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of communities. Sustainable development is a key part of the Future Wales plan, including in relation to sustainable growth, use of resources, travel and decarbonisation.

4.2.2 Technical Advice Note 12: Design

Technical advice notes (TANs) provide detailed planning advice. The purpose of TAN 12: Design¹¹ is to provide advice on how ‘Promoting sustainability through good design’ and ‘Planning for sustainable building’ may be facilitated through the planning system. It includes information on a range of topics relating to good design, including environmental sustainability.

The objectives identified in relation to environmental sustainability are:

- Achieving efficient use and protection of natural resources;
- Enhancing biodiversity; and
- Designing for change.

The design solutions identified for environmental sustainability are:

- Landscape/townscape setting;
- Biodiversity and local environment;
- Energy efficiency/carbon reduction;
- Sustainable materials;
- Water;
- Waste management;
- Climate resilience; and
- Sustainable building standards.

¹⁰ Welsh Government (2021) ‘Future Wales – the National Plan 2040’. Available: <https://gov.wales/future-wales-national-plan-2040-0>

¹¹ Welsh Government (2016) ‘Technical Advice Note 12: Design’. Available: <https://gov.wales/technical-advice-note-tan-12-design>

4.2.3 Towards Zero Waste Strategy

Towards Zero Waste: Our Waste Strategy (2019)¹² describes the long-term framework for resource efficiency and waste management from 2019 to 2050 in Wales. Towards Zero Waste is a high-level overarching waste strategy document that sets out how to achieve the social, economic and environmental outcomes of resource efficiency and waste management and how they will contribute to a sustainable future. The document contains high level principles, policies and targets.

4.2.4 Construction and Demolition Sector Plan

The Construction and Demolition Sector Plan (2012)¹³ supports the Toward Zero Waste document. The Plan contains proposals on how the construction and demolition sector can manage and treat its waste to achieve more sustainable and affordable outcomes. It focuses on the key role that the construction and demolition sector can play through working with their clients, customers, suppliers, trades people and the wider community to achieve twin goals of ‘one planet living’ and zero waste.

4.2.5 Prosperity for All: A Low Carbon Wales

In March 2019, Welsh Government published their decarbonisation plan for Wales, Prosperity for All: A Low Carbon Wales¹⁴. It sets out 100 policies and proposals to reduce emissions and support the low carbon economy. These include high-level actions relating to reducing emissions associated with buildings, such as energy for heating.

4.3 Neath Port Talbot Local Policy

4.3.1 Local Development Plan 2011-2026

The adopted Neath Port Talbot Local Development Plan (2011-2026)¹⁵ guides future development for the area. Amongst other things, it aims to protect and sustain the environment and build sustainable communities. There are a range of strategic policies and associated detailed policies relating to sustainable development which are listed in Table 1 below.

¹² Welsh Government (2019) ‘Towards zero waste: our waste strategy’. Available: <https://gov.wales/towards-zero-waste-our-waste-strategy>

¹³ Welsh Government (2012) Draft Construction and Demolition Sector Plan, 2012. Available at: https://gov.wales/topics/environmentcountryside/epq/waste_recycling/zerowaste/?lang=en

¹⁴ Welsh Government (2019) ‘Prosperity for All: A Low Carbon Wales’. Available at: <https://gweddill.gov.wales/docs/desh/publications/190321-prosperity-for-all-a-low-carbon-wales-en.pdf>

¹⁵ Neath Port Talbot Council (2016) ‘Local Development Plan (2011-2026)’. Available: <https://www.npt.gov.uk/7328>

Table 1 Neath Port Talbot Local Development Plan (2011-2026) Relevant Policy

Neath Port Talbot Local Development Plan (2011-2026) Relevant Policy	
Strategic Policies	Topic and Area based Policies
SP1 Climate Change	
SP2 Health	
SP3 Sustainable Communities	
SP4 Infrastructure	I1 Infrastructure Requirements
SP5 Development in the Coastal Corridor Strategy Area	SRA1 Coed Darcy Strategic Regeneration Area
SP10 Open Space	OS1 Open Space Provision OS2 Protection of Existing Open Space
SP11 Employment Growth	EC1 Employment Allocations
SP15 Biodiversity and Geodiversity	EN6 Important Biodiversity and Geodiversity Sites EN7 Important Natural Features
SP16 Environmental Protection	EN8 Pollution and Land Stability
SP18 Renewable and Low Carbon Energy	RE2 Renewable and Low Carbon Energy in New Development
SP19 Waste Management	W3 Waste Management in New Development
SP21 Built Environment and Historic Heritage	Policy BE1 Design
SP20 Transport Network	TR2 Design and Access of New Development

A description of the policy requirements are presented within the following sections.

Neath and Port Talbot Design Supplementary Planning Guidance (SPG) 2017

This SPG provides information in respect of design issues in Neath Port Talbot and sets out the relevant matters to be taken into consideration in the design of new developments, including sustainable design principles.

4.3.2 Neath and Port Talbot Public Service Board Well-Being Assessment

To meet statutory requirements contained within the Well-being of Future Generations (Wales) Act 2015 the Neath Port Talbot Public Services Board has prepared an assessment of well-being in Neath Port Talbot.

The engagement and research exercise undertaken for the assessment found that for the Neath area the following issues were of concern/could be improved:

- Social
 - Few activities for young people

- Increasing problems of anti-social behaviour
 - Drug and alcohol misuse
 - Cinemas were said to be too expensive
 - Health service provision
- Economic
 - Increased pay, improved financial literacy and lower household bills would improve individuals economic wellbeing.
 - 2011 census information shows that there was 4.1% unemployment in the Neath region and of those aged 16 and over, 29.3% have no qualifications, which is higher than the Wales figure of 25.9%.
 - 64.3% of homes in the area were identified as being deprived using one or more of the following 4 dimensions of deprivation; employment, education, health/disability and household overcrowding.
- Environment
 - In terms of things that could improve the environmental well-being of the area, survey respondents from the area placed particular emphasis on being close to green spaces, woodlands and beaches.
 - Air quality was a concern to some residents, along with ensuring maintenance of clean rivers.
- Cultural
 - A shortage of music venues was highlighted
 - Loss of the museum in Neath town centre due to a fire had left a gap in cultural knowledge.
 - More adult learning, strong desire for learning the Welsh language and more about local culture and heritage.

The above issues/areas for improvement have been consolidated and incorporated into the sustainability objectives for the proposed development that have been used in this report.

5 Biodiversity and Nature Conservation

5.1 Introduction

Impacts to biodiversity have been assessed within the Chapter 10 of the ES. This assessment is supported by a suite of ecological surveys which have been undertaken, including habitat and faunal surveys for protected species, priority species and other notable or rare species. Survey details are provided in Volume 2 of the ES.

The proposed development is located nearby to statutory designated sites, such as Crymlyn Bog SAC, SSSI and Ramsar, Pant Y Sais National Nature Reserve (NNR) and SSSI, and non- statutory wildlife sites including Coed Darcy Great Crested Newt (GCN) Area Site of Importance for Nature Conservation (SINC), Jersey Marine Woods SINC and Llandarcy Village Green SINC. There are also protected habitats and species on site which could be adversely impacted by the development. The design has evolved to integrate mitigation and enhancement measures to reduce the impact of the proposed development on neighbouring wildlife sites, habitats and species, as well as to achieve biodiversity improvements. The proposed biodiversity design measures are summarised below. Full details are provided within the:

- Green Infrastructure Plan;
- Chapter 10: Biodiversity, ES Volume 1; and
- Appendix 10, ES Volume 2.

5.2 Local policy requirements and guidance

The local policies and guidance in relation to biodiversity which were reviewed and considered within the design include:

Table 2 Local policy and guidance

Policy/ Guidance	Description
Neath Port Talbot Local Development Plan (2011-2026) Policy	
SP15 Biodiversity and Geodiversity	Important habitats, species and sites of geological interest will be protected, conserved, enhanced, including through the identification and protection of internationally, nationally, regionally and locally designated sites, and the protection of important natural heritage features.
EN6 Important Biodiversity and Geodiversity Sites	Development proposals should conserve and where possible enhance important biodiversity sites. Mitigation and/or compensation measures will be required where adverse effects are unavoidable.

EN7 Important Natural Features	Development proposals should retain and protect ecologically or visually important natural features such as trees, woodlands, hedgerows / field boundaries, watercourses or ponds where possible. Where removal is unavoidable, mitigation measures will be required.
Neath and Port Talbot Design SPG 2017	
Retention of Important Features (Criterion 5)	Important local features (including buildings, amenity areas, green spaces and green infrastructure, biodiversity and ecological connectivity) are retained and enhanced as far as possible.

5.3 Design response

Protection of biodiversity during construction

A series of measures to be implemented during the construction phase have been identified in ES Chapter 10: Biodiversity to mitigate potential adverse effects to biodiversity. Adoption of appropriate safeguards (in accordance with best practice measures and legislation), will be secured within a revised Construction Environmental Management Plan (CEMP) for the site. It is anticipated that the CEMP will be secured via a suitably worded planning condition. This includes measures to protect retained habitats, such as mapping locations of the habitats to be safeguarded during construction, the requirements for tool-box talks, and proposals for protective fencing. Measures will also be included to reduce potential for disturbance and injury to species such as restrictions on timings of construction activities (vegetation clearance to be avoided during the main bird nesting season (March to August inclusive) where possible), inspections of habitats prior to construction works commencing (e.g. by Ecological Clerks of Work), translocation of reptiles and use of herpetofauna fencing.

Protected wildlife sites

The proposed development has been sensitively designed to limit impacts on neighbouring wildlife sites. The mitigation hierarchy has been used to inform the design and the proposed development has aimed to avoid impacts in the first instance (e.g. by retaining ecological features), before looking to reduce, mitigate and then compensate for any negative effects. Mitigation and enhancement measures identified for the development have included protecting water quality (through the adoption and management of appropriately designed surface water and waste water scheme, including provision of SuDs), retention of areas of Open Mosaic Habitats (OMH) and creation of biodiversity corridors through the site. Ecological features and strategic primary habitat corridors across the site are shown on the Green Infrastructure Plan submitted with the application. The Coed Darcy GCN Area SINC will be retained as part of the proposed development and enhancement measures will be provided including excavation of additional waterbodies suitable for breeding GCN and creation of additional green infrastructure to allow for the expansion of the area.

Supporting habitats and species

The masterplan for the proposed development has looked to retain important ecological features where possible (such as woodland, mature trees, hedgerows and wetland) as shown on the Green Infrastructure Plan. A draft Landscape Environmental Management Plan (LEMP) has been prepared as part of the application and is provided in ES Appendix 10. The draft LEMP includes details on principles to guide on site habitat creation and management to support biodiversity. It is proposed that identified areas of new ecological habitats will be managed in perpetuity for the purposes of nature conservation which will help to ensure that the biodiversity improvements created by the proposed development are realised.

Large scale habitat creation will be undertaken across the site to mitigate effects and provide habitat enhancement. This will include creation of a range of different habitat types to support a variety of species. This will include provision of semi natural habitats (such as OMH and dry grassland), dedicated wetland habitat, a series of successional habitats, living roofs and living walls (e.g. on the school building), extensive new native woodland, shrub and tree planting. Strategic primary habitat corridors will also be created across the site which will link to offsite ecological landscapes to improve connections and reduce barriers to movement of species (such as bats). Consideration has also been given to the timing of the creation of new habitats to see that these are provided at the right stage of construction to limit potential impacts from any habitat loss.

A series of measures are proposed to protect and enhance the site for wildlife and are noted in full in the Biodiversity ES Chapter. Measures include:

- Providing fruiting species of plant to enhance foraging opportunities for badgers;
- Providing a sensitive lighting design and installation of bat boxes across the site (including retained trees and new buildings) to support bats;
- Provision of hibernacula and ponds to support reptiles;
- Retention and enhancement of waterbodies (including measures to South Site Reservoir to make this more naturalistic) to support wintering birds;
- Creation of mosaic habitats and nesting features for breeding birds (such as Lapwing), including creation of ecological designated areas with no public access, and a Sand Martin tower within the South Site Reservoir;
- Creation of an invertebrate garden, living roofs/ walls and nesting features to support inveterate populations; and
- Provision of hedgehog highways and tunnels.

Dedicated ecological areas with no formal public access will be provided in the south western part of the site to reduce disturbance to protected species such as great crested newts and ground nesting birds. This area will be separated from open public spaces by retained woodland. Information on provision and access to open space for users of the proposed development is outlined in Section 9 of this report.

The indicative breakdown of habitat types is provided in Table 3 below.

Table 3 Habitats

Habitat Type	Area (ha)
Amenity grassland	0.8
Buildings	1.2
Dry grassland	26.3
Modified grassland	6.6
Pond	11.3
Rock (exposed rock/ cliff)	1.4
Rough grassland (species poor)	0.3
Empheral/ ruderal	0.28
Clay soil recolonising	0.7
Scrub (dense scrub)	4.0
Hardstanding (sealed)	53.7
Hardstanding (unsealed)	1.9
Woodland (secondary)	17.1

The biodiversity measures identified will help provide long term management and will secure a legacy of biodiversity habitat creation and management as part of the proposals. It is anticipated that overall the proposals would contribute positively to biodiversity and nature conservation objectives in the local area. This supports St. Modwen's sustainability business commitments to contribute positively to biodiversity across its development sites.

6 Environmental Pollution and Protection

6.1 Introduction

An assessment of air quality, noise, ground conditions and water environment impacts has been undertaken as part of the EIA. These assessments are provided in Chapters 6, to 9 of the ES Volume I. The new development at Coed Darcy will generate an increase in air emissions and noise from vehicles and activities. There is also potential for historic contamination associated with the previous uses of the site to be mobilised and impact users of the site and the environment, and for pollution of surface and ground water to occur during the construction and operational phases. These impacts have been assessed in full within the ES. This section sets out design measures and management which have been implemented as part of the proposed development to mitigate environmental pollution.

6.2 Local policy requirements and guidance

The local policies and guidance in relation to environmental pollution which were reviewed and considered within the design include:

Policy/ Guidance	Description
Neath Port Talbot Local Development Plan (2011-2026) Policy	
SP 16 Environmental Protection	Air, water and ground quality and the environment generally will be protected and where feasible improved.
EN8 Pollution and Land Stability	Avoid unacceptable adverse impacts on health, biodiversity and/or local amenity or exposing people to unacceptable risk associated with air, noise, light or water pollution, contamination or land instability.
Neath and Port Talbot Design SPG 2017	
Highway Safety and Amenity (Criterion 4)	Not have a significant adverse impact on highway safety, the amenity of occupiers of adjacent land or the community.
Drainage Systems (Criterion 9)	Drainage systems are designed to limit surface water run-off and flood risk and prevent pollution

6.3 Design response

Environmental protection during construction

A CEMP will be implemented during the construction phase to see that pollution control measures are suitably employed to protect the environment from harm. It is anticipated that the CEMP will include measures such as hours of working,

control of contaminated material, noise, vibration, dust, light spill and runoff. The CEMP will take account of construction mitigation measures identified in the environmental assessments undertaken for the proposed development (such as the ES) to see that necessary pollution control measures are secured and implemented. Details of measures anticipated to be included in the CEMP in relation to ground conditions, water, noise and air pollution are provided in Chapters 6 to 9 of the ES.

It is anticipated that the implementation of a full CEMP will be a condition of the planning permission and that it will be regularly monitored and updated as appropriate to reflect changes to the site or construction activities. Once finalised and approved by the Local Planning Authority, the CEMP would be held on-site. All site personnel would be made aware of its existence and will adhere to the plan. In addition to the CEMP, an outline remediation proposals will also be prepared and implemented for the construction phase to help to mitigate the potential construction effects associated with ground contamination.

Ground contamination

In relation to ground contamination, the site is located at the former BP Llandarcy Oil Refinery which during operation contained a range of storage and process infrastructure. A number of ground investigations have been undertaken to characterise contamination on site and remediation activities have been undertaken to remove and mitigate impacts from contaminants. There is anticipated to be residual contamination present on site following these activities (such as petroleum hydrocarbons and asbestos). It is anticipated that necessary remediation of legacy soil and/or groundwater contamination from historical use of the site as an oil refinery will be carried out during construction to support the discharge of relevant planning conditions. Crymlyn Tip is also located on site (although is not proposed to be developed as part of the proposal) and was used for the disposal of a range of waste associated with the refinery. There is currently ongoing works being undertaken to remediate the tip. Remediation of the site and provision of hardstanding and building cover (through reducing the potential for surface water infiltration and mobilisation of residual contamination) may provide some beneficial effects on ground contamination.

Air pollution

In relation to operational impacts on air quality, the proposed development has been designed to ensure that sensitive receptors introduced as part of the scheme (such as new residents) will not be subject to adverse air quality impacts. This has included locating sensitive receptors out with the area of 1- hour mean objective nitrogen dioxide (NO₂) exceedance around the Peak Gen Balancing Services Plant that is located near the eastern site boundary. The air quality assessment has identified that impacts on NO₂, PM₁₀ and PM_{2.5} concentrations as a result of traffic generated by the operation of the proposed development were modelled to be negligible at all modelled receptors. The promotion of use of more sustainable forms of transport (such as through the implementation of the Framework Travel Plan and provision of appropriate walking and cycling infrastructure (see Section 10 for further details)) and provision of electric vehicle charging infrastructure will also help reduce emissions and impacts on air quality.

Noise pollution

The masterplan for the proposed development incorporates a landscaped noise bund/ barrier along the M4 Motorway in the northern land parcel to provide screening to proposed residential properties in this area from motorway traffic noise. The operational noise assessment identifies that for the majority of properties suitable noise levels can be achieved. For those where there is potential for exceedance in noise levels in external areas, mitigation measures have been identified which could see that the design criteria could be achieved (such as building/garden orientation and glazing specifications). There are commercial and industrial uses located in close proximity to the site (such as Llandarcy Business Park) however the Noise & Vibration ES Chapter identifies that noise from these uses would not be a constraint to development. Any new commercial or industrial development provided on site will be designed to comply with BS 4142 rating noise limits at the detailed design stage to ensure that there are no unacceptable impacts to surrounding sensitive receptors.

Water pollution

During operation of the proposed development there is potential for water pollution to occur through soluble and insoluble contaminants being picked up from urban surfaces (such as car parks and hardstanding) in surface water runoff, and enter surface water bodies or infiltrate into the ground. This has the potential to impact sensitive receptors such as Crymlyn Brook and the underlying aquifer.

A range of Sustainable Drainage Systems (SuDs) measures are proposed as part of the drainage strategy for the proposed development including open attenuation features (such as basins) to help attenuate flows and improve the water quality of surface water runoff. The suitability of additional SuDs measures (such as bioretention features) will also be considered at the detailed design stage to provide further improvement. SuDs will not only attenuate flows back to greenfield conditions but improve the quality of surface water before being discharged into the receiving local watercourse network (e.g. Crymlyn Bog). It is anticipated that foul drainage will be discharged to the public sewer network, with any necessary upgrades undertaken to the network prior to the development coming forwards. As such it is not anticipated that there would be an unacceptable effect on water quality.

7 Climate Change and Low Carbon Energy

7.1 Introduction

A climate impact assessment has been undertaken as part of the EIA and is presented in Chapter 12 of ES Volume I. An Energy Strategy has been prepared and submitted as part of the planning application which outlines how the scheme will incorporate energy efficient measures, renewable/low carbon, efficient and cost-effective energy. The construction and operation of the proposed development will generate greenhouse gas emissions through embodied carbon of materials for construction and emissions associated with vehicle and energy use. There is also the risk from climate change events such as increased flood risk and rising temperature. These have been considered within the design and are summarised below.

7.2 Local policy requirements and guidance

The following policies in relation to climate change and energy which were reviewed and considered within the design include:

Policy/ Guidance	Description
Neath Port Talbot Local Development Plan (2011-2026) Policy	
SP 1 Climate change	Addressing the causes and consequences of climate change, including through developing more sustainable travel patterns, minimising greenhouse gas emissions associated with freight/ commercial transport, reducing dependence on car travel/ need to travel, contribution to renewable and low carbon energy generation, providing resilience to increased future flood risk and reducing habitat fragmentation.
SP18 Renewable and Low Carbon Energy	A proportionate contribution to meeting national renewable energy targets and energy efficiency targets will be made through implementing renewable or low carbon technologies and energy conservation and efficiency measures.
Policy RE2 Renewable and Low Carbon Energy in New Development	An Energy Assessment should be submitted for proposals over 100 dwellings to determine the feasibility of incorporating zero and low carbon technologies or connecting to existing sources of renewable energy or district heating networks.
Neath and Port Talbot Design SPG 2017	

Policy/ Guidance	Description
Materials and Landscaping (Criterion 3)	Utilises materials appropriate to its surroundings and incorporates hard and soft landscaping and screening where appropriate. This includes consideration of energy efficient design measures.
Resource Efficiency (Criterion 8)	Uses resources, including land and energy, as efficiently as possible, including through being of appropriate density and minimising building exposure while maximising solar gain.

7.3 Design response

Energy Strategy

An appraisal of the energy requirement and potential energy technologies that could be implemented as part of the proposed development has been undertaken as part of the Energy Strategy to identify the most suitable technologies to meet the site wide energy requirements and reduce carbon emissions as close to net zero as viable. The strategy has used the energy hierarchy when identifying the solution to improve energy sustainability. This has involved looking at how to minimise energy demand in the first instance (e.g. through implementing passive design principles into the masterplan giving consideration to plot topography, plot orientation and form), before looking at providing energy efficiently and then implementing low and zero carbon technologies.

The Energy Strategy has undertaken an initial review of the potential for the proposed development to be supplied by a district heat network which considers the density of dwellings. As a guide, the number of dwellings per hectare should be 50 to make a heat network financially viable. This is based on the likely energy demand and cost of installing the network. The proposed development has on average 44 dwellings per hectare and is targeting a lower heating demand than standard practice. Both these factors reduce the viability of a heat network and hence, the application of a heat network has not been explored any further.

The Energy Strategy has identified that energy demand should be reduced through use of passive design and building energy efficiency. The proposed development will align with future 2025 updates to Building Regulations Part L1A (which relates to conservation of fuel and power in new dwellings) Future Homes Standard to improve performance and reduce energy demand. The proposed 2025 changes will require a regulated carbon emission saving of approximately 75% on the current standard. The proposed standards are the upper limit of current best practice and align to the requirements set by the Passivhaus standard.

The Energy Strategy has identified a mix of Photovoltaics (PV) Ground Source Heat Pumps, Air Source Heat Pumps and resistance heating solutions along with battery storage as the most appropriate mix of low/ zero carbon technologies to meet the energy demands of the development.

The Energy Strategy has identified measures to be undertaken at the next stage of the assessment as the detailed designs are progressed. This includes use of the passive design guiding principles and 2025 standards to design the building fabric and orientations of buildings within plots, undertaking detailed assessment to demonstrate that photovoltaics and Ground Source Heat Pumps are incorporated in buildings / locations where feasible and identifying space requirements for home battery storage requirements within each phase.

Full details of suitable technologies and next steps are provided in the Energy Strategy which will be submitted with the planning application.

Greenhouse gas emissions

It is anticipated that the PAS2080 carbon management hierarchy will be used to influence the detailed design stage to reduce carbon emissions generated by the construction and operation of the proposed development. This will include consideration of low carbon solutions to minimise resource consumption and use of techniques that reduce resource consumption. Other measures that will be explored at the detailed design stage to reduce Greenhouse gas (GHG) emissions during construction include:

- Setting targets for carbon reduction during construction;
- Reducing use of materials with the highest embodied carbon (such as concrete and steel);
- Implementing procedures to design out waste (e.g. use of MMC such as offsite pre-manufacturing);
- Use of low carbon logistics and travel plans; and
- Use local materials and suppliers where possible.

In terms of operational emissions, as outlined above, low and zero carbon technologies will be implemented as part of the Energy Strategy to reduce carbon emissions as close to net zero as feasible.

The design has incorporated walking and cycling infrastructure across the site that links to the surrounding network. This will help encourage the uptake of active travel. Further information on connectivity and active travel is provided in Section 10.

A Framework Travel Plan has also been produced and will be provided with the planning application. This will be implemented during the operation of the proposed development to help increase use of more sustainable forms of transport, reduce car travel subsequently reduce GHG emissions.

The following additional targets and measures to reduce operational carbon emissions will be incorporated within the detailed design where feasible, to be demonstrated and secured through reserved matters or planning conditions:

- Developing a strategy to support building occupiers to develop a circular economy approach to reducing consumption and waste; and

- Provision of electric vehicle charging infrastructure to support the transition to EVs. At this stage, the Energy Strategy has assumed that all homes will have one EV and appropriate provision will be made for this. As outlined in the Transport Assessment, national policy indicates that where car parking is provided for new non residential development, planning authorities should seek a minimum of 10% of car parking spaces to have EV charging points. It is anticipated that that EV charging for non-residential development will be provided in line with this guidance.

Resilience to climate change

Future climate change is anticipated to result in increased winter and summer temperatures, increases in winter precipitation and decreases in summer precipitation. In terms of extreme weather events, there is also expected to be an increase in the number of hot days, an increase in the number of days with heavy rain and an increase in the number of dry spells.

Measures have been included within the design of the scheme to help see that it can withstand future climate change. This includes seeing that roads and buildings are constructed to appropriate standards to withstand increases in temperature and high winds. A Flood Risk Assessment and Drainage Strategy have been prepared for the proposed development which considers current and future flood risks associated with the site and future climate change. The drainage strategy has been designed to accommodate future changes in flood risk anticipated as a result of climate change, including increases in surface water runoff. It has also been identified that the slower, managed release of water from this site as part of the drainage strategy could increase climate resilience of the Crymlyn Bog SAC and SSSI in the long term (e.g. from reduced precipitation and increased heatwaves) and should be considered further at the detailed design stage.

Additional measures have also been identified in the Climate Change ES Chapter that will be considered at the detailed design stage to increase resilience, including management of green infrastructure to protect ecological and landscape features from the impacts of drier summers and increased temperatures. Consideration will also be given at the detailed design stage to reduce the risk of buildings overheating. This will include consideration of passive design measures such as shading and natural ventilation.

In line with St. Modwen's corporate targets, it is proposed that BREEAM assessments will be undertaken for non-residential buildings proposed as part of the development, including education facilities, office, employment and retail spaces. These buildings will be designed to target a minimum of BREEAM 'Very good' with an aspiration for 'Excellent' ratings to help provide sustainable, high quality development, in line with St. Modwen's sustainable business approach. These assessments will be prepared and submitted as part of the Reserved Matters Applications for the relevant phases of the proposed development as they are progressed.

8 Resource and Waste Management

8.1 Introduction

Materials and waste will be used and produced during the construction and operation of the development. A Framework Resource Efficiency Plan has been prepared for the proposed development which will help aid the management of materials and resources. The Energy Strategy (as noted in Section 7) also outlines how the proposed development will minimise energy demand and associated GHG emissions through the application of the energy hierarchy.

8.2 Local policy requirements and guidance

The following policies and guidance in relation to resources and waste which were reviewed and considered within the design include:

Policy/ Guidance	Description
Neath Port Talbot Local Development Plan (2011-2026) Policy	
SP19 Waste Management	Ensuring that provision is made for the sustainable management of waste in all new developments
W3 Waste Management in New Development	New built development will need make provision for the design, layout, storage and management of the waste generated by the development both during the construction phase and occupation. Site Waste Management Plans are required for residential development for 50 or more dwellings.
Neath and Port Talbot Design SPG 2017	
Materials and Landscaping (Criterion 3)	Utilises materials appropriate to its surroundings and incorporates hard and soft landscaping and screening where appropriate. This includes consideration of measures to reduce waste.
Resource Efficiency (Criterion 8)	Uses resources, including land and energy, as efficiently as possible, including through being of appropriate density and developing brownfield land in preference to greenfield land.

8.3 Design response

Design and construction

As part of the development of the masterplan, consideration has been given to existing constraints and opportunities associated with the site in order to make the most effective use of land. This has included giving consideration to existing topography, surrounding land uses (e.g. commercial and residential) and ecologically sensitive areas and features. To respond to constraints, the design has provided a range of housing densities across the site, with higher densities provided along the spine road and lower densities provided in more sensitive areas (to benefit amenity of adjoining residents and around landscape edges). Green infrastructure has also been designed to provide multiple functions, including for biodiversity and drainage, active travel routes, natural play, opportunities for play and general recreation and social interaction.

A Framework Resource Efficiency Management Plan (which integrates requirements of a Site Waste Management Plan) has been prepared which will be completed as the detailed design and construction of the proposed development is progressed. The plan itself will be treated as a live document and will be reviewed as the project is progressed to keep it up to date. The plan will promote the management of waste in line with the waste hierarchy as follows:

- Eliminate;
- Reuse;
- Recycle;
- Recover; and
- Dispose.

The Resource Efficiency Management Plan will set targets for waste management and will record information on project design decisions that have been made in order to make best use of the materials included and to avoid wastage (e.g. reused/recycled material and use of prefabricated elements). It will record materials to be used in each work package and how these will be managed to reduce waste and reuse materials on site (e.g. reuse of cut offs and balance cut and fill). Waste forecasting exercise will be undertaken as part of the plan to help identify where waste will be created and identify potential opportunities for reusing or recycling the waste. WRAP Designing out Waste: A design team guide for buildings¹⁶ provides information on the key principles that can be used to maximise opportunities to design out waste and should be used to inform the Resource Efficiency Management Plan.

St. Modwen aims to reduce construction waste by a third and increase its recycling rate to 99% by 2025. Appropriate measures will be included in the Resource Efficiency Management Plan to help the applicant meet this target.

The use of MMC (such as offsite pre-manufacturing) will support achievement of these targets, and the proposed development has a minimum target 30% of homes to be constructed through the application of MMC in line with St. Modwen's own corporate target.

Consideration will also be given to responsible sourcing and sustainability of construction materials. Measures may include using 100% of timber and timber-based products used on the project are 'Legal' and 'Sustainable' as per the UK Government's Timber Procurement Policy and using the BRE Green Guide to Specification¹⁷ to select materials with a better environmental performance.

Operation

At this stage it is proposed to provide access for servicing vehicles to the proposed development via each of the three vehicular access points. At the detailed design stage, appropriate allowances will be made in the layout of the development for the management of operational waste for all proposed uses so that waste is

¹⁶ <https://www.modular.org/marketing/documents/DesigningoutWaste.pdf>

¹⁷ <https://www.bregroup.com/greenguide/podpage.jsp?id=2126>

managed appropriately and supports recycling of materials. Measures to be considered during the detailed design include:

- Provision of sufficient storage space to enable separation and recycling of materials in line with relevant storage standards and guidance;
- Locating waste storage spaces in a safe and convenient place which is accessible to occupants while also providing satisfactory access for servicing vehicles and operatives;
- Consideration of amenity impacts of waste storage (such as visual impacts, vandalism and pests).

9 Sustainable Communities and Social Value

9.1 Introduction

The proposed development will provide new housing, education, commercial and employment facilities alongside other amenities such as play and open space. The development has the potential to impact on existing surrounding communities both during construction and operation (e.g. through the creation of jobs and impact on services). The development will also introduce new residents to the site that will require suitable access to services and amenities to enable them to lead healthy lives. Impacts on Socio-Economics have been considered as part of the EIA and are outlined in Chapter 13 of the ES Volume 1. Impact to communities associated with pollution and transport are outlined in Section 6 and 10 of this report and the ES in more detail, respectively.

9.2 Local policy requirements and guidance

The local policies and guidance in relation to communities and social value which were reviewed and considered within the design include:

Policy/ Guidance	Description
Neath Port Talbot Local Development Plan (2011-2026) Policy	
SP2 Health	Measures will be undertaken to improve the long term health of people including through the development sustainable, safe and confident communities, reducing peoples exposure to elements that can have an adverse impact on health, encouraging healthier and more active lifestyles, improving accessibility and the provision of employment opportunities.
SP3 Sustainable Communities	The delivery of sustainable, healthy and cohesive communities and the conservation of the countryside, including through identifying sustainable locations for development.
SP10 Open Space	Provision will be made to ensure that all residents have access to adequate open space
OS1 Open Space Provision	Where there is a deficiency in outdoor space, provision will be sought in accordance with the identified standards.
OS2 Protection of Existing Open Space	Existing open spaces should be protected or replace unless there is no longer a need/ no shortfall in that type of space.
SP11 Employment Growth	Additional employment provision will be made within the Strategic Regeneration Areas as part of mixed use, sustainable development.

Policy/ Guidance	Description
I1 Infrastructure Requirements	The impacts of new development should be mitigated, including through provision of infrastructure (such as affordable housing, community, education, recreation and open space facilities) as appropriate.
EC1 Employment Allocations	Land within Coed Darcy is allocated for employment uses.
Neath and Port Talbot Design SPG 2017	
Materials and Landscaping (Criterion 3)	Utilises materials appropriate to its surroundings and incorporates hard and soft landscaping and screening where appropriate. This includes inclusive design principles being taken into account in the choice of materials and using landscaping to create a sense of character and place-making.
Highway Safety and Amenity (Criterion 4)	Not have a significant adverse impact on highway safety, the amenity of occupiers of adjacent land or the community'.
Retention of Important Features (Criterion 5)	Important local features (including buildings, amenity areas, green spaces and green infrastructure, biodiversity and ecological connectivity) are retained and enhanced as far as possible
Community Safety (Criterion 6)	Achieves and creates attractive, safe places and public spaces, taking account of 'Secured by Design' principles (including where appropriate natural surveillance, visibility, well lit environments and areas of public movement).
Integrated Transport and Linkages (Criterion 7)	Plays a full role in achieving and enhancing an integrated transport and communications network promoting the interests of pedestrians, cyclists and public transport and ensures linkages with the existing surrounding community
Inclusive Design (Criterion 10)	The layout and design of the development achieves inclusive design by ensuring barrier free environments, allowing access by all and making full provision for people with disabilities.

9.3 Design response

Communities, facilities and services

There are existing communities located immediately north, east and south of the proposed development, including Skewen, the occupied Phase 1 development and Llandarcy. The proposed development has been designed to integrate with the

surrounding areas, including through provision of safe walking and cycling connections between these locations and creation of a natural ‘greenway’ route around the site to help link neighbourhoods and encourage healthy lifestyles.

There are a range of existing facilities in the villages surrounding the site which can be accessed by new residents of the proposed development, including schools, health centres, hospitals, churches, employment sites and supermarkets within a 2km radius. Additional facilities are also available within the larger towns and cities of Neath and Swansea, which are located within 5km of the site. There are also areas of accessible open space, parks and sports facilities close to the site including, Crymlyn Bog NNR, Skewen Park, Memorial Park and Llandarcy village park.

The proposed development will provide additional facilities to support new and existing residents including educational facilities (primary school), a local centre with commercial uses (such as shops, restaurant/ cafes, offices and non-residential institutions) and additional commercial and employment uses at Llandarcy Business Park.

The Green Infrastructure Plan outlines how ecological features and open space provision have been integrated to provide a holistic landscape design and enable residents to access nature, whilst also providing features to promote biodiversity (such as dedicated ecological areas). New areas will be created on site to provide spaces for outdoor recreational activities and social interaction, such as a main square, formal play spaces and large areas of open green space. The provision of such spaces and facilities will help support the mental and physical wellbeing of new and existing residents. The development will be designed to see that communal spaces are accessible to all to help create a more inclusive community. Measures such have been included to support younger residents including provision of formal play space, natural play opportunities within the landscape and active travel routes across the site, including to the school. These measures will support the creation of strong communities and help residents lead healthy lifestyles which will increase the social value provided by the project. The open space provision identified on the Illustrative Masterplan is outlined in Table 4 below.

Table 4 Open Space Provision

Open Space Typology	Provision (ha)
Amenity and Natural Green Space	2.281
Parks, Sport and Recreation	0
Play Space (children)	0.025
Play Space (youth)	0.053
Total	2.462

The provision of Welsh language infrastructure can also play an important role in supporting cohesive communities. On the whole, Neath Port Talbot has a lower percentage of Welsh language speakers compared to the Welsh average, however there are areas with higher levels of Welsh speakers¹⁵. The site is not located in one of these designated Welsh Language Sensitive Area. Consideration will however be given at the detailed design stage to identify measures to support Welsh language speakers, such as provision of bilingual signage.

Housing

The proposed development will provide up to 2,000 dwellings to help meet local housing needs. It anticipated that the development will include a range of house types to allow for a wide demographic and a mix of new homes. House types will be based upon 1-4 bedroom properties and are expected to include, apartments, terraced, semi-detached and detached houses, with private gardens and parking spaces. A proportion of homes provided by the proposed development will be affordable for those unable to access housing on the open market. At the detailed design stage, consideration will be given to the types of homes to be provided to meet local needs, including wheelchair accessible and adaptable homes.

Employment and skills

As identified in the Socio-Economics ES Chapter, the proposed development will generate jobs during its construction and operation which will have positive impacts on the local economy. During the construction phase, it is anticipated that approximately 26 full time on-site construction jobs will be generated. Additional construction jobs will also be supported, including through use of local suppliers of construction materials and equipment.

Once operational, it is anticipated that between 127-169 net additional full time jobs would be generated from the operation of the proposed development including from employment and retail uses provided on-site. There will also be additional benefits to the local economy associated with the increase in operational jobs provided, including gross value added (approximately £3.94 - £5.20 million per annum) and worker expenditure in the local area (approximately £0.43 - £0.57 million per annum). The provision of office space as part of the proposal will also help support local businesses.

10 Mobility, Connectivity and Active Travel

10.1 Introduction

The proposed development is expected to result in an increased number and type of vehicles travelling through the local area. This effect will be realised both during construction and operation of the development. During operation of the proposed development, appropriate transport links (including sustainable and active travel links) will be created across the site to enable residents and users of the site to access services and facilities on site and within the wider surrounding area. Impacts to transport and travel have been assessed within Chapter 5 of the ES and within the associated Transport Assessment and Framework Travel Plan provided in Volume 2 of the ES.

10.2 Local policy requirements and guidance

The following policies and guidance in relation to transport and access which were reviewed and considered within the design include:

Policy/ Guidance	Description
Neath Port Talbot Local Development Plan (2011-2026) Policy	
SP20 Transport Network	The transport system and infrastructure will be developed in a safe, efficient and sustainable manner, including through requiring developments to provide safe and efficient access , promote sustainable transport and provide suitable parking provision.
TR2 Design and Access of New Development	Development proposals are required to not comprise safety or create unacceptable levels of traffic, provide appropriate parking and cycling facilities, provide for the safe access of servicing vehicles and be accessible by a range of transport modes. Transport Assessments and Travel Plans are required for developments that are likely to create significant traffic generation.
Neath and Port Talbot Design SPG 2017	
Highway Safety and Amenity (Criterion 4)	Not have a significant adverse impact on highway safety, the amenity of occupiers of adjacent land or the community.
Integrated Transport and Linkages (Criterion 7)	Plays a full role in achieving and enhancing an integrated transport and communications network promoting the interests of pedestrians, cyclists and public transport and ensures linkages with the existing surrounding community.

10.3 Design response

Active travel opportunities

The site is located in proximity to transport networks (including highways, such as the M4, and public transport in the form of bus stops and rail stations), services and amenities. Swansea City Centre lies 4km south-east of the site whilst Neath town centre lies circa 3.5km north-east.

Existing pedestrian and cycle access to local amenities within the vicinity of the site are limited, however there are pedestrian and cycle footpaths located along routes surrounding the site. This includes footway and shared use pedestrian and cyclist path along the B4290 towards Skewen, shared use pedestrian and cyclist path which runs parallel with the M4 (connecting Skewen with Briton Ferry) and a footway on the carriageway towards Llandarcy Industrial Area. The Cycle Swansea Bay routes are located in proximity to the site and provide routes for both commuting and leisure purposes. The nearest route on this network is the section to Skewen which runs parallel to the M4 (as noted above) and is within a 5 minute cycle of the site.

A range of pedestrian and cycle infrastructure improvements are proposed as part of the development to create an active travel network on site and provide connections to the surrounding area and travel networks. This includes provision of five pedestrian/ cycle access points (in addition to the pedestrian access facilities to be provided at the three vehicle access points). Access points will be provided to the north, east and south of the site and link to existing pedestrian and cycle facilities including the B4290 and Swansea Bay cycle route to Skewen to enable onward active travel to nearby facilities, services and employment areas. The pedestrian and cycle routes provided across the site will provide safe links to onsite and neighbouring facilities, such as the local centre, educational and commercial uses, as well as open spaces and play areas. This includes provision of a natural 'greenway' route around the site for leisure and active travel to help link neighbourhoods and provision of pedestrian and cycle routes to the school. Pedestrian/ cycle access connections are proposed to areas including Skewen, Tank Farm Road, Llandarcy, Jersey Marine and Heol Crymlyn (subject to funding).

The two areas of land which comprise the site which are dissected by the railway line will be connected for pedestrians and cyclists via an over-rail bridge. Connections will also be provided to integrate the occupied Phase 1 development with the proposed development. It is anticipated that appropriate safe and secure cycle parking will be provided for residents and users of the development. Showering and changing facilities (where relevant) also provided as part of commercial and school uses to help promote cycling.

The Transport and Travel ES Chapter has identified that there are likely to be neutral – slight (and not significant) effects in relation to severance; pedestrian delay, amenity, fear and intimidation; accidents and safety; and residential amenity as a result of the operation of the proposed development. Mitigation measures such as physical junction improvements and introduction of Travel

Plans for the site have been identified to help reduce impacts on transport and travel associated with the proposed development.

A Framework Travel Plan has been prepared and submitted as part of the planning application which outlines measures to promote the use of more sustainable modes of transport by residents, employees and school users on site. These travel plans will be updated and implemented as the proposed development is progressed to help reduce vehicle traffic generated by the development and promote healthy lifestyles and sustainable, vibrant communities.

Access to public transport

In relation to public transport, there are a range of bus services operating within the vicinity of the site providing access to nearby cities, towns and villages including Swansea, Neath and Skewen. The nearest bus stops to the proposed development are located on the B4290 (Coed Darcy bus stop, BP Llandarcy bus stop, and BP Sports Club bus stop) and are within a 10-minute walk of the site. The nearest railway station to the site is Skewen Railway Station (~1km from the site) which can be reached using bus services 155 and 38 that serve bus stops close to the site. This railway station is also within a 10 minute cycle. Destinations which can be reached via this station include Neath, Swansea and Cardiff.

No additional public transport measures are proposed as part of the development at this stage, however as identified on the Movement Parameter Plan, a potential bus route has been identified that could be used to serve the proposed development. If implemented this would reduce walking distances required to reach bus stops for some residents and users, increasing connectivity and making public transport more accessible. Land has also been allocated as part of the to safeguard an area adjacent to the site for the provision of a railway station connection on the district line which dissects the site. Transport for Wales is currently investigating this option and the Client has safeguarded an area so as not to comprise future provision. If progressed, this would provide further opportunity to increase sustainable travel. It is also anticipated that the new station would include access steps and ramps, which would increase accessibility for less mobile users.

Vehicle access

The site has good access to the Strategic Road Network and local highway network, given its location next to the M4 J43, which provide connections to nearby cities, towns and villages such as Neath and Swansea, and further afield to south east and south west Wales.

The primary access to the main site will be the existing Ffordd Coed Darcy access point which also provides access to the Phase 1 development. Secondary vehicle accesses points will be provided to the north and south of this point from the B4290 Pen-Y-Heol (to provide access to the northern part of the site) and at Darcy Business Park (to provide an additional access point to the main site).

The Transport and Travel ES Chapter identifies that there is likely to be a neutral effect on driver delay as a result of the operation of the proposed development. As noted in the Framework Travel Plan, car sharing initiatives will be promoted as

part of the detailed travel plans provided for residential, employment and school uses to reduce traffic associated with the development. This will include provision of preferential car sharing spaces within the development.

11 Summary

This section provides a summary of the key commitments and targets identified for the Proposed Development for future planning and design stages in relation to each of the sustainability topics. These are outlined in Table 5 below.

Table 5 Summary of commitments and targets

Topic	Key commitments/ targets
Biodiversity and Nature Conservation	• Implementation of detailed Construction Environmental Management Plan • Implementation of Landscape Environmental Management Plan and Green Infrastructure Plan
Environmental Pollution and Protection	• Implementation of detailed Construction Environmental Management Plan • Remediation of legacy soil and/or groundwater contamination • Implementation of Travel Plans • Development of detailed designs to include relevant noise mitigation measures (such as building/garden orientation and glazing specifications) • Suitability of additional SuDs measures (such as bioretention features) be considered at the detailed design stage.
Climate Change and Low Carbon Energy	• Further assessment on the viability of the Energy Strategy, including in relation to passive design guide principles and 2025 design standards, assessment of use of PV, GSHP and battery storage. • Implementation of Travel Plans • Developing a strategy to support building occupiers to develop a circular economy approach • Provision of electric vehicle charging infrastructure in accordance with relevant guidance (e.g. minimum of 10% EV charging car parking spaces for non-residential development). • BREEAM assessments will be undertaken for non-residential buildings proposed as part of the development, including education facilities, office, employment and retail spaces. These buildings will be designed to target a minimum of BREEAM 'Very good' with an aspiration for 'Excellent' ratings.
Resource and Waste Management	• Resource Efficiency Management Plan to be prepared and implemented • St. Modwen aims to reduce construction waste by a third and increase its recycling rate to 99% by 2025 • Minimum target 30% of homes to be constructed through the application of MMC

Topic	Key commitments/ targets
	• Responsible sourcing and sustainability of construction materials. Measures may include using 100% of timber and timber-based products. • Detailed design to be developed so that waste is managed appropriately and supports recycling of materials including provision of appropriate storage space in an accessible location.
Sustainable Communities and Social Value	• Provision of additional facilities to support local communities, including primary school, local centre and commercial and employment uses. • Provision of open space, including amenity and natural green spaced and play spaces for children. • Provision of Welsh Language infrastructure (such as bilingual signs) • Provision of a proportion of affordable homes
Mobility, Connectivity and Active Travel	• Implementation of Travel Plans • Design to allow for provision of future bus route through the site • Area of land safeguarded for the potential future provision of a railway station.