

REPORT

Criterion Quay FLOW Development

EIA Screening and Scoping Report

Client: Milford Haven Port Authority

Reference: PC4679-RHD-XX-XX-RP-EV-0001

Status: Final/01

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A4	Minutes of PCC Early Consultation Meeting (20/06/2023)

Acronyms

AA	Appropriate Assessment
AADT	Annual Average Daily Traffic
ADBA	Archaeological Desk-Based Assessment
ADS	The Archaeology Data Service
AEZ	Archaeological Exclusion Zones
AQMA	Air Quality Management Area
AQS	Air Quality Standard
ASIDOHL	Assessing the Significance of the Significance of the Impact of Development on the Historic Landscape
BNL	Basic Noise Level
BS	British Standard
CD	Chart Datum
CEA	Cumulative Effects Assessment
CRTN	Calculation of Road Traffic Noise
DIN	Dissolved Inorganic Nitrogen
DMRB	Design Manual for Roads and Bridges
EATM	Environmental Assessment of Traffic and Movement
EIA	Environmental Impact Assessment
EP1H	Extended Phase 1 Habitat
EPUK	Environmental Protection UK
ES	Environmental Statement
EUNIS	European Nature Information System
FCA	Flood Consequence Assessment
FLOW	Floating Offshore Wind
FLOWMIS	Floating Offshore Wind Manufacturing Investment Scheme
GPS	Global Positioning System
GW	Gigawatts
HER	Historic Environment Record
HGV	Heavy Goods Vehicle
HRA	Habitats Regulations Assessment
IAMMWG	Inter-Agency Marine Mammal Working Group
IAQM	Institute of Air Quality Management
IEMA	Institute of Environmental Management and Assessment
INNS	Invasive Non-Native Species
JUB	Jack-up-barge
LAQM	Local Air Quality Management Technical Guidance
LB	Listed Building
LSE	Likely Significant Effect
LVIA	Landscape and Visual Impact Assessment
MCAA	Marine and Coastal Access Act
MHPA	Milford Haven Port Authority
MPS	Marine Policy Statement

MU	Management Unit
MWR	Marine Works Regulations
NCNR4	National Cycle Network Route 4
NPSfP	National Policy Statement for Ports
NRMM	Non-Road Mobile Machinery
NRW	Natural Resources Wales
NSN	Natura Site Network
NVSR	Noise and Vibration Sensitive Receptors
OS	Ordnance Survey
PAH	Polycyclic Aromatic Hydrocarbon
PBDE	Polybrominated Diphenyl Ether
PCB	Polychlorinated Biphenyl
PCC	Pembroke County Council
PDE	Project Design Envelope
PPW	Planning Policy Wales
pSAC	Possible Special Area of Conservation
pSPA	Potential Special Protection Area
RCAHWW	Royal Commission on the Ancient and Historical Monuments of Wales
RHDHV	Royal HaskoningDHV
SAC	Special Area of Conservation
SCA	Seascape Character Area
SCANS	Small Cetaceans in the European Atlantic and North Sea
SCI	Sites of Community Importance
SCOS	Special Committee on Seals
SHA	Statutory Harbour Authority
SM	Scheduled Monuments
SMP	Shoreline Management Plan
SSSI	Site of Special Scientific Interest
SWTRA	South Wales Trunk Road Agent
TAN	Technical Advice Note
UKHO	United Kingdom Hydrographic Office
WAUN	Welsh Automatic Urban Pollution Monitoring Network
WeBS	Wetland Bird Survey
WFD	Water Framework Directive
WHO	World Health Organisation
WNMP	Welsh National Marine Plan
WTG	Wind Turbine Generator

1 INTRODUCTION

1.1 Background and need for the scheme

The UK Government has set an ambitious target to reach up to 50 gigawatts (GW) of offshore wind deployment by 2030, including up to 5GW of floating offshore wind (FLOW). Wales has also set ambitious renewable energy and decarbonisation targets, including an aspiration to generate 70% of its electricity consumption from renewable sources by 2030. 4GW of floating offshore wind seabed potential has been announced by the Crown Estate to be leased in the Celtic Sea, which could see rights awarded by the end of 2023. These targets will help achieve the UK's target of net zero by 2050.

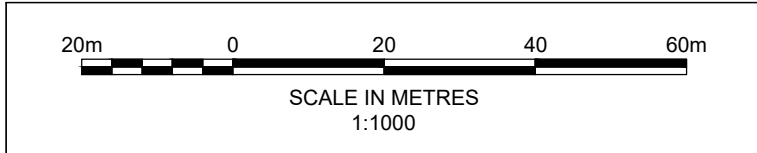
Offshore wind supply chain activities often cluster around ports that support their construction, operations and maintenance. It is recognised that ports can benefit from offshore renewable energy development and act as a catalyst for supply chain investment. To support investment to facilitate capacity and capability to deploy and service the scale of the FLOW pipeline, the UK Government has announced that up to £160 million in grant funding will be made available for certain investments. Subsequently, the Department for Energy Security and Net Zero has established the Floating Offshore Wind Manufacturing Investment Scheme (FLOWMIS) to distribute this funding to support the development of critical port infrastructure that will enable the delivery of FLOW.

Given the proximity of the Port of Milford Haven (PMH) to the Celtic Sea seabed leased areas and planned projects, it has been identified that the Port is a strategic element in the offshore wind supply chain. Milford Haven Port Authority (MHPA) is therefore proposing to develop a deep-water berth at Criterion Quay, at the Eastern end of the Port of Milford Haven (see **Plate 1.1**)¹. The site includes an existing jetty, which is in poor condition, and an area of hardstanding. The area will be developed to support vessels associated with the offshore renewables industry (the 'proposed development'). An initial design for the site layout is presented in **Figure 1.1**.



Plate 1.1 Location of the proposed development circled in red

¹ Previous correspondence with stakeholders (provided as Appendices to this report) referred to the proposed development as Hobbs Point, however the proposed development has been renamed to Criterion Quay to avoid confusion with Hobbs Point Jetty.



- NOTES
1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
 2. ALL LEVELS ARE IN METRES RELATIVE TO ORDNANCE DATUM NEWLYN UNLESS NOTED OTHERWISE.
 3. ALL MATERIALS AND WORKMANSHIP WILL BE AS DEFINED IN THE SPECIFICATION UNLESS NOTED OTHERWISE.

- KEY:
- DREDGED AREA (14,300 m²)
 - LAYDOWN AREA FOR OWF SUPPORT (25,400 m²)
 - LAYDOWN AREA AROUND CRANE (2,090 m²)
 - HEAVY-LIFT PAD (1515 m²)
 - ROCK ARMOUR REVETMENT (2250 m²)
 - EXISTING PIER TO BE REBUILT
 - SITE BOUNDARY
 - RECLAIMED LAND (9,800 m²)
 - FLOW FOUNDATION (120m)

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Ordnance Survey 0100031673

REV	DATE	DESCRIPTION	BY	CHK	APP
P03	21/08/2023	FOR APPLICATION			

REVISIONS

CLIENT



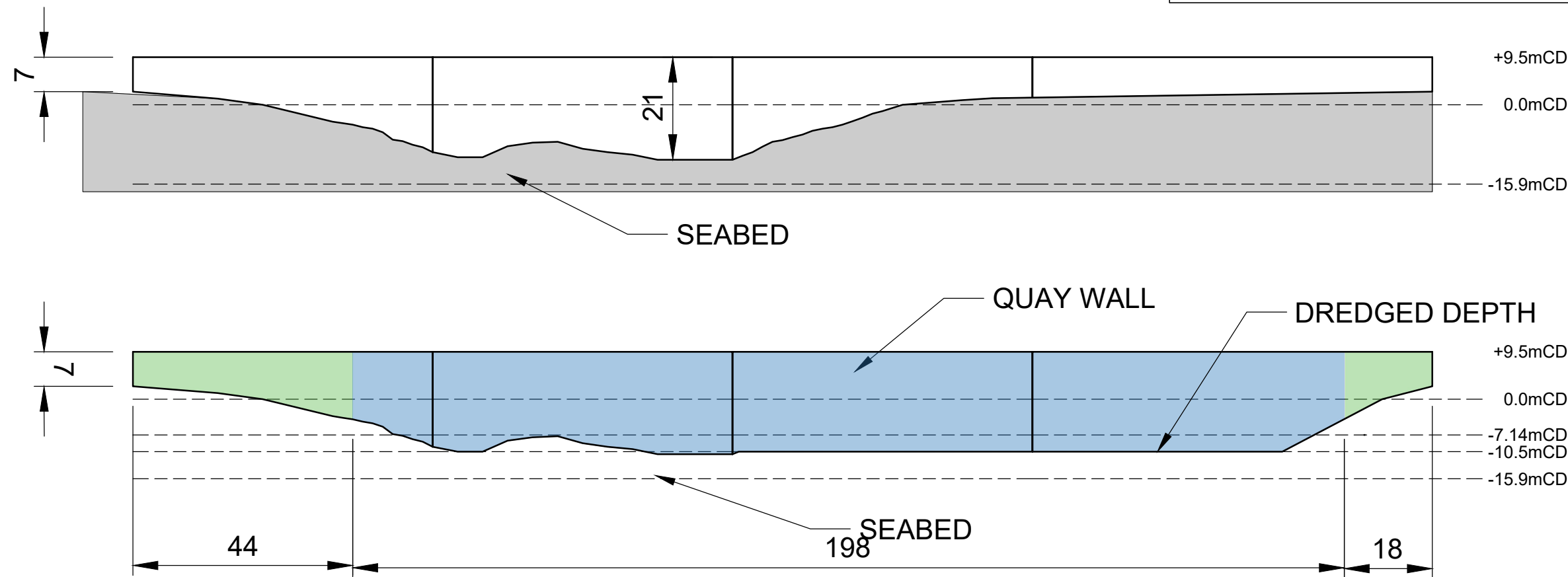
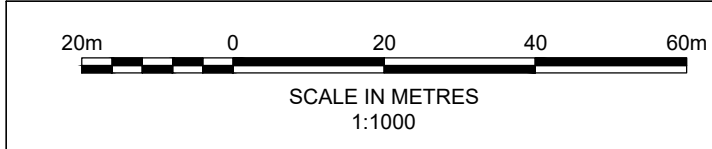
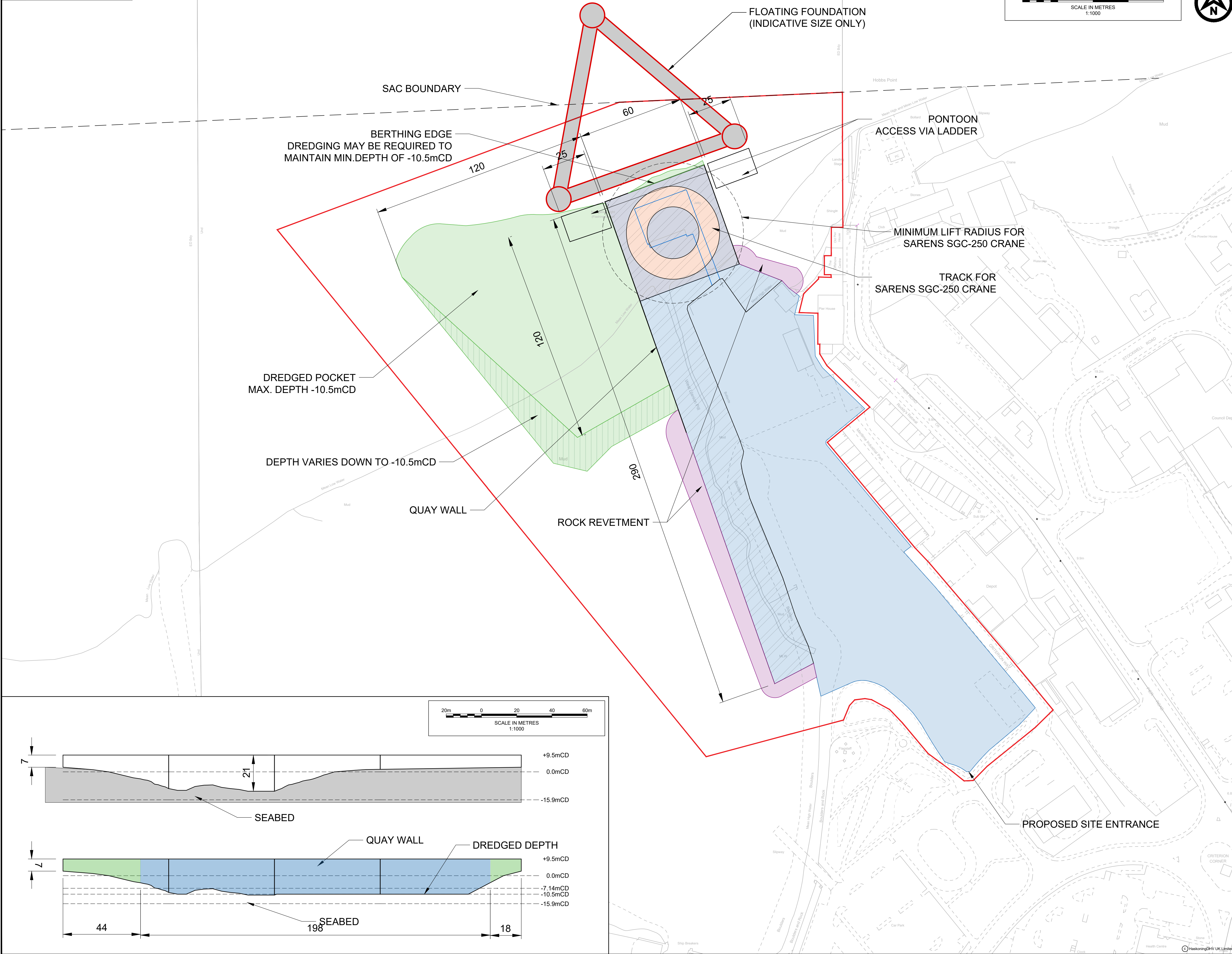
Port of Milford Haven

PROJECT
MILFORD HAVEN
DEVELOPMENT ADVICE

TITLE
CRITERION QUAY
PRELIMINARY DESIGN
OPTION B



DRAWN	HWBM	CHECKED	SM	APPROVED	ACR
DATE	21/08/2023	SCALE @A1	1:1000	REF.	PC4679
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The area will be developed to support vessels associated with the offshore renewables industry and will provide:

- A replacement and extension of the existing berth to provide for wind turbine integration and unloading of components (such as the blades, towers and nacelles);
- An area of hardstanding to be used for storing components; and,
- Space within the existing operational port for unloading and storage of components.

1.2 Purpose of this report

It is considered that the proposed development will require an Environmental Impact Assessment (EIA) as it falls within Schedule 2, Article 10 (g) of the EIA Directive, will exceed the 1ha threshold and is likely to have a significant effect on the environment. As such, this report requests that the proposed development is screened into EIA by agreement with respect to the Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended)² (the MWRs) and the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (TCPRs).

As it is considered that the proposed development should be screened into EIA by agreement, this report presents consideration of the environmental sensitivities that will require assessment as part of the consenting for the proposed development. This EIA Scoping Report is therefore submitted to Natural Resources Wales (NRW) and Pembrokeshire County Council (PCC) to determine the scope of the Environmental Statement (ES).

1.3 Structure of this report

This Environmental Screening and Scoping Report is prepared both to request and to inform NRW and PCC's opinion as to the scope of the ES. The Environmental Scoping Report is structured as follows:

- **Section 1** describes the background/context to the proposed development.
- **Section 2** sets out a brief description of the proposed development, including the key elements of its construction and operation.
- **Section 3** sets out the marine planning policies of relevance to the proposed development.
- **Section 4** summarises the consultation that has been undertaken so far.
- **Section 5** describes the key characteristics of the baseline environment, identifies the potential effects which may arise during the construction and operational phases of the proposed development and the proposed approach to the EIA process for each topic.
- **Section 6** summarises the findings of the Environmental Scoping Report and the further work which is proposed to provide sufficient data and supporting assessment to inform the EIA process.

² *The Marine Works (EIA) (Amendment) Regulations 2017*

2 DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Overview

At this early stage a concept design of the proposed development is available, and the following information provides a high-level, reasonable worst-case description of the proposed construction and operation activities.

2.2 Construction phase

The existing Offshore Jetty at Criterion Quay is in a state of disrepair and will be rebuilt and extended as part of the proposed development. The rebuilt jetty will form a new approx. 60m long deep-water berth along the North face, with a further 120m berth along the West face. An additional pontoon or mooring dolphin will be installed and accessed via a walkway (**Figure 1.1**, orange area). The quay wall could be constructed using a solid combi-wall method or could be an open structure comprising a concrete deck on steel piles. The piling method will depend on the design but could include impact driving and drilled rock sockets. If a combi-wall method is preferred, the area behind the new quay wall would be infilled with a combination of material won during dredging and imported rock and will include a heavy lift pad supported by piles. Construction of both quay wall options could be undertaken from land and/or from the sea using a jack-up-barge (JUB).

The design of the new berth will contribute to wider flood defence work in the area. It is also proposed that the works will envelop the existing dilapidated river walls in the vicinity of the proposed development, restoring long term stability to them.

A small amount of dredging may be required along the North facing berth edge to deepen it to -14m Chart Datum (CD) although it is more likely that the berth face will be constructed out to this contour. It is also proposed that a pocket shall be dredged down to -10.5mCD adjacent to the West facing berth with a grounding prepared base comprising a levelled rock layer and potential use of steel plates for FLOW foundations to sit during grounded turbine integration (**Figure 1.1**, green area). The dredging method will depend on material found below bed level and may include percussive breaking or blasting. No dredging or permanent construction works will be undertaken within the Sir Benfro Forol/Pembrokeshire Marine Special Area of Conservation (SAC) boundary.

The dredged pocket is intended for use by floating wind turbine foundations. Some bed preparation will be required for each type of foundation which requires grounding. This is likely to comprise a layer of rock built up and levelled at the location of each float, typically three per foundation. It might be that steel plates are positioned on top of the levelled rock to spread the load from the floats. The rock and any steel plates would be removed at the end of each phase of use, typically every two years, although in the event subsequent windfarm developers were using the same foundations this could be longer. Where practical, dredged material will be utilised as part of reclamation works with unsuitable material such as soft sediments likely to require offshore disposal. In this case road traffic is expected to be impacted.

As shown in **Figure 1.1** (blue area), the land reclamation shall extend South from the new berth to increase the laydown area for operations and will be bounded by a rock revetment.

Landside works are also proposed to form the laydown area. The land within the proposed development boundary will be cleared and the new laydown area would be formed of a gravel or concrete surface. Surface water drainage into collector drains would be installed and, following suitable treatment, would be discharged to sea. The new laydown area will be accessed by road from Criterion Way and may require the removal of some trees.

Delivery of construction materials such as aggregates, reinforcing bar, rock armour and in situ and precast concrete will be by road. Piles may be transported to the proposed development by barge(s) from the sea having first been transported to Pembroke Port Gate 1 by road.

2.2.1 Construction programme

It is proposed that construction works for the proposed development will commence in January 2025 and be completed by June 2026. Operations at the proposed development are expected to commence by the spring of 2027 after a period of preparation by the first users of the development.

2.3 Operation phase

The primary use of the proposed development would be to support the offshore renewables industry, providing facilities for the transshipment, storage and assembly of components such as all wind turbine generator (WTG) parts associated with a wind farm project (including the blades, towers and nacelles) as well as foundations (such as pin piles and floating foundations).

The majority of offshore renewable energy components would be delivered by sea to the proposed development from various locations across the UK, Europe, and other international locations, with cabling, smaller locally fabricated steelwork components and plant/equipment required in the turbine integration process potentially delivered by road.

The component parts will be integrated with the floating foundations using a very large crane located on the new jetty. The crane is likely to be one of the largest of its types in the world and will itself take 3-4 months to assemble, being delivered in parts over several weeks. The foundations may be afloat in the dredged pocket or grounded onto a prepared bed during integration.

Loading/unloading of WTG parts using the large crane is expected to take up to 24 hours. Overall berth utilisation would be around 50%, 80% on one berth and 20% on the other, controlled by MHPA as is the case today. The number of required vessel trips per wind farm project would be dependent on the size of the wind farm (noting that one wind farm may be served from more than one port) and the source locations of the turbine components for a particular wind farm project. A substantial power supply will be required at the berth. It is intended that this will be used for the commissioning of the turbines, powering the large crane (if this can be practically achieved) and for shore supplies to vessels where suitably equipped. For practical reasons it may be that generators might have to be used where a mains supply is not practicable.

2.4 Consideration of alternatives

Numerous alternative plans have been considered by MHPA for future port development before identifying the proposed development as the optimal choice. These are listed in short below:

- Several options have been considered for the development of Celtic Quay which have been discarded due to the likely effects on local residents of Front Street;
- Gelliswick Bay: discarded due to the presence of existing operations, the lack of flat land area, the likely effects on SAC designations and difficulty of access;
- St Brides Bay: discarded due to unsuitable land access, lack of flat land area and the likely effects on protected sites;
- Other areas within Milford Haven that had insufficient water depth, lack of present/potential flat land, existing developments and likely effects on SAC designations; and,
- Newton Noyes: discarded due to the presence of existing operations, the lack of flat land area, the likely effects on SAC designations and difficulty of access.

3 PLANNING POLICIES

3.1 Future Wales 2040

Future Wales – The National Plan 2040 is a national development framework, setting the direction for development in Wales to 2040. It is a development plan with 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 communities.

The Haven Waterway is identified in Future Wales 2040 Policy 32 as being critically important to the future energy security of the UK. The Haven has a combination of a natural harbour, deep water access, long established industries and the potential for new strategic development, including renewable and low carbon energy. Supporting the future role of Milford Haven port locally, regionally and nationally is a key consideration and Future Wales 2040 requires that Strategic and Local Development Plans should recognise this and provide a framework for managing future growth.

3.2 National Policy Statement for Ports

Section 1.2 of the National Policy Statement for Ports (NPSfP) (Department for Transport, 2012) states that in addition to being part of the planning system established under the Planning Act 2008, the NPSfP is a relevant consideration when deciding other port development proposals (i.e. projects that are not nationally significant infrastructure projects). It has recently been announced by the Government that the NPSfP will be updated in the near future, but the current version remains in force at the time of authoring of this report.

In summary, through the adoption of the NPSfP, the Government seeks to:

- encourage sustainable port development to cater for long-term economic growth and prosperity;
- allow judgements about when and where new developments might be proposed to be made on the basis of commercial factors by the port industry or port developers operating within a free market environment; and,
- ensure all proposed developments satisfy the relevant legal, environmental and social constraints and objectives, including those in the relevant European Directives and corresponding national regulations.

In addition, to help meet the requirements of the Government's policy on sustainable development, new port development should (in no particular order):

- contribute to local employment, regeneration and development;
- ensure competition and security of supply;
- preserve, protect and where possible improve marine and terrestrial biodiversity;
- minimise emissions of greenhouse gases from port-related development;
- be well designed, functionally and environmentally;
- be adapted to the impacts of climate change;
- minimise use of greenfield land;
- provide high standards of protection for the natural environment;
- ensure that access to, and condition of, heritage assets are maintained and improved where necessary; and,
- enhance access to ports and jobs, services and social networks they create, including the most disadvantaged.

The proposed development would cater directly for long-term economic growth. It is considered that the proposed development is compliant with the requirements and aims of the NPSfP.

3.3 UK Marine Policy Statement

The UK Marine Policy Statement (MPS) (HM Government, 2020) provides the framework for marine planning and decisions affecting the UK marine area. The MPS will facilitate and support the formulation of marine plans, ensuring that marine resources are used in a sustainable way in line with high-level marine objectives, thereby:

- promoting sustainable economic development;
- enabling the UK to move towards a low-carbon economy, in order to mitigate the causes of climate change and ocean acidification and adapting to their effects;
- ensuring a sustainable marine environment which promotes healthy, functioning marine ecosystems and protects marine habitats, species and our heritage assets; and,
- contributing to the societal benefits of the marine area, including the sustainable use of marine resources to address local social and economic issues.

The MPS requires that all public authorities taking authorisation or enforcement decisions that affect, or might affect, the UK marine area do so in accordance with the MPS, unless relevant considerations indicate otherwise.

3.4 Welsh National Marine Plan

The Marine and Coastal Access Act 2009 (MCAA) divides the UK marine area into planning regions with an associated plan authority responsible for preparing plans for their region. Once adopted, marine plans will have the same effect on authorisation or enforcement decisions in the UK marine area as the UK MPS, including the requirements and conditions attached to authorisations and the enforcement action that would be taken to ensure compliance. The Welsh National Marine Plan (WNMP) was published in November 2019 to cover Welsh inshore and offshore waters in accordance with the MCAA and the UK MPS (Welsh Government, 2019). It is considered that the proposed development is compliant with the WNMP policies and a WNMP assessment will be provided in support of an application for a marine licence.

3.5 Shoreline Management Plan

Shoreline Management Plans (SMPs) aim to identify the best ways to manage flood and erosion risk to people and the developed, historic and natural environment, and to identify opportunities where shoreline managers can work with others to make improvements. They do not set policy for anything other than coastal defence management. The proposed development lies within the study area covered by the South Wales Coastal Group SMP, identified as SMP 20 – Lavernock Point to St Ann's Head (Halcrow, 2012). The proposed development is located partially within Flood Zone C2 (areas of the floodplain without significant flood defence infrastructure) and as such a Flood Consequence Assessment (FCA) will be required to support the marine licence and planning applications (see **Section 5.15.4**). The design of the new berth as part of the proposed development will contribute to wider flood defence work in the area. It is also proposed that the works will envelop the existing dilapidated river walls in the vicinity of the proposed development, restoring long term stability to them.

3.6 Planning Policy Wales

Planning Policy Wales (PPW) (Edition 11, issued February 2021³) was originally published by the Welsh Government in 2002 and sets the context for planning in Wales, under which Local Planning Authorities prepare their statutory Development Plans. It is the principal and authoritative source of national planning policy. PPW sets out the land use planning policies of the Welsh Government. The planning policy is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales.

3.7 Well-being of Future Generations (Wales) 2015

The Well-being of Future Generations Act 2015 is designed to improve the social, economic, environmental, and cultural well-being of Wales. It requires public bodies in Wales (including PCC and NRW) to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs. The Act puts in place seven well-being goals that should be met; together the goals provide a shared vision for public bodies to work towards (see **Table 3.1**). Public bodies must work to achieve all of the goals.

Table 3.1 A summary of the seven well-being goals as defined by the Well-being of Future Generations (Wales) Act 2005

Well-being goal	Description of the goal
A Prosperous Wales	"An innovative, productive and low-carbon society which recognises the limits of the global environment and uses resources efficiently and proportionately, and which develops a skilled and well-educated population in an economy which generates wealth and provides employment opportunities".
A Resilient Wales	"A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change".
A More Equal Wales	"A society that enables people to fulfil their potential no matter what their background or circumstances".
A Healthier Wales	"A society in which people's physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood".
A Wales of Cohesive Communities	"Attractive, viable, safe and well-connected communities".
A Wales of Vibrant Culture & Welsh Language	"A society that promotes and protects culture, heritage and the Welsh language, and which encourages people to participate in the arts, sport and recreation".
A Globally Responsible Wales	"A nation which, when doing anything to improve the economic, social, environmental and cultural well-being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being".

In order that a public body can work in line with the sustainable development principle to meet the seven goals, it must set and publish well-being objectives that are designed to maximise its contribution to meeting the goals. The Future Generations Act sets out five ways of working that the body should consider when carrying out its duties:

- Long term – the importance of balancing short-term needs with the need to safeguard the ability to also meet long-term needs (especially where things done to meet short-term needs may have detrimental long-term effects);
- Integration – consideration of how the body's well-being objectives may impact upon each of the well-being goals, on their objectives, or on the objectives of other public bodies;

³ https://www.gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf

- Involvement – the importance of involving people with an interest in achieving the well-being goals, and ensuring that those people reflect the diversity of the area which the body serves;
- Collaboration – acting in collaboration with any other person (or different parts of the body itself) that could help the body to meet its well-being objectives; and,
- Prevention – consideration of how acting to prevent problems occurring or getting worse may help public bodies meet their objectives.

3.8 Pembrokeeshire Local Development Plan 2013 Planning Pembrokeeshire's Future

The Pembrokeeshire Local Development Plan, adopted February 2013, covers the settlement boundary of Pembroke Dock (Policy SP13); within an Allocated Marina area (Policy GN21); and, adjacent to a Conservation Area (Policy GN38). Policy SP1 'Sustainable Development' states all development proposals must demonstrate how positive economic, social and environmental impacts will be achieved and adverse impacts minimised. Policy SP2 'Port and Energy Related Development' State development at the Port of Milford Haven, will be permitted for port related facilities and infrastructure, including energy related development.

3.9 Wales Spatial Plan – People, Places and Future

The Wales Spatial plan identifies 'Pembrokeeshire – The Haven', comprising the 'Haven Towns' of Haverfordwest, Milford Haven, Neyland, Pembroke and Pembroke Dock, as a strategic Hub that perform an important regional role and should be a focus for future investment.

4 CONSULTATION

4.1 Overview of early consultation

An early consultation letter was shared with NRW, PCC, Cadw and the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) on the 8 June 2023, which included a description of the proposed development, an overview of the potential environmental constraints, the key relevant legislation and consultation objectives (**Appendix A1**). Following the consultation letter, initial stakeholder workshops have been held to discuss the proposed development.

On the 14 June 2023 and the 5 July 2023, a virtual meeting was held between MHPA and NRW Licencing and MHPA and NRW Advisory, respectively. Minutes of these meetings are provided in **Appendix A2** and **A3**. In summary, NRW's initial feedback included:

- Advice to include as much detail and final design plans as possible in the scoping report.
- Early consultation with local heritage stakeholders including the Welsh Archaeological Society and RCAHMW.
- Embed mitigation into the design where possible to avoid issues later in the process and further consultation e.g., soft start procedures for piling.
- Ensure to consider Welsh-specific policies e.g., Welsh Marine Plan.
- Sample plans to be robust and include enough samples – consultation with NRW to confirm.
- A Discretionary Advice Service (DAS) agreement should be put in place between NRW and MHPA/Royal HaskoningDHV to consult on the project, with as much detail included as possible to enable NRW specialists to provide informed advice.

On the 20 June 2023, a virtual meeting was held between PCC and MHPA. Minutes of this meeting are provided in **Appendix A4**. In summary, PCC's initial feedback included:

- PCC is in support of the proposed development and recognises the need for the development to address climate change and government net zero targets.
- Noted that there is a shipwreck in close proximity to the proposed development which will require consideration.
- Suggested potential planning performance agreement to enable a smooth process, regular meetings and agreed deadlines etc.
- PCC jurisdiction extends to the mid-channel, NRW advice will be sought.

Early consultation responses from Cadw and RCAHMW have also been received. In addition to the heritage assets identified in the early consultation letter, Cadw provided the following comments:

- The impact of the development on the registered historic landscape will need to be assessed following the Assessing the Significance of the Impact of Development on the Historic Landscape (ASIDOHL) methodology.
- The scheduled monument PE379 Defensible Barracks, Pembroke Dock (listed building 6448 The Defensible Barracks) and potential effects on its setting should be considered.

The impact of the land reclamation and dredging on undesignated heritage assets should be considered. RCAHMW provided the following comments:

- The development is located within the Registered Historic Landscape of Waterway, as defined by Cadw (1998), but we do not consider that it would have an adverse impact on this designation. Also,

there would be no direct impact on any recorded historic assets. However, we note that there is a record for a shipwreck (PRN 129366 / NPRN 90544) close to the area of proposed dredging (NGR: SM96664 03988) and we advise consultation with the RCAHMW for possible mitigation measures.

4.2 Environmental survey specification

An environmental survey specification was submitted to NRW on the 17 August 2023 to confirm the scope of the environmental surveys required to characterise the terrestrial and marine environments within and in the vicinity of the proposed development footprint. The document also included a proposed approach to the potential numerical modelling required to assess the potential effects of the proposed development during construction activities and throughout its operation. A response from NRW is pending.

5 SCOPING OF POTENTIAL ENVIRONMENTAL EFFECTS

5.1 Hydrodynamic and sedimentary regime

This section considers the current baseline hydrodynamic and sediment regime within the proposed development area and surrounding waters that could be influenced by a sediment plume resulting from the proposed dredging and disposal activities.

5.1.1 Overview of existing environment

5.1.1.1 Bathymetry

The proposed development is within the Milford Haven Waterway (the 'Waterway'), which extends East to West along the South-West coast of Wales. The existing bathymetry at the proposed development comprises a small intertidal zone between Hobbs Point and Martello Tower with the jetty extending into the subtidal zone out to -14m CD. The wider bathymetry of Waterway is variable reaching natural depths down to -26m CD along with large maintenance dredged areas between -5m and -18.5m CD.

5.1.1.2 Waves

The predominant offshore waves approach the entrance to the Waterway from the West and South-West across the Celtic Sea. The protection afforded to the Waterway entrance by the resistant headlands of the Angle Peninsula to the South and St Ann's Head to the North mean that some of the wave energy is dissipated before it reaches the shorelines in the Waterway and wave heights are correspondingly smaller.

5.1.1.3 Water levels and tidal currents

The tidal regime in the Waterway is semi-diurnal with two high waters and two low waters a day. It is macrotidal with a spring tidal range of 6.3m. Currents are West to East on the flood tide and East to West on the ebb tide. Peak spring tidal current velocities are relatively low at less than 1.0m/s.

5.1.1.4 Sediment distribution

The Waterway consists of a main channel containing mixed sediment with extensive rock foreshores interspersed with limited intertidal sandflats and mudflats towards the shoreline. Mudflats are common in sheltered areas further up the channel and in muddy creeks, indicating high levels of sediment deposition. The Waterway is largely self-contained and acts as a sediment sink storing all the sediment entering it.

5.1.2 Potential effects during construction

Potential effects of the proposed development on the hydrodynamic and sedimentary regime during construction related to the capital dredge activity to create the berth pocket to 10.5m below CD and land reclamation (infilling) activities to create the new laydown area. They comprise:

- Disturbance of sediment during capital dredging of the berth pocket and land reclamation activities, resulting in localised and short-term increases in suspended sediment concentrations. The mobilised sediment from this activity would be transported and dispersed by tidal currents (and waves) in suspension in the water column;
- Deposition of sediment on the bed of the Waterway that is released into the water column during and immediately following capital dredging and land reclamation causing changes in bed level. Any sediment that becomes entrained within the plume would have the potential to become deposited on the bed of the Waterway as it settles through the water column;
- Changes in suspended sediment concentrations due to disposal of the dredge arisings at an offshore disposal site; and

- Changes in sea-bed level due to disposal of the dredge arisings at an offshore disposal site.

These effects would be short-term and temporary, lasting for the duration of the dredging activity and land reclamation only. Deposited sediment would be continually resuspended by the tidal currents and bedload transport processes following the cessation of dredging, resulting in a reversible impact. The depositional effects are likely to remain within the bounds of natural processes, with construction effects being one-off and temporary in duration (and unlikely to be measurable over time through deposition and resuspension). It is not, therefore, considered that construction phase effects on the hydrodynamic and sedimentary regime within Waterway would be significant.

5.1.3 Potential effects during operation

Potential effects of the proposed development on the hydrodynamic and sedimentary regime during operation relate to the presence of the deepened berth pocket, the presence of the rebuilt jetty, quay structures (a solid combi-wall method or an open structure comprising a concrete deck on steel piles) and the land reclamation seaward of the current shoreline position, and the requirement for maintenance dredging. They comprise:

- Changes to waves and tidal currents due to the enlarged berth pocket, quay, and reclamation infrastructure, which may affect sediment transport mechanisms and/or bed morphology; and
- Regular short-term increases in suspended sediment concentrations due to routine maintenance dredging of the berth pocket to maintain the design depth. The berth pocket may create an additional sink for suspended sediment.

Due to the sheltered nature of the Waterway, significant changes to hydrodynamic processes due to the presence of the berth pocket and infrastructure are not anticipated.

5.1.4 Proposed approach to the EIA

It is proposed that this topic is **scoped into** the ES. To confirm this assessment, a 3D tidal hydrodynamic model will be run and used to drive a sediment plume dispersion model to inform an understanding of the potential effects of the proposed development on the hydrodynamic regime and how sediment that is suspended during capital dredging and disposal would disperse. The hydrodynamic model will incorporate changes to tidal currents due to the enlarged berth pocket, the rebuilt jetty and the land reclamation works. The dispersion model will predict increases in suspended sediment concentrations due to the dredging process and the subsequent thickness and distribution of deposition on the bed from the plume. The dispersion modelling will be supported by collection of sediment samples (particle size) in the intertidal and subtidal zone. A wave transformation model will be developed to investigate potential impacts on local wave climate during operation.

5.2 Marine water and sediment quality

This section considers the current baseline marine water and sediment quality within the proposed development area and surrounding waters that could be influenced by a sediment plume resulting from the proposed dredging and disposal activities.

5.2.1 Overview of existing environment

The proposed development is within, or adjacent to, the following water bodies (see **Figure 5.1**):

- Milford Haven Inner Transitional water body (GB531006114100);
- Milford Haven Outer Coastal water body (GB641008220000) and

- Pembrokeshire Carboniferous Limestone groundwater body (GB41002G206000).

The nearest disposal sites that may be used for the offshore disposal of dredged material are located approximately 16km offshore from the Waterway and are therefore not within any coastal water body.

The waterbodies outlined above lie within the Western Wales River Basin District and are designated as natural (NRW, 2022). The Pembrokeshire Carboniferous Limestone Groundwater body and Pembrokeshire South Coastal water body have an Overall status of 'good'. The Milford Haven Inner Transitional water body and Milford Haven Outer coastal water body have an overall status of 'moderate'. In the Milford Haven Inner Transitional water body this is due to levels of polybrominated diphenyl ethers (PBDEs) polycyclic aromatic hydrocarbons (PAHs), macroalgae and dissolved inorganic nitrogen (DIN). In the Milford Haven Outer coastal water body this is due to levels of mercury and DIN.

The proposed development sits within the Lower Cleddau designated Shellfish Water and which includes the bathing waters of West Angle, Sandy Haven and Freshwater West as seen in **Figure 5.1**. These bathing waters have a current annual classification of 'excellent'⁴.

The Waterway has a long history of heavy industrial use as one of the UK's largest oil and gas ports. As such, the Waterway has been subject to high levels of hydrocarbon and heavy metal contamination through oil spills and operational use. Contaminants include PAHs, polychlorinated biphenyls (PCBs) and heavy metals which have been monitored on a regular basis since 1978 (hydrocarbons) and 1982 (metals). However, no detailed sediment analysis has been conducted within the footprint of the proposed development.

5.2.2 Potential effects during construction

Potential effects on marine sediment and water quality during the construction phase of the proposed development include:

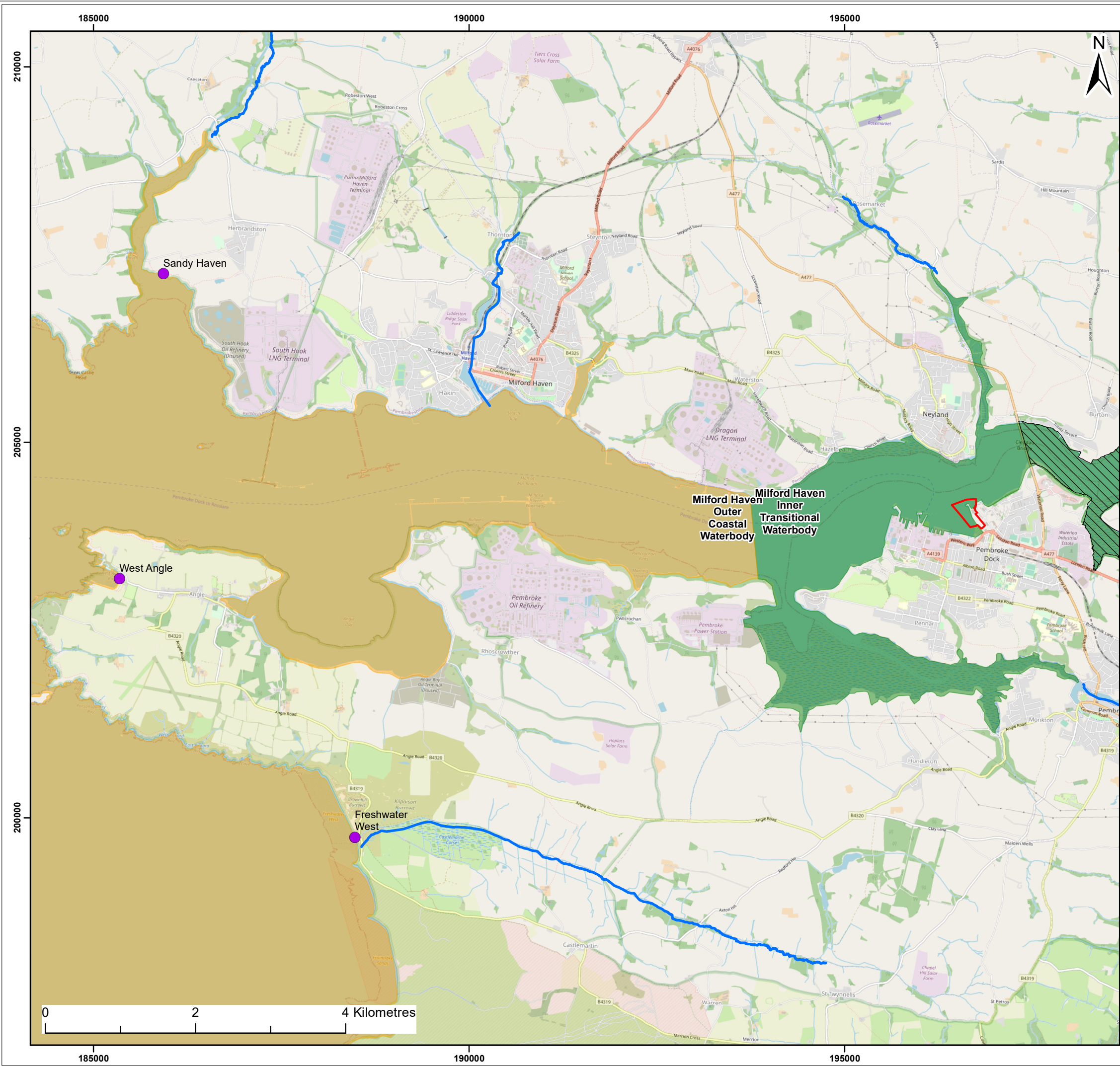
- Re-suspension and deposition of suspended sediments during capital dredging and disposal activities;
- Re-suspension and dispersion of potentially contaminated sediment during capital dredging activities; and,
- Potential for leakage or spillage of hazardous materials during construction.

5.2.3 Potential effects during operation

Potential effects on marine sediment and water quality during the operational phase of the proposed development include:

- Increases in suspended sediment concentrations and turbidity during increased maintenance dredging and associated disposal; and,
- Potential for leakage or spillage of hazardous materials during operations.

⁴ <https://environment.data.gov.uk/wales/bathing-waters/profiles/>



Legend:

- Red Line Boundary
- Shellfish Waters Protected Area
- Bathing Water Quality Location
- WFD River Waterbodies
- WFD Transitional Waterbody
- WFD Coastal Waterbody

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Client:	Project:
Milford Haven Port Authority	Criterion Quay Flow Development

Title:
WFD Water Bodies and Protected Areas

Figure: 5.1 Drawing No: PC4679-RHD-ZZ-XX-DR-Z-0001

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
P01	31/07/2023	GC	SM	A3	1:50,000

Co-ordinate system: British National Grid



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5.2.4 Proposed approach to the EIA

It is proposed that this topic is **scoped into** the ES. To further inform the marine water and sediment quality baseline, and subsequent environmental assessment, it is proposed that the following additional data and information will be obtained.

A marine geotechnical and geo-environmental investigation will be undertaken to characterise the physical and chemical nature of the sediments affected by the proposed development. The scope of this investigation will be discussed with Cefas and NRW to ensure its suitability and adequacy. It is proposed that this investigation could be undertaken alongside the benthic ecology survey (see **Section 5.3**) so that the relationship between sediment type and benthic species composition can be understood. Sample location and sampling methodology will be discussed and agreed with NRW and Cefas.

5.3 Marine benthic ecology

This section considers the benthic subtidal and intertidal coastal ecology within the footprint of the proposed development and the surrounding area. The study area for marine ecology comprises the following:

- the footprint of the reclamation, construction and dredging areas within the site boundary as seen in **Figure 1.1**;
- the near-shore intertidal and subtidal communities within 1km of the proposed development; and,
- the benthic communities in and around the disposal site (as yet undefined).

5.3.1 Overview of existing environment

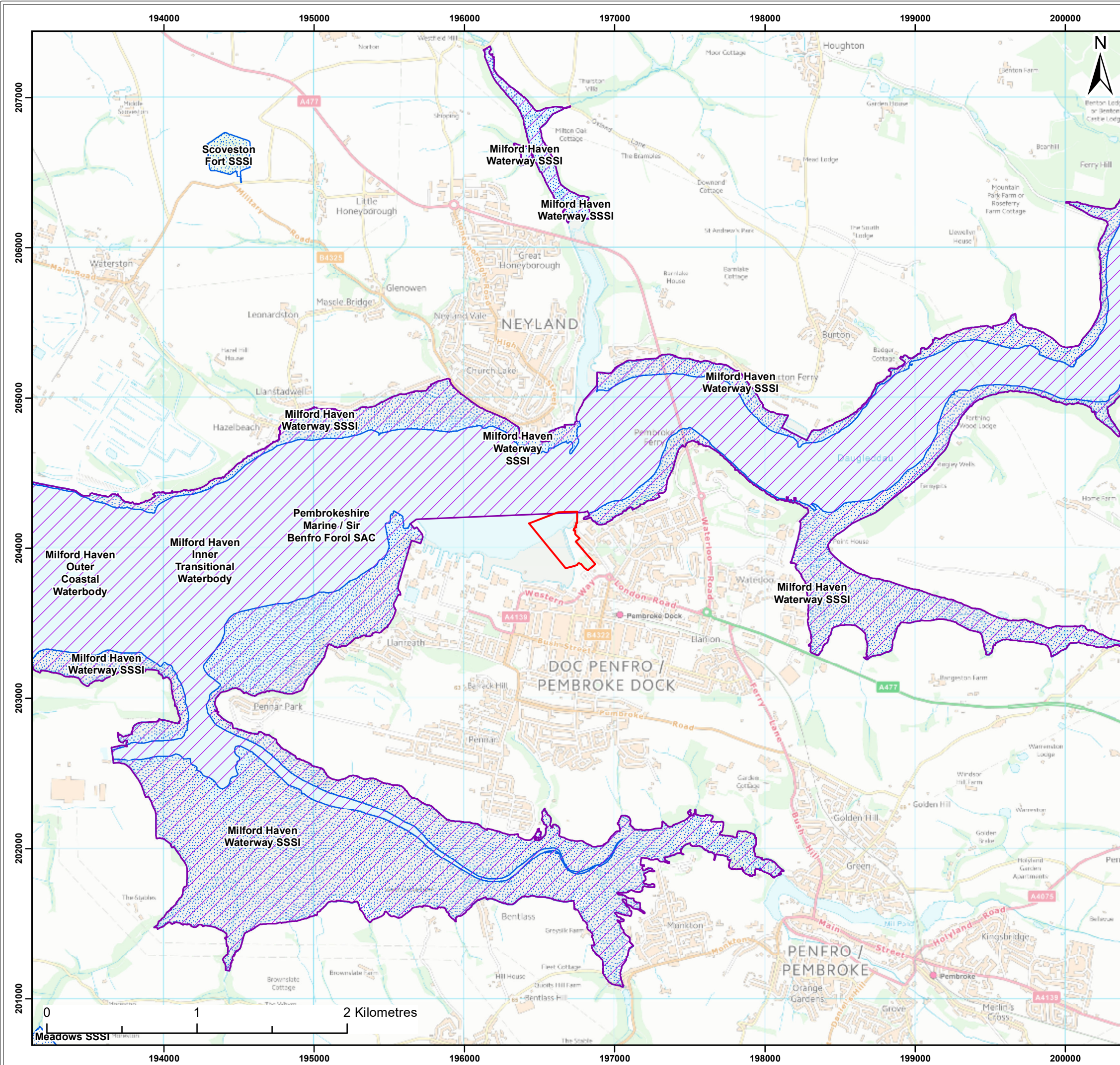
Intertidal substrates identified along the surrounding coastlines of Pembroke Dock and Neyland mainly consist of mud, mud/shingle and shingle lower to mid-shores and rocky high shores. However, no broadscale habitat mapping or intertidal substrate data exists for the proposed development area.

Biotope analysis conducted in Milford Haven in 2012 (Carey et al., 2015) indicated that the predominant subtidal European Nature Information System (EUNIS) biotope adjacent to the proposed development was A5.422 “*Crepidula fornicata* and *Mediomastus fragilis* in variable salinity infralittoral mixed sediment”, with nearby biotopes A5.443 “*Mysella bidentata* and *Thyasira spp.* in circalittoral muddy mixed sediment” and A5.137 “Dense *Lanice conchilega* and other polychaetes in tide-swept infralittoral sand and mixed gravelly sand”. However, no specific biotope analysis has been conducted within the proposed development area.

The nationally important intertidal habitats A1.153, “*Fucus serratus* with sponges, ascidians and red seaweeds on tide-swept lower eulittoral mixed substrata” and A3.221, “*Laminaria digitata*, ascidians and bryozoans on tide-swept sublittoral fringe rock” are also located in the vicinity of the proposed development.

Saltmarsh presence is sparse at the mouth of the Waterway; the extent of saltmarsh increases with distance from the mouth. The nearest area of saltmarsh to the proposed development is at Church Lake (approximately 1.2km distant), on the opposite bank of Milford Haven.

The proposed development borders the Pembrokeshire Marine/Sir Benfro Forol SAC (see **Figure 5.2**), primarily designated for the Annex I habitats: estuaries, large shallow inlets and bays, with other Annex I qualifying habitats including: sandbanks, mudflats, coastal lagoons, Atlantic salt meadows and submerged/partially submerged sea caves. Grey seals *Halichoerus grypus* and shore dock *Rumex rupestris* were the Annex II species responsible for designation, with sea lamprey *Petromyzon marinus*, river lamprey *Lampetra fluviatilis*, allis shad *Alosa alosa*, twaite shad *Alosa fallax* and otter *Lutra lutra*. The potential effects of the proposed development on these designated features are discussed in **Section 5.23**.



Legend:

- Red Line Boundary
- Special Area of Conservation (SAC)
- Sites of Special Scientific Interest (SSSI)

Source: © Natural Resources Wales, 2023 © Haskoning DHV UK Ltd, 2023; Contains OS data © Crown Copyright and database right 2022

Client:	Project:
Milford Haven Port Authority	Criterion Quay Flow Development

Title:

Designated SACs and SSSIs in the Vicinity of the Proposed Development

Figure:	5.2	Drawing No:	PC4679-RHD-ZZ-XX-DR-Z-0002			
Revision:	Date:	Drawn:	Checked:	Size:	Scale:	
P01	31/07/2023	GC	SM	A3	1:25,000	

Co-ordinate system: British National Grid



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Marine invasive non-native species (INNS) recorded by multiple sources (NRW marine non-native GIS datasets, observations from the sustainable expansion of the applied coastal and marine sectors survey and national biodiversity network gateway) in the Waterway between 1953 to 2015 can be found in **Table 5.1**.

Table 5.1 INNS identified within the Waterway between 1953 and 2015

INNS scientific names	
<i>Anotrichium furcellatum</i>	<i>Ensis leei</i>
<i>Amphibalanus improvisus</i>	<i>Eusarsiella zostericola</i> (ostracod)
<i>Antithamnionella spirographidis</i>	<i>Feldmannophycus okamurai</i> (<i>Caulacanthus okamurai</i>)
<i>Antithamnionella ternifolia</i>	<i>Ficopomatus enigmaticus</i>
<i>Aplidium cf. glabrum</i>	<i>Grateloupia turuturu</i>
<i>Asterocarpa humilis</i>	<i>Haliplanella lineata</i>
<i>Austrominius modestus</i>	<i>Mya arenaria</i>
<i>Botrylloides c.f. diegensis</i>	<i>Mytilicola intestinalis</i>
<i>Botrylloides violaceus</i>	<i>Mytilus galloprovincialis</i>
<i>Bugula neritina</i>	<i>Perophora japonica</i>
<i>Bugula simplex</i> *	<i>Polysiphonia harveyi</i>
<i>Bugula stolonifera</i>	<i>Potamopyrgus antipodarum</i>
<i>Caprella mutica</i>	<i>Sargassum muticum</i>
<i>Codium fragile fragile</i>	<i>Solieria chordalis</i>
<i>Colpomenia peregrina</i>	<i>Spartina anglica</i>
<i>Corella eumyota</i>	<i>Styela clava</i>
<i>Corophium sextonae</i>	<i>Tricellaria inoptiata</i>
<i>Crassostrea gigas</i>	<i>Undaria pinnatifida</i>
<i>Crepidula fornicata</i>	

*Sighting unverified

The offshore disposal site associated with the proposed development has yet to be identified, however if one is used, then the potential effects of disposal activities on local benthic communities will require assessment.

5.3.2 Potential effects during construction

Potential effects on marine ecology during the construction phase of the proposed development include:

- Direct loss of intertidal and subtidal species and habitats within the footprint of the areas to be reclaimed and dredged;
- Re-suspension and dispersion of potentially contaminated sediment during dredging activities;
- Smothering of benthic communities as a result of the deposition of suspended sediment during dredging and disposal;
- Introduction and / or spread of invasive non-native species; and,
- Disturbance to benthic communities through the potential use of blasting during dredging activities.

5.3.3 Potential effects during operation

Potential effects on marine ecology during the operational phase of the proposed scheme include:

- Introduction of new intertidal and subtidal hard substrate;
- Disturbance due to changes in the maintenance dredging regime;
- Hydrodynamic change on patterns of sediment movement (erosion and/or accretion) and the influence on benthic communities; and,
- Spread or colonisation of invasive species.

5.3.4 Proposed approach to the EIA

It is proposed that this topic is **scoped into** the ES. To determine the potential effects of the proposed development, it is necessary to characterise the benthic communities that exist within the study area.

A benthic ecology survey will be undertaken to determine the intertidal and subtidal biotopes within the footprint and areas that could be indirectly affected by the proposed works. The scope of the survey will be discussed and agreed with NRW (as mentioned in **Section 4.2**). The assessment on marine ecology will also be informed by the findings of the water quality assessment (see **Section 5.2**) and proposed hydrodynamic modelling (see **Section 5.1**)

5.4 Fish and shellfish resources

This section considers fish and shellfish species of conservation, ecological and commercial importance.

5.4.1 Overview of existing environment

The Waterway is utilised as a valuable spawning and nursery area for two species of fish. Herring *Clupea harengus* utilise the mouth of the Waterway for spawning as seen in **Plate 5.1**, while whiting *Merlangius merlangus*, utilise the saline extent of the Waterway as a nursery ground as seen in **Plate 5.2** (Coull et al., 1998).

The Pembrokeshire Marine/Sir Benfro Forol SAC is designated for four Annex II fish species: the sea lamprey *Petromyzon marinus*, the river lamprey *Lampetra fluviatilis*, the allis shad *Alosa alosa* and the twaite shad *Alosa fallax*. Although not designated within the Pembrokeshire Marine/Sir Benfro Forol SAC, Atlantic salmon *Salmo salar*, bass *Dicentrarchus labrax* and sea trout *Salmo trutta* are also known to migrate into the Waterway for spawning within its freshwater extents.

Commercial species that are landed at Milford Haven (and therefore may be present within the Waterway) include bass, European eel *Anguilla anguilla*, conger eel *Conger conger*, pollock *Pollachius spp.*, wrasse

family *Labridae*, codling *Gadus spp.*, flounder *Platichthys flesus*, pouting *Trisopterus luscus*, catshark *Scyliorhinus caniculae*, garfish *Belone belone* and whiting.

Upper Cleddau shellfish waters (see **Figure 5.1**) are designated for the protection of economically significant species such as lobsters *Homarus gammarus*, brown crabs *Cancer pagurus*, spider crabs (multiple species), whelks *Buccinum undatum* and blue mussels *Mytilus edulis*. Cockle, oyster, mussel and other bivalve mollusc populations are monitored and commercially harvested within the Waterway.

5.4.2 Potential effects during construction

Potential effects on fish and shellfish resource during the construction phase of the proposed development include:

- Physiological/behavioural effects due to underwater noise from piling and dredging activities;
- Smothering of fish spawning and nursery grounds due to deposition of the suspended sediment during capital dredging and offshore disposal;
- Decreased resource availability to fish species through loss of intertidal and subtidal habitats; and,
- Increased risk from contaminants through the re-suspension of sediment.

5.4.3 Potential effects during operation

Potential effects on fish and shellfish resource during the operational phase of the proposed development include:

- Loss or smothering of fish spawning and nursery grounds, and shellfish due to changes in the hydrodynamic and sedimentary regimes;
- Smothering of fish spawning and nursery grounds, and shellfish due to deposition of the dredge plume during maintenance dredging and subsequent offshore disposal; and,
- Noise disturbance as a result of increased vessel numbers.

5.4.4 Proposed approach to the EIA

It is proposed that this topic is **scoped into** the ES. Along with the hydrodynamic modelling mentioned in **Section 5.1**, the assessment will be informed by underwater noise modelling to establish the magnitude of noise level increases during piling and dredging activities during construction.

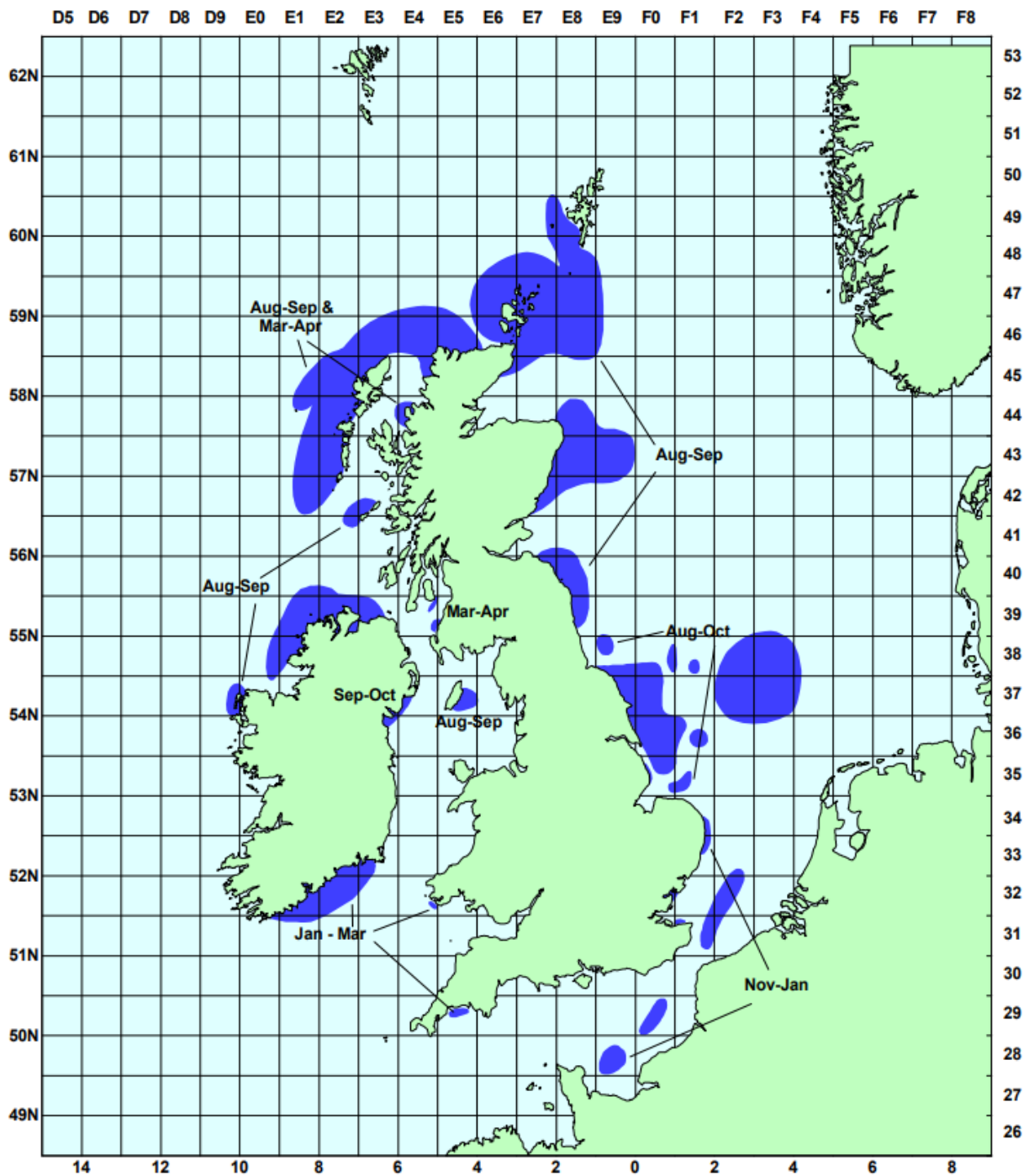


Plate 5.1 5.1Herring spawning areas (Coull et al., 1998)

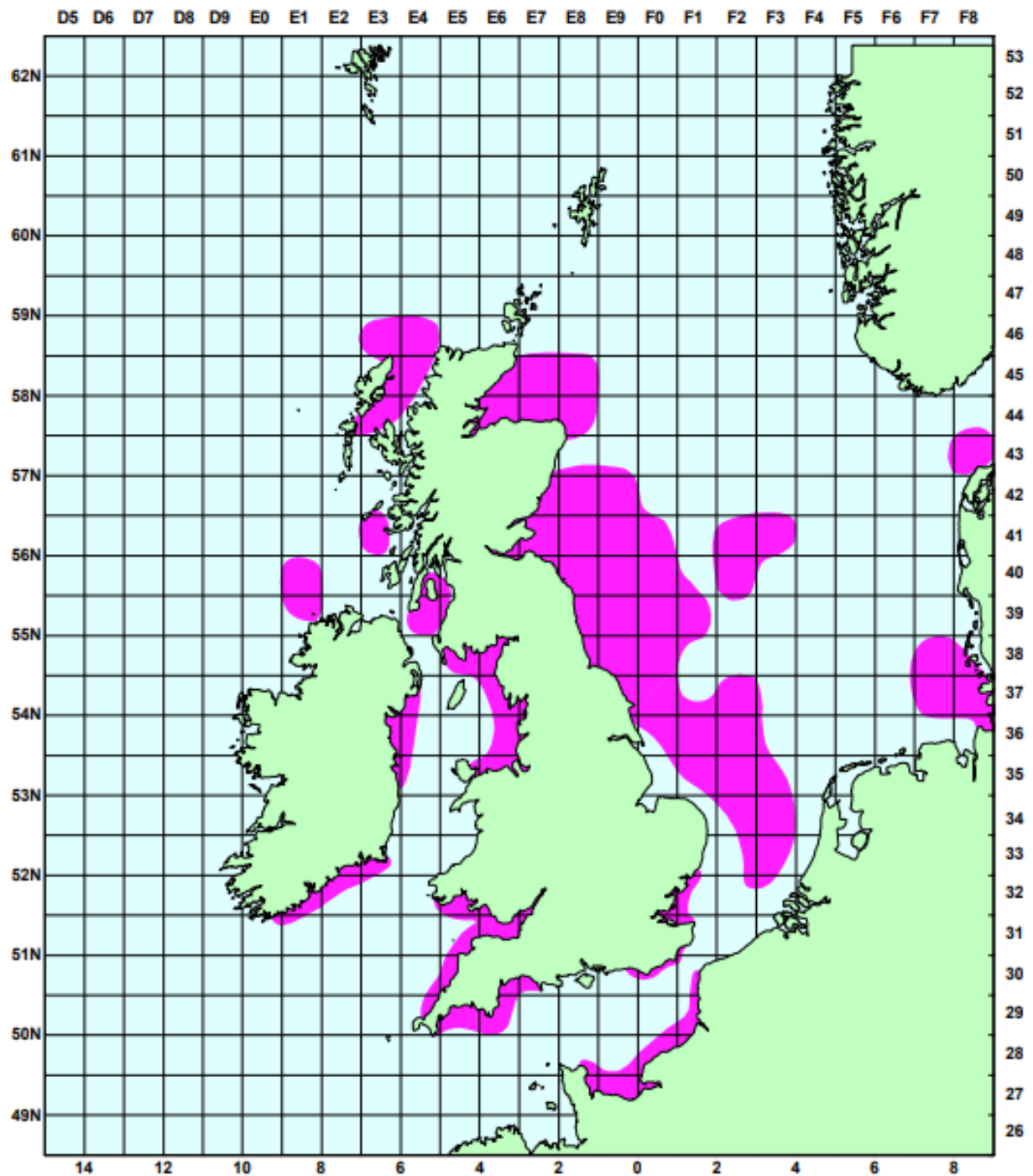


Plate 5.2 Whiting nursery areas (Coull et al., 1998)

5.5 Marine mammals

5.5.1 Overview of existing environment

A full review of the marine mammal species expected to be present within the vicinity of the proposed development will be undertaken through the EIA process. This review is expected to include the following data sources as a minimum:

- Small Cetaceans in the European Atlantic and North Sea (SCANS-III) (or SCANS-IV if it is available): Estimates of cetacean abundance in European Atlantic waters in summer 2016 from the SCANS-III aerial and shipboard surveys (Hammond *et al.*, 2021).
- The identification of discrete and persistent areas of relatively high harbour porpoise density in the wider UK marine area (Heinänen and Skov, 2015).
- The Joint Cetacean Data Programme⁵.
- ObSERVE surveys (Rogan *et al.*, 2018).
- Distribution maps of cetacean and seabird populations in Wales (Evans & Waggitt, 2023).
- Sea Watch Foundation volunteer sightings⁶.
- Management Units for cetaceans in UK waters (Inter-Agency Marine Mammal Working Group (IAMMWG), 2023).
- Seal telemetry data (e.g. Sharples *et al.* 2008; Russel and McConnell 2014; Vincent *et al.*, 2017; Carter *et al.*, 2020).
- UK seal at sea density estimates and usage maps (Carter *et al.*, 2022).
- Other wind farm survey data (e.g. Valorous; Erebus; Llyr 1 and 2; Pembrokeshire Development Zone; Gwynt Glas; Celtic Sea).
- SCOS annual reporting of scientific advice on matters related to the management of seal populations (e.g. SCOS, 2021; SCOS, 2022).

5.5.1.1 Cetacean species

The proposed development is within the Wales region of the Sea Watch sightings data, and between the 4th July and 2nd August 2023, the most commonly recorded species was bottlenose dolphin *Tursiops truncatus* (n=248). Bottlenose dolphin have been recorded off the Pembrokeshire coast, with a pod of 15 bottlenose dolphin recorded at St Govan's (approximately 17km from the entrance to the Waterway). Harbour porpoise *Phocoena phocoena* (n=13), common dolphin *Delphinus delphis* (n=3), Risso's dolphin *Grampus griseus* (n=4) and grey seal *Halichoerus grypus* (n=7) were also recorded, but in much lower number (Sea Watch Foundation, 2023). Anecdotal evidence suggests that these four species are the most commonly recorded within the Waterway itself.

A large scale survey of the presence and abundance of cetacean species around the North-East Atlantic, undertaken in the summer of 2016 (the SCANS-III survey; Hammond *et al.*, 2021), indicates harbour porpoise, bottlenose dolphin, common dolphin, striped dolphin *Stenella coeruleoalba*, and minke whale *Balaenoptera acutorostrata* to be the only cetacean species present in the relevant survey block (Survey Block D). Of these, harbour porpoise, bottlenose dolphin, and common dolphin were the most commonly recorded.

Modelled distribution and abundance maps of cetacean species for Wales (Evans & Waggitt, 2023) indicates a number of cetacean species that may be present near the proposed development and the South coast of Pembrokeshire. Harbour porpoise and minke whale are modelled to have relatively high presence in this area (**Plate 5.3**). Bottlenose dolphin have the highest presence (densities) within Cardigan Bay, with lower

⁵ <https://www.ices.dk/data/data-portals/Pages/Cetaceans.aspx>

⁶ <https://www.seawatchfoundation.org.uk/recent sightings/> [accessed 04/08/2023]

densities off the South coast of Pembrokeshire (**Plate 5.4**). Similarly, Risso's dolphin have the highest densities off St David's Head, Skomer Island and South-East Ireland, with slightly lower presence closer to the proposed development. Common dolphin have relatively high densities offshore of the South-West coast of Wales, however, they have lower presence close to the coastlines.

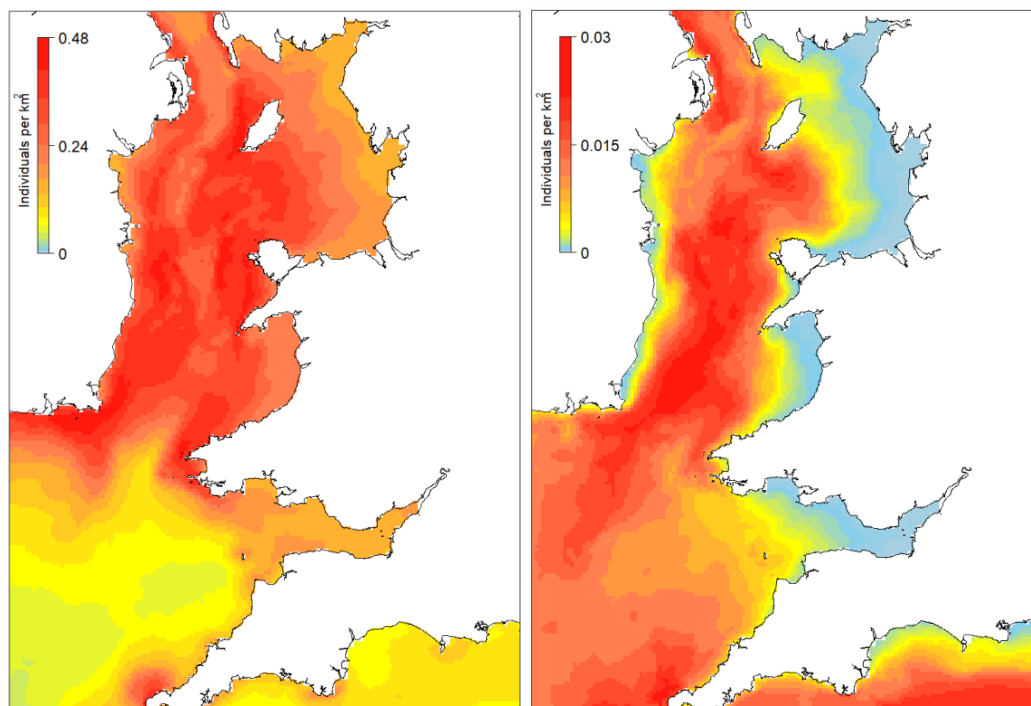


Plate 5.3 Harbour porpoise modelled densities (left) and minke whale modelled densities (right) (Evans & Waggitt, 2023)

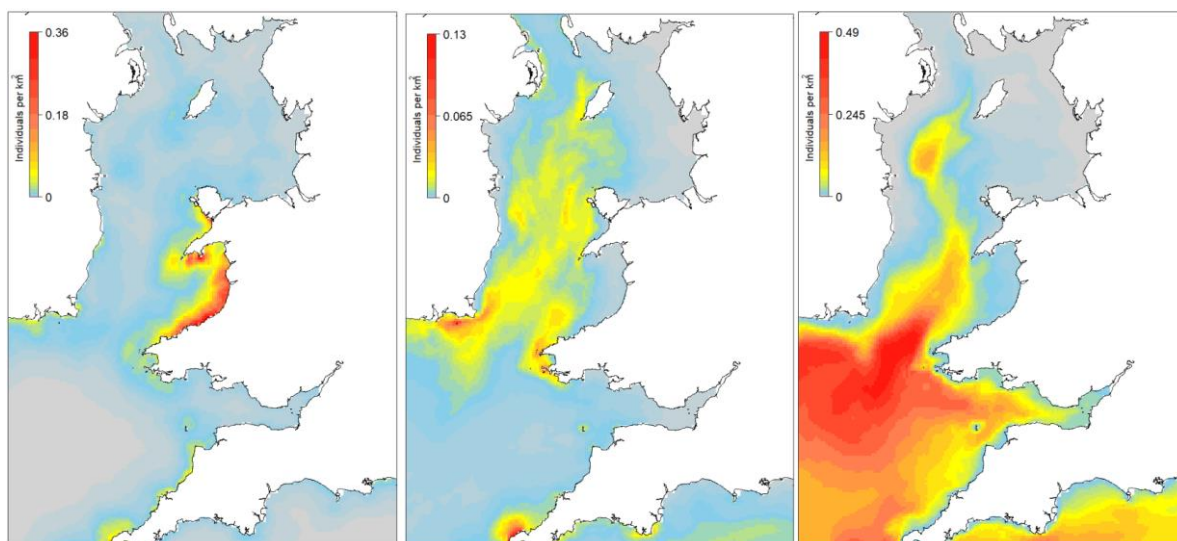


Plate 5.4 Bottlenose dolphin modelled densities (left), Risso's dolphin modelled densities (middle) and common dolphin modelled densities (right) (Evans & Waggitt, 2023)

The study area for marine mammal species takes into account their wider Management Units (MUs); or the area over which individuals are considered to be of the same wider population. These areas are used to inform the area of which connectivity with the proposed development is possible. The MUs relevant to each species are (IAMWWG, 2023).

- Harbour porpoise are within the Celtic and Irish Sea MU.
- Bottlenose dolphin are within the Offshore Channel, Celtic Sea, & South-West England MU.
- Common dolphin, Risso's dolphin and minke whale are within the Celtic and Greater North Sea MU.

For cetacean species, assessments undertaken within the EIA will be based on the worst-case density estimate identified from the sources listed above, and the reference population estimates for the relevant MUs. The above initial review of cetacean species potentially present off the South coast of Pembrokeshire are:

- Harbour porpoise,
- Bottlenose dolphin,
- Common dolphin,
- Minke whale,
- Risso's dolphin (possibly will be **scoped out** of full assessment dependant on results of full baseline review).

It should be noted that while the above species will be assessed further, the proposed development is within Milford Haven, approximately 14km inland from the open coastline. Therefore, it is considered unlikely that there would be any regular presence of any marine mammal species in its vicinity.

5.5.1.2 Pinniped species

Grey seal are present throughout the Celtic and Irish Sea in varying numbers, with a relatively high presence of grey seal around St David's Head and Skomer Island. Densities of the species within the proposed development area are relatively low (Carter *et al.*, 2022). The latest grey seal count for Wales is provided in the Special Committee on Seals (SCOS; 2021), which states that an estimated 900 grey seal were counted in the most recent counts. The closest grey seal haul-out sites to the proposed development are at Skomer Island (approximately 26km from the proposed development), and St David's Head (approximately 38km from the proposed development). It should be noted that these are within an SAC designated for grey seal, and are discussed further in **Section 5.23**.

Harbour seal *Phoca vitulina* presence is very low around Wales. The latest SCOS report (SCOS, 2022) shows that, within the Wales MU (which the proposed development is within), harbour seal are present in very low number, with an estimated 13 individuals counted in the Wales MU, with no identified haul-out sites in Wales (**Plate 5.5**). The presence of harbour seal has not been identified around the proposed development (Carter *et al.*, 2022).

The above sources suggest that harbour seal would not be present in the vicinity of the proposed development, and are rare throughout the Celtic and Irish Seas, and are therefore **scoped out** of further assessment.

Global positioning system (GPS) tracking data from tagged grey seals indicates there is the potential for grey seal to be present along the South coast of Wales, with the potential for connectivity with the rest of Wales, and South-West England (**Plate 5.6**; Carter *et al.*, 2020).

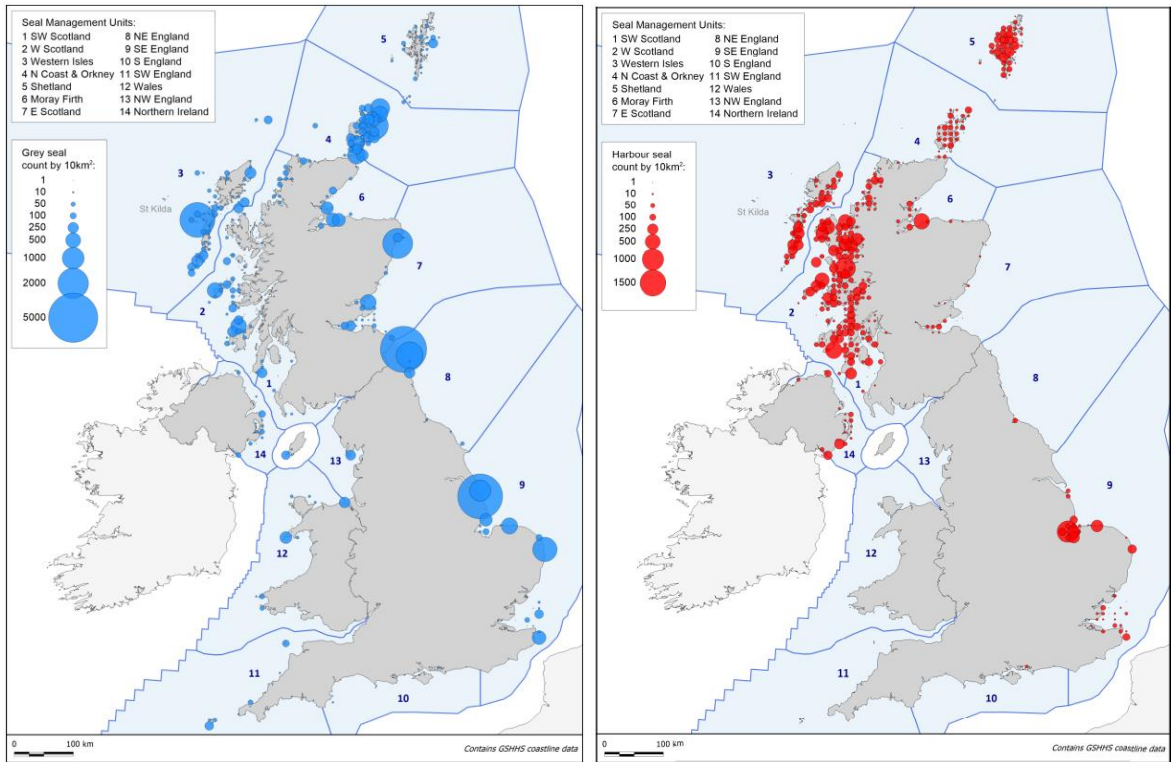


Plate 5.5 Grey seal MUs and haul-out site locations and counts (SCOS, 2021) (left) and harbour seal MUs and haul-out site locations and counts (SCOS, 2022) (left)

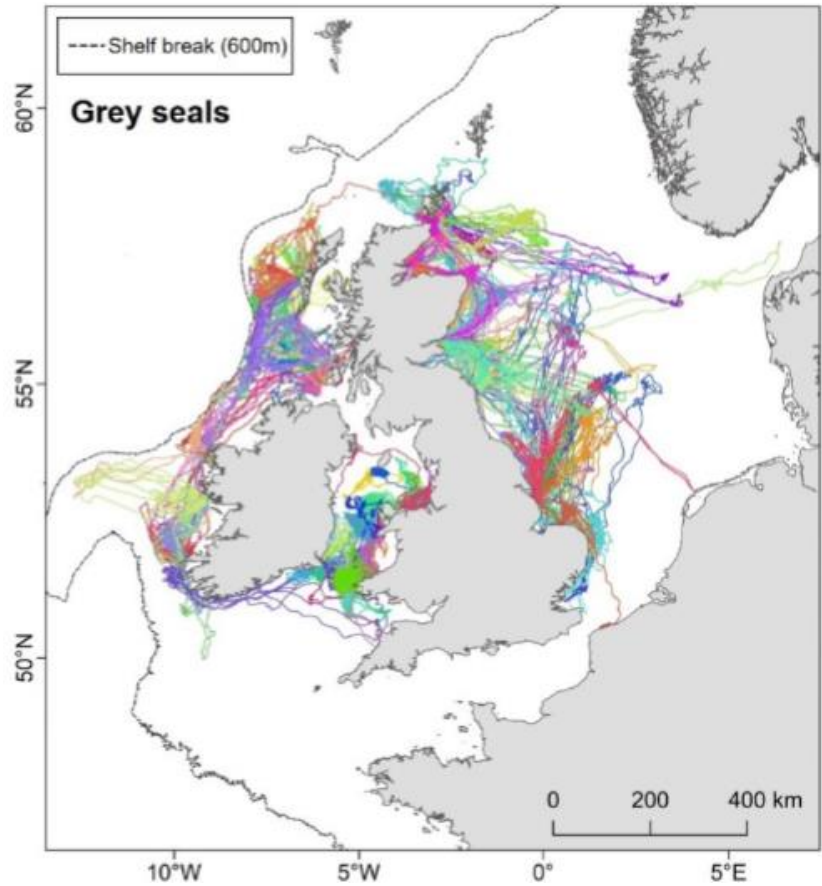


Plate 5.6 Grey seal tagging around UK coastlines (Carter et al., 2020)

For seal species, assessments undertaken within the EIA will be based on the Carter *et al.* (2022) density estimate, and the population estimates for the relevant MU for seal species (the Wales and South-West England MUs). For seal species, the population estimates will also be corrected to take account of those seals that were not available to count during the surveys. The best available correction factor at the time of writing will be used, but it is currently expected to be 0.2515 for grey seal as provided in SCOS (2022).

5.5.2 Potential effects during construction

Potential effects on marine mammals during construction include:

- Generation of underwater noise from piling operations and other construction activities (such as dredging), which could have physiological and/or behavioural response impacts; and
- Indirect impacts due to changes to water quality (e.g., increased suspended sediment) and prey availability.

Any increase in vessels through the construction phase is expected to be minimal, and in line with current use of the port and surrounding area. Therefore, it is not expected that there would be any potential for effect as a result of the presence of construction vessels (including effects as a result of underwater noise, or collision risk), either at the proposed development, or while transiting past any nearby seal haul-out sites. Due to the distance between seal haul-out sites and the proposed development, there is not expected to be any potential for direct effects on the sites.

Marine mammals that are qualifying features of the SACs will be assessed within a Habitats Regulations Assessment (HRA), under the Conservation of Species and Habitats Regulations 2017 (as amended⁷), of which Stage 1 (Screening for Likely Significant Effect) is included in **Section 5.23**.

5.5.3 Potential effects during operation

There is not expected to be any potential for effects on marine mammal species during the operation of the proposed development. While there would be an increase in vessel presence during the operational phase, these would be due to floating wind farm construction and maintenance vessels, and therefore would be considered within the relevant project assessments. While the integration and assembly of floating wind turbines within the port facility would generate a small level of underwater noise, it is not expected to be significantly higher than would be expected from vessels. In addition, the area is already utilised by a high number of large vessels, and the operation of the proposed development is not expected to significantly increase the number of vessels, or the type of vessels, present within the Waterway. As such, operational effects on marine mammals are **scoped out** of the assessment.

5.5.4 Proposed approach to the EIA

It is proposed that this topic is **scoped into** the ES. Piling would be temporary and for a short period only. Underwater noise effects would be managed using standard mitigation measures in line with the Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise⁸. This will ensure that the potential effect ranges for instantaneous permanent auditory injury are mitigated for and therefore would not be significant.

Site specific underwater noise modelling will be undertaken for a number of potential construction activities, to determine the potential for both auditory injury and disturbance to marine mammal species. The underwater noise modelling will be undertaken against the best available thresholds at the time (expected

⁷ Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

⁸ <https://data.jncc.gov.uk/data/31662b6a-19ed-4918-9fab-8fbcff752046/JNCC-CNCB-Piling-protocol-August2010-Web.pdf>

to be Southall *et al.*, 2019), and will consider the potential for multiple activities to take place at the same time. The activities currently expected to be modelled include:

- Impact piling.
- Including soft-start and ramp-up piling procedures.
- Drill piling.
- Dredging.
- Percussive rock breaking / rock blasting.
- Rock placement.

The potential for indirect effects due to changes in water quality and prey availability will be based on assessments undertaken for other relevant sections, including hydrodynamic and sedimentary regime (**Section 5.1**), marine water and sediment quality (**Section 5.2**), marine benthic ecology (**Section 5.3**), and fish and shellfish resources (**Section 5.4**); however, potential effects are not expected to be significant. As set out above, sources suggest that harbour seal would not be present in the vicinity of the proposed development, and are rare throughout the Celtic and Irish Seas, and are therefore **scoped out** of the EIA.

5.6 Ornithology

This section considers the ornithological interest in the vicinity of the proposed development. The study area for this section includes the Waterway with potential foraging from Skomer and Skokholm birds.

5.6.1 Overview of existing environment

The Irish Sea around Pembrokeshire is used by a wide number of seabird species. As the proposed development is located within an existing port, there is the potential for both offshore and coastal species to be present.

The Sgomer, Sgogwm a Moroedd Penfro/Skomer, Skokholm and the Seas off Pembrokeshire SPA (UK9014051) is located off the extreme South-West tip of Pembrokeshire in South-West Wales approximately 22km to the West and is classified for the protection of bird species found in **Table 5.2**. The islands of Skomer and Skokholm support the largest concentration of breeding seabirds in England and Wales. They hold the largest breeding colony of Manx shearwater *Puffinus puffinus* in the world (considered to be 316,000 pairs), one of the largest colonies of lesser black-backed gull *Larus fuscus* in Britain (currently over 10,000 apparently occupied sites), as well as being important Welsh breeding sites for other seabird populations, such as razorbill *Alca torda*, black-legged kittiwake *Rissa tridactyla*, Atlantic puffin *Fratercula arctica* and common guillemot *Uria aalge*, supporting a breeding seabird assemblage of over 394,000 birds.

Although nesting colonies are likely to be sufficiently distant from the proposed development that there would be no disturbances at these locations, it is possible that some of these species (particularly those that habitually feed inshore during inclement weather, such as razorbill and guillemot) may forage within the Waterway.

Table 5.2 Summary of qualifying ornithological features in Skomer, Skokholm and the Seas off Pembrokeshire SPA

Feature	Feature Type	% of population	Conservation objective
European storm petrel <i>Hydrobates pelagicus</i>	Annex I species (breeding)	4.1% GB (1995)	Maintain or Enhance
Red-billed chough <i>Pyrrhocorax pyrrhocorax</i>	Annex I species (breeding)	1.2% GB	Maintain or Enhance
Short-eared owl <i>Asio flammeus</i>	Annex I species (breeding)	0.6% GB	Maintain or Enhance

Feature	Feature Type	% of population	Conservation objective
Manx shearwater <i>Puffinus puffinus</i>	Regularly occurring migratory species (breeding)	56.9% Global ² (count late 1990s)	Maintain or Enhance
Atlantic puffin <i>Fratercula arctica</i>	Regularly occurring migratory species (breeding)	1.1% Global (count late 1990s)	Maintain or Enhance
Lesser black-backed gull <i>Larus fuscus</i>	Regularly occurring migratory species (breeding)	16.4% of the biogeographical population (mean 1993–1997)	Maintain or Enhance
Seabird assemblage ³	Seabird assemblage of international importance – At least 20,000 seabirds in any season	N/A	Maintain or Enhance

The saltmarsh and mudflats within the Waterway support significant numbers of over-wintering wildfowl and waders. This number rises during particularly hard winters, when the mild Pembrokeshire climate results in the Haven population becoming augmented by wildfowl and waders coming in from other estuaries to the East that have become frozen. Species of special interest within the Haven include little grebe *Tachybaptus ruficollis*, shelduck *Tadorna tadorna*, wigeon *Anas penelope*, teal *Anas crecca*, dunlin *Calidris alpina* and curlew *Numenius arquata*.

Terrestrial bird species identified as part of the 2018 extended phase 1 habitat survey were found to be common and of low conservation value (see **Section 5.8**). The survey area contains suitable nesting bird habitat, such as areas of scattered and dense scrub and woodland which would be lost as part of reclamation works.

5.6.2 Potential effects during construction

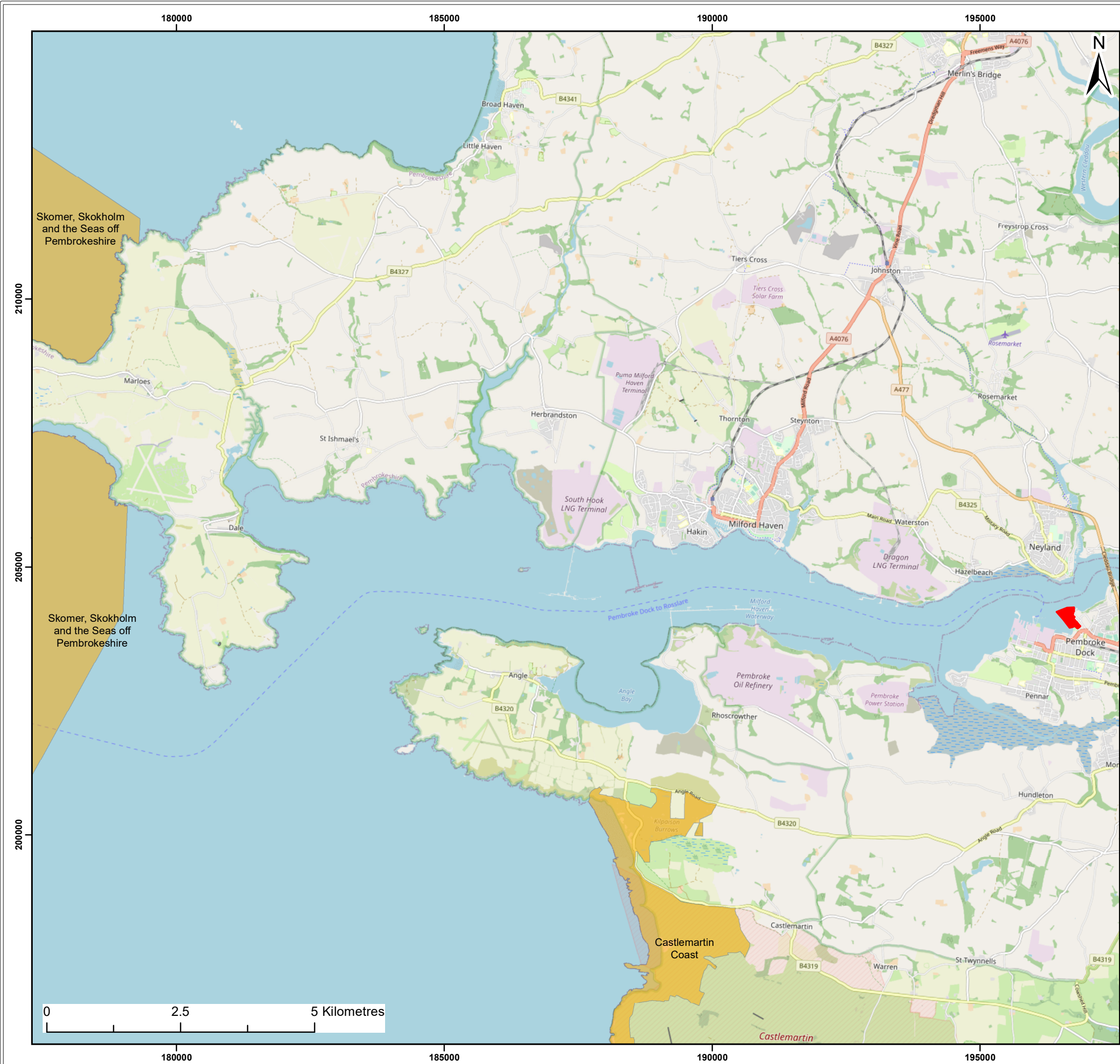
Potential effects on ornithology during the construction phase of the proposed development include:

- Displacement and disturbance of breeding birds due to construction activities;
- Noise and visual disturbance of foraging seabirds and roosting / foraging estuarine waterbirds;
- Loss of roosting, foraging and nesting habitat due to land reclamation; and,
- Changes in water quality and prey availability as a result of increased suspended sediment levels and underwater noise.

5.6.3 Potential effects during operation

Potential effects on ornithology during the operational phase of the proposed development include:

- Displacement and disturbance of breeding birds due to increased vessel traffic and lighting; and,
- Changes to coastal processes affecting benthic habitats and prey resources.



Legend:

- Red Line Boundary
- Special Protection Area (SPA)

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Client:	Project:
Milford Haven Port Authority	Criterion Quay Flow Development

Title:
Designated SPAs in the
Vicinity of the Proposed Development

Figure: 5.3 Drawing No: PC4679-RHD-ZZ-XX-DR-Z-0003

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
P01	31/07/2023	GC	SM	A3	1:70,000

Co-ordinate system: British National Grid



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5.6.4 Proposed approach to the EIA

Given that the proposed development may include 'noisy' activities during construction and operation, notably the requirement for piling and dredging, effects on ornithological receptors may extend beyond the immediate vicinity of the port. It is proposed that this topic is **scoped into** the ES.

To inform waterbird usage in the vicinity of the proposed development, wetland bird survey (WeBS) data within 2.5km of the proposed development (count sectors Llanreath to Hobbs Point (63446), Llanstadwell (63462), Westfield Pill (63461), Cosheston Pill (63448) and Pembroke River Estuary (63445)) will be procured.

Potential effects of noise on birds will be informed by the assessment proposed in **Sections 5.5** and **5.11**.

Potential effects on designated sites with ornithological features in close proximity to the proposed development (Milford Haven Waterway Site of Special Scientific Interest (SSSI), Castlemartin Coast SPA, Skomer, Skokholm and the seas off Pembrokeshire SPA and Grassholm SPA) will also be assessed in the HRA as set out in **Section 5.23**.

5.7 Commercial fisheries

This section considers the commercial fishing activity within the Waterway and the surrounding area that could be affected by the proposed construction, dredging and disposal activities and resultant sediment plume. Fish and shellfish resource is considered within **Section 5.4**; commercial and recreational navigation is considered within **Section 5.9**.

5.7.1 Overview of existing environment

Welsh fisheries are generally comprised of small (<10m) low-capacity vessels focusing on shellfish (scallops, whelks and crabs) and some demersal species (Reade et al., 2021). Milford Haven follows these trends with cockle, oyster, mussel and other bivalve mollusc layings monitored and commercially harvested⁹. Recreational and professional angling is also popular along the Waterway, with Hobbs Point and the surrounding area of Pembroke Dock providing a large variety of fish species¹⁰.

Larger commercial fisheries operating in the Irish Sea regularly utilise Milford Haven Port facilities when processing their catch for sale as discussed in **Section 5.4**. As such, Milford Haven sits within the top four most active Ports for fisheries in Wales. Detailed fisheries statistics recorded in the International Council for the Exploration of the Seas (ICES) Rectangle Area 32E4 and 32E5 identifies the landings and values of demersal, pelagic and shellfish as outlined in **Table 5.3**. Shellfish represented 94.44% of the total landed weight and 88.51% of annual value for 2021, with lobster comprising 41.97% of the combined annual value followed by whelks (26.74%), edible crabs (14.62%), sole (4.90%) and bass (3.17%) as seen in **Table 5.4**.

Table 5.3 Fisheries statistics for the ICES Rectangle Areas 32E4 and 32E5

	Value (£)	Value (%)	Landed weight (Tonnes)	Landed weight (%)
Shellfish	1,305,671.08	88.51	448.26	93.44
Demersal	169,399.66	11.48	31.46	6.56
Pelagic	15	0.01	0	0

⁹ <https://www.pembrokeshire.gov.uk/port-health/shellfish-classification>

¹⁰ <https://www.total-fishing.com/hobbs-point-pembroke-dock-wales/#:~:text=On%20the%20left%20as%20you%20drive%20in%20is,close%20in%20at%20high%20water%2C%20especially%20after%20dark.>

Table 5.4 Total and percentage value and landed weight of the six most valuable commercial species in Milford Haven

Species	Value		Landed weight	
	Total (£)	% Total	Total (tonnes)	% Total
Lobster (<i>Homarus gammarus</i>)	619,102.08	41.97	34.26	7.14
Whelk (<i>Buccinum undatum</i>)	394,486.09	26.74	297.54	62.02
Edible crab (<i>Cancer pagurus</i>)	215,719.27	14.62	68.33	14.24
Sole (<i>Solea solea</i>)	72,252.52	4.90	7.5	1.56
Bass (<i>Dicentrarchus labrax</i>)	46,819.92	3.17	6.66	1.39
Spider crab (<i>Maja brachydactyla</i> and <i>Hyas araneus</i>)	36,351.10	2.46	43.14	8.99

5.7.2 Potential effects during construction

Potential effects on commercial fisheries during the construction phase of the proposed development include:

- Potential displacement of fishing activities see **Section 5.9**;
- Smothering of fish spawning and/or nursery area as a result of the deposition of the capital dredge plume as outlined in **Section 5.4**;
- Smothering of fish feeding grounds/habitats as a result of the deposition of the capital dredge and disposal plume; and
- Smothering of shellfish of as a result of the deposition of the capital dredge and disposal plume.

5.7.3 Potential effects during operation

Potential effects on commercial fisheries during the operational phase of the proposed development include:

- Potential displacement of fishing activities;
- Smothering of shellfish beds, fish spawning and/or nursery areas as a result of the deposition of the maintenance dredge plume and subsequent disposal as outlined in **Section 5.4**;
- Smothering of fish feeding grounds/habitats as a result of the deposition of the maintenance dredge plume and subsequent disposal; and,
- Loss damage to the above as a result of changes in coastal processes.

5.7.4 Proposed approach to the EIA

The main potential effects of the proposed development on commercial fisheries relate to issues that will be investigated elsewhere within the EIA (e.g. potential effects on fish resource, commercial and recreational navigation, hydrodynamic and sediment regime, marine water and sediment quality and benthic ecology). It is not therefore envisaged that any additional detailed assessment will be required with respect to effects on commercial fisheries and it is proposed that this topic is **scoped out** of any further assessment. However, it will be important to identify the key organisations that are likely to be affected by the proposals and to undertake consultation to identify the main issues and to suggest possible mitigation.

5.8 Terrestrial ecology

The footprint of the proposed development is largely urban in character, with some trees and scrub. As such, the study area is expected to be of limited ecological importance.

5.8.1 Overview of existing environment

An Extended Phase 1 Habitat (EP1H) survey of the proposed development was conducted on the 19th of February 2018 which recorded the key habitats and summarised the information on existing protected species records and nature conservation designations within the proposed development area and up to 2km from its boundaries.

The survey area is not located within a statutory or proposed statutory site of importance for nature conservation. However, the site borders the Pembrokeshire Marine / Sir Benfro Forol SAC and Milford Haven Waterway SSSI. Given the distance of the survey area from the SAC and SSSI, it is concluded that any proposed works that are undertaken within the survey area will not directly affect these designated sites. However, indirect effects could occur. The survey area is not located within a non-statutory or proposed non-statutory site of importance for nature conservation.

The EP1H survey recorded the following habitats within the survey area:

- Semi-improved grassland with scattered scrub (comprising species such as bramble *Rubus fruticosus*, Buddleja *Buddleia spp.*, teasel *Dipsacus spp.*, and dog rose *Rosa canina*); Areas of bare ground (hard standing and areas of rubble);
- Areas of bare ground (with scattered scrub);
- Semi-natural broadleaved woodland (alder *Alnus glutinosa*); and
- Intertidal shingle/cobbles.

The location of these habitats are shown in **Plate 5.7**.

The EP1H survey also noted the potential presence of terrestrial species:

- No evidence of roosting bats was noted during the 2018 survey; however, the woodland areas within the survey area were assessed as providing potentially suitable foraging and commuting habitat for bat species. The old wall that runs along the North - East boundary of the survey area was also noted and assessed as being of low potential to support roosting bats.
- Although none were identified, there is potential for reptiles to be present within the survey area where works will be undertaken.
- The survey area contains suitable nesting bird habitat, such as areas of scattered and dense scrub and woodland. The bird species recorded within the survey area are common species and are therefore considered to be of low ecological value.
- Although no evidence of badgers (e.g. setts, faeces, etc.), water voles, or otters were noted during the 2018 survey, there is potential for these species to utilise the wider area for commuting and foraging purposes.
- No INNS were identified within the habitat survey.

5.8.2 Potential effects during construction

Potential effects on terrestrial ecology during the construction phase of the proposed development include:

- Permanent loss of terrestrial habitats as a result of construction activities;
- Noise and visual disturbance resulting from construction activities; and,
- Disruption of foraging and commuting activity as a result of construction activities.

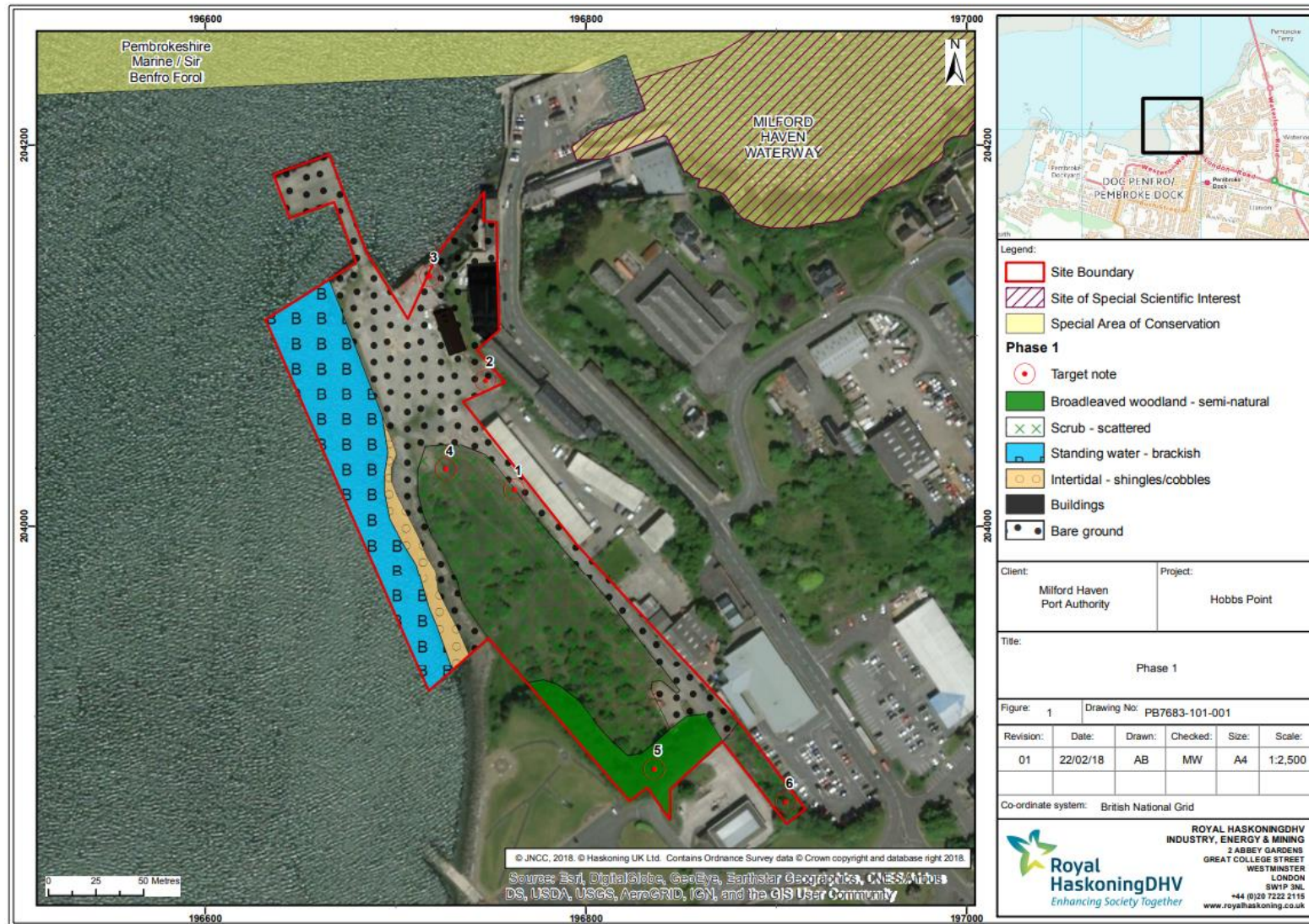


Plate 5.7 Extended phase 1 habitat survey results of Hobbs Point

5.8.3 Potential effects during operation

Potential effects on terrestrial ecology during the operational phase of the proposed development include:

- Noise and visual disturbance resulting from any operational night working which may occur; and,
- Disruption of foraging and commuting activity as a result of operational lighting and activity.

5.8.4 Proposed approach to the EIA

It is proposed that this topic is **scoped into** the ES. A second EP1H survey will be conducted to identify changes to the baseline described above so that the potential effects can be assessed and, if required, appropriate and effective mitigation measures can be established.

5.9 Commercial and recreational navigation

This section considers both commercial and recreational navigation in relation to the proposed development. The study area for this section considers the length of the Waterway including commercial fishing vessel activity.

5.9.1 Overview of existing environment

The MHPA is the Statutory Harbour Authority (SHA) for the Waterway, covering 22 miles from St Anne's Head to the tidal limit upstream. MHPA handled 1,957 commercial vessels in 2022, constituting 38.9 million tonnes of cargo with last month's peak vessel arrivals for a single day in July 2023 of 46¹¹. The port contains a Ro-Ro cargo terminal, internal and external laydown areas, dry docking (with the only explosive licence in Milford Haven) and provides tug services¹². All of which are constantly operational throughout the year and managed by MHPA, as will the proposed development.

The Pembroke Port Irish Ferry located to the West of the proposed development is a frequent commercial visitor to Pembroke Dock, with two vessels arriving/departing every day. The potential annual capacity of this ferry service is 320,000 passengers.

The Milford Fish Docks, operating out of Milford Marina is the largest fishing port in Wales, offering landing berths and platforms, as well as an ice plant and chill stores. More details on commercial fisheries can be found in **Section 5.7**.

Recreational vessels are generally moored further East within the Waterway and in sheltered Pills, away from regular commercial traffic and increased exposure in the West. Most recreational vessels within the Waterway are moored within the Neyland and Milford Marinas, 1km and 6.6km from the proposed development respectively. However further recreational vessels are situated within sheltered bends of the Waterway directly East of the proposed development and past Cleddau Bridge. In the summer months, recreational vessels (specifically pleasure and sport) can comprise more than half of the total vessel arrivals within the Waterway¹³.

5.9.2 Potential effects during construction

Potential effects on commercial and recreational navigation during the construction phase of the proposed development include:

¹¹ <https://www.mhpa.co.uk/about/port-fags/>

¹² <https://www.pembrokeport.com/services/ferries/>

¹³ <https://www.marinetraffic.com/en/ais/details/ports/744?name=MILFORD-HAVEN&country=United-Kingdom>

- Disruption to commercial navigation activities in the Waterway;
- Disruption to recreational navigation within the Waterway; and,
- Increased risk to navigational safety due to the presence of construction vessels.

5.9.3 Potential effects during operation

Potential effects on commercial and recreational navigation during the operational phase of the proposed development include:

- Disruption to commercial navigation activities in the Waterway;
- Disruption to recreational navigation within the Waterway; and
- Increased risk to navigational safety due to the presence of operational vessels.

5.9.4 Proposed approach to the EIA

It is proposed that this topic is **scoped into** the EIA. The assessment will be undertaken in close consultation with the MHPA.

5.10 Traffic and transport

This section considers the potential effects from the proposed development's construction and operational traffic on traffic and transport receptors.

5.10.1 Overview of existing environment

The following section provides a review of the existing environment in relation to a proposed traffic and transport study area.

The traffic and transport study area encompasses the administration areas of PCC as the local highway authority and the Welsh Government who are responsible for the major A roads (known as trunk roads). The trunk roads within the traffic and transport study area are managed by the South Wales Trunk Road Agent (SWTRA) on behalf of the Welsh Government.

Characterisation of the traffic and transport study area has been undertaken utilising the following sources set out in **Table 5.5**.

Table 5.5 Existing datasets

Data source	Data contents
Department for Transport Road Traffic Statistics - https://roadtraffic.dft.gov.uk	Annual average 2022 traffic counts for all main roads
Google Maps, Bing Maps, etc.	Online mapping
Sustrans – https://www.sustrans.org.uk/nationalcycle-network	Details of national cycle routes
Crashmap - https://www.crashmap.co.uk	Details of collisions (road traffic accidents) on the public highway occurring within the latest available five year period (2017 to 2021)

5.10.1.1 Highway Network

Criterion Way

The proposed development would be accessed via a new access road from Criterion Way (in the vicinity of the existing access to the ASDA petrol filling station and the Western Way carpark). In addition to providing

access to the ASDA petrol filling station and the Western Way carpark, Criterion Way also provides access to a number of other industrial units. The location of the proposed development in relation to Criterion Way is shown in **Figure 1.1**.

Criterion Way in the location of the proposed access is approximately 6.0m wide providing space for two heavy goods vehicles (HGVs) to pass. A footway is also provided along both sides of the road, the road is subject to a 30mph speed limit and street lighting is provided. No collisions have been recorded along Criterion Way or at the junction with Western Way in the latest five-year period.

Criterion Way adjoins Western Way via a priority junction. At this stage, the supply chain for material deliveries and employee origins for the proposed development cannot be determined, however, it could be reasonably assumed that HGVs would either travel West on Western Way towards Pembroke Dock Gate 1 or East on Western Way (via London Road) towards the A477 which provides links with the wider UK road network. These links therefore form the extents of the proposed traffic and transport study area.

Western Way

Western Way is a main road serving the existing Pembroke Port and carries in the region of 6,472 vehicles per day, of which approximately 298 are HGVs. Between Criterion Way and Pembroke Dock Gate 1 the road is approximately 6.5m wide providing space for two HGVs to pass and is subject to a 30mph speed limit.

A shared use (pedestrians and cycles) footway is provided on the Southern side of Western Way from the junction with Front Street, at Front Street a signal controlled Toucan crossing is provided allowing cyclists and pedestrians to cross Western Way. Cyclists are then able to continue along the quieter Front Street towards Pembroke Port. This cycle route forms part of the National Cycle Network Route 4 (NCNR4).

Footway provision for pedestrians is provided along both sides of Western Way and as well as the signal controlled crossing to the North of Front Street there is also an uncontrolled crossing refuge island opposite Gravel Lane.

Three collisions resulting in 'slight' injuries have been recorded along Western Way in the latest five year period, one opposite Gravel Lane and two at the junction with Pembroke Dock Gate 1.

Meyrick Owen Way and London Road

To the East of Criterion Way vehicles wishing to access the A477 would travel via Meyrick Owen Way and London Road. London Road carries in the region of 10,780 vehicles per day of which 357 are HGVs.

Both Meyrick Owen Way and London Road are approximately 6.0m wide providing space for two HGVs to pass and are subject to a 30mph speed limit.

A section of shared use footway linking to Pembroke Port as part of NCNR4 is provided alongside these roads. Footway provision for pedestrians is generally provided along both sides of the roads and linked by a Toucan crossing opposite the entrance to the Tesco Superstore.

Four collisions resulting in 'slight' injuries have been recorded along London Road in the latest five year period, three between Charles Thomas Avenue and King William Street and one at the access to the Tesco Superstore.

A477

London Road adjoins the A477 at a roundabout junction. The A477 provides a route North across the Milford Haven and East towards the A40 and wider UK road network. The A477 carries in the region of 20,458 vehicles per day of which 820 are HGVs.

5.10.1.2 Rail and Water

To the West of the traffic and transport study area, Western Way provides access to Pembroke Dock Gate 1. This existing port facility could potentially be utilised for the import of construction and operational cargoes to the proposed development by road (via Western Way and Criterion Way).

Whilst Pembroke Dock railway station is also located to the South of London Road, this facility would not be considered suitable for the delivery of construction and operational cargoes for the proposed development (the station is a passenger station and there are no existing siding or areas alongside the rail to load/offload cargoes). Pembroke Dock railway station would however potentially provide opportunities for workers to travel to the proposed development on existing passenger services.

No other suitable ports or rail freight facilities have been identified within the traffic and transport study area.

5.10.2 Potential effects during construction and operation

The construction and operational phases of the proposed development would result in a requirement for the import/export of materials and plant and also generate new employee trips. However, at this stage, no information is available for forecast traffic demand or mode share.

To consider a worst case, it would be assumed that the majority of material and plant movements would be by road, albeit, potentially originating from Pembroke Port.

Table 5.6 sets out the potential construction and operational traffic effects and the likely user groups that would be affected.

Table 5.6 Potential traffic construction and operational effects

Potential Impact	Potential impact of the proposed developments traffic	Affected user groups
Capacity (Driver Delay)	Increases in construction and operational traffic potentially leading to delays at junctions.	Commuters, visitors, and business users.
Road Safety	The proposed developments construction and operational traffic impacting upon sites with a history of collisions and / or the introduction of new risks associated with the formation of a new access to the proposed development.	Commuters, visitors, and business users.
Hazardous/large loads	Increases in large vehicle movements during the construction and operation of the proposed development leading to delays to traffic as well as impacting upon the suitability of the delivery routes to accommodate abnormal load deliveries. No hazardous loads are anticipated.	Commuters, visitors, and business users.
Severance, Amenity and Fear and Intimidation	Increases in construction and operational traffic potentially impacting upon non-motorised users of the public highway (including users of footways and cycle routes).	Local communities and tourist in the area.

5.10.3 Proposed approach to the EIA

It is proposed that this topic is **scoped into** the ES. The assessment will be undertaken in line with the principal guidelines for the assessment of traffic and movement impacts associated with new developments,

the 'Environmental Assessment of Traffic and Movement' (EATM) published by the Institute of Environmental Management and Assessment in June 2023 (IEMA, 2023).

EATM outlines that the guidelines are designed to provide advice on how to undertake an EIA for traffic and movement of people associated with non-highway/road projects. EATM however recognises that there are also useful references within Design Manual for Roads and Bridges (DMRB) that can be used cautiously to augment the assessment methodologies (e.g. DMRB LA 112 'Population and Human Health').

EATM suggests the following rules to define the extent and scale of the assessment required:

- Rule 1: Include highway links where traffic flows will increase by more than 30% (or where the number of HGVs is predicted to increase by more than 30%).
- Rule 2: Include links of high sensitivity where traffic flows have increased by 10% or more.

Changes in traffic flows below the EATM rules are assumed to result in negligible environmental impacts and would not be assessed further. EATM however notes that the Rule 1 and Rule 2 'criteria' process may not be appropriate for some impacts, and it is generally accepted by regulators and practitioners that it should not be applied to assessments of air quality, noise, road safety and driver delay.

The Rule 1 and 2 criteria will therefore be utilised to dictate the scale of the effect assessment for severance, amenity and fear and intimidation impacts.

It is proposed that once construction and operational traffic demand is known, PCC highways will be engaged to discuss the scope of the traffic and transport assessment, it is proposed this will include discussions with regard to:

- The design of the access to the proposed development;
- The requirement for any junction capacity modelling;
- The scope of/requirement for an abnormal load assessment; and
- Proposed application documents/planning conditions, e.g. Transport Assessment, Construction Traffic Management Plan/Travel Plan, etc.

The traffic and transport data will also be utilised to inform the assessment of traffic related noise and air quality impacts (detailed further in **Section 5.11** and **5.12** respectively).

5.11 Noise and vibration

The noise and vibration chapter of the EIA will consider the potential for the proposed development to affect human noise and vibration sensitive receptors (NVSRs), including man-made structures. Noise and vibration effects on other sensitive receptors will be assessed in the following chapters as relevant: Marine Mammals (**Section 5.5**), Ornithology (**Section 5.6**) and Terrestrial Ecology (**Section 5.8**).

5.11.1 Overview of existing environment

The proposed development is in a rural coastal area, with a mixture of residential properties (on Pier Road) and commercial premises (on Pier Road and Criterion Way) bordering the site to the East. To the South there are commercial premises (including a health centre and library) and car parks. To the South-West there are residential properties on the South side of Front Street. Milford Haven is to the North and West. The operational Pembroke Port is approximately 310m to the West of the site.

Baseline sound levels at the NVSRs on Front Street are likely to be dominated by sound emissions from Pembroke Port, such as cargo handling, berthing and refuelling of ships and tug mooring and boat services. At other NVSRs, it is likely that contributors to the baseline sound climate will be local road traffic, nearby commercial premises (where relevant) and sounds typical to a rural coastal area, such as waves, animals and birdcall.

5.11.2 Potential effects during construction

5.11.2.1 Construction noise

The construction phase of the proposed development may emit noise with the potential to result in disturbance-related effects at NVSRs. Noise effects are anticipated due to the following construction activities:

- Demolition of existing structures;
- Installation of piles;
- Infill of hardstanding areas;
- Installation of rock armour;
- Dredging, including blasting (if required); and
- Vessels arriving with construction materials.

Construction noise effects will be temporary and will vary both spatially and temporally in nature across the Construction Noise Study Area (defined as within 300m from the proposed development – see **Section 5.11.4.1**). The magnitude of the noise effects is likely to depend on the ambient sound levels at the NVSRs, their proximity to the proposed development construction activities and the duration and intensity of the works.

Where the proposed development includes proposed construction activities with the potential to emit high noise levels at NVSRs inside the Construction Noise Study Area, these effects are **scoped into** the EIA.

Blasting has the potential to emit air overpressure (airborne pressure waves produced by explosive detonation, containing energy over a wide range of frequencies including inaudible and audible). If blasting is required, the impacts of air overpressure will be **scoped into** the EIA.

5.11.2.2 Construction vibration

Potential construction vibration effects include disturbance and structural damage. These will be assessed for all activities which are a potentially significant source of vibration, such as piling and blasting (if required) and vibratory rollers / compactors, where proposed within 100m of NVSRs.

As with construction noise, vibration effects will be temporary and will vary both spatially and temporally. The magnitude of the vibration impacts is likely to depend on the proximity of NVSRs to the proposed development's construction activities and the duration and intensity of the works.

Where the Project includes proposed construction activities with the potential to emit high vibration levels at NVSRs inside the Construction Vibration Study Area, these impacts are **scoped into** the EIA.

Blasting has the potential to emit ground-borne vibration; hence, if blasting is required, the effects of ground-borne vibration will be **scoped into** the EIA.

5.11.2.3 Construction traffic noise

The proposed development would temporarily increase traffic flows on roads used by the construction traffic, which could increase road traffic noise levels at NVSRs. The magnitude of the effect will mainly depend on the current traffic flows on these roads and the distance to NVSRs. Construction phase traffic effects are **scoped into** the EIA for the traffic and transport chapter (**Section 5.10**); hence, construction traffic noise effects are also **scoped into** the EIA.

5.11.2.4 Construction traffic vibration

According to the DMRB LA111 Noise and Vibration, “a maintained road surface will be free of irregularities as part of project design and under general maintenance, so operational vibration will not have the potential to lead to significant adverse effects.” On this basis, vibration impacts due to changes in road traffic flows on existing roads are **scoped out** of the EIA.

5.11.3 Potential effects during operation

5.11.3.1 Operational noise

During operation the following activities are likely to be the main sources of noise:

- Vessels moored at the berth;
- Loading and unloading components between vessel and the laydown area; and
- Generators (if required).

Operational noise effects would be permanent but would only be present whilst the proposed development is used for loading and unloading. Operational noise effects have been **scoped into** the EIA.

5.11.3.2 Operational traffic noise

Road traffic associated with the proposed development operation could also increase road traffic noise levels at NVSRs. As with construction traffic, the magnitude of the effects will mainly depend on the current traffic flows on these roads and the distance to NVSRs. Operation phase traffic effects are **scoped into** the EIA for the traffic and transport chapter; hence, operational traffic noise effects are also **scoped into** the EIA.

5.11.3.3 Operational vibration

The operation of the proposed development is not anticipated to emit significant levels of vibration; hence, operational vibration is **scoped out** of the EIA.

5.11.4 Proposed approach to the EIA

The noise and vibration assessment will be undertaken in accordance with following standards and guidance (or the latest published version thereof):

- BS 61672-1:2013 Electroacoustics. Sound level meters. Specifications;
- BS 4142:2014+A1:2019 – Methods for Rating and Assessing Industrial and Commercial Sound;
- BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise;
- BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 2: Vibration;
- BS 6472-2:2008 Guide to evaluation of human exposure to vibration in buildings – Part 2: Blast-induced vibration;
- BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings;

- BS 7445-1:2003 Description and measurement of environmental noise. Guide to quantities and procedures;
- BS 7445-2:1991 Description and measurement of environmental noise. Guide to the acquisition of data pertinent to land use;
- Calculation of Road Traffic Noise (CRTN) (Department for Transport, 1988);
- DMRB, LA111 Noise and Vibration, Revision 2 (2020);
- World Health Organisation (WHO) (1999) Guidelines for Community Noise;
- WHO (2009) Night Noise Guidelines for Europe; and
- WHO (2018) Environmental Noise Guidelines for the European Region.

5.11.4.1 Study areas

The study areas will extend from the proposed development to the closest NVSRs within the following distances:

- Construction Noise Study Area – in accordance with the guidance in the DMRB LA111 Noise and Vibration Rev 2 (2020), construction noise effects would only be assessed at NVSRs which are no further than 300m from the proposed development;
- Construction Vibration Study Area – in accordance with the DMRB LA111, construction vibration effects would only be assessed at NVSRs which are no further than 100m from the proposed development;
- Blasting Vibration Study Area – if required, blasting vibration effects would only be assessed at NVSRs which are no further than 1km from the proposed development;
- Operation Noise Study Area – there is no applicable guidance on an appropriate study area for the assessment of operational noise effects. This depends on the sound emission levels from the proposed development operation, which are not known at this stage. A sufficient Operation Noise Study Area to capture all NVSRs with the potential to experience significant effects will be determined and consultation undertaken with relevant stakeholders once plant sound emissions data are available; and
- Road Traffic Noise Study Area – defined in relation to the assessment of effects due to changes in road traffic noise levels. In accordance with the DMRB, it incorporates the closest NVSRs (which are no more than 50m away) to the roads on which the proposed development traffic is anticipated to result in noise level changes of at least 1 A-weighted decibel (dB(A)). These road links will be identified once the required traffic data are available.

5.11.4.2 Baseline data collection

The approach to data gathering will be discussed and agreed with PCC prior to commencement of the assessment. This will include the proposed survey locations and methodology. The existing environment will be characterised using the data sources set out in **Table 5.7**.

Table 5.7 Desk-Based Data Sources for Onshore Noise and Vibration

Data Source	Data Contents
Aerial Photography	Location of noise sources and NVSRs in the vicinity
Local Authority Local Plans	Local policy relevant to noise and vibration and any areas designated for development which could introduce new NVSRs
Environment Agency LiDAR Data (Open Licence)	Topographical data
Ordnance Survey Mapping	Ordnance Survey data, including locations of NVSRs
Department for Environment, Food and Rural Affairs (Defra) Strategic noise mapping	Strategic mapping of baseline road traffic and railway noise levels

Data Source	Data Contents
Local Authority Planning Portal	Baseline noise level data gathered as part of noise assessments to support other planning applications

Baseline noise surveys are proposed at locations representative of the potentially most affected noise sensitive receptors. Surveys will be conducted in accordance with current guidance, including British Standard (BS) 7445:1991 'Description and measurement of environmental noise Part 2: Guide to the acquisition of data pertinent to land use' and BS 4142:2014+A1:2019 'Methods for rating and assessing industrial and commercial sound'.

The criteria adopted to assess construction vibration impacts are independent of vibration levels; therefore, a baseline vibration survey is not proposed to inform the construction vibration impact assessment.

5.11.4.3 Construction noise and vibration impacts

Onshore construction noise and vibration impacts will be assessed using the guidance contained in BS 5228:2009+A1:2014 '*Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise' and Part 2: Vibration*'. This guidance defines the accepted prediction methods and source data for various construction plant and activities.

If blasting is required, air overpressure and vibration impacts will be assessed using the guidance in BS 6472-2:2008 'Guide to evaluation of human exposure to vibration in buildings – Part 2: Blast-induced vibration'.

A detailed consideration of air overpressure is not considered appropriate for the proposed development. Section 5.3 of BS 6472-2:2008 states that the accurate prediction of air overpressure is 'almost impossible' and goes on to state that: '...control of air overpressure should always be by its minimisation at source through appropriate blast design'. Welsh Assembly Government publication 'Minerals Technical Advice Note (Wales) 1: Aggregates' (2004) states that: 'Because air overpressure is transmitted through the atmosphere, meteorological conditions such as wind speed and direction, cloud cover and humidity will all affect the intensity of the impact. In view of this unpredictability, planning conditions to control air overpressure are unlikely to be enforceable'. Hence, it is considered unnecessary to carry out air overpressure predictions or define any assessment criteria in this respect.

5.11.4.4 Construction road traffic noise impacts

Construction traffic noise impacts will be calculated using the Basic Noise Level (BNL) methodology detailed in the Calculation of Road Traffic Noise (CRTN) (Department for Transport, 1988). The assessment will compare the calculated BNLs with and without the construction traffic. Any changes in day or night-time noise BNLs due to the Project will be assessed using short term impact magnitude criteria taken from the DMRB.

5.11.4.5 Operational noise impacts

Operational noise impacts will be assessed using BS 4142:2014+A1:2019. This is the accepted UK standard for rating and assessing the impact of sound of an industrial and / or commercial nature. The methods use outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a residential dwelling upon which sound is incident.

5.11.4.6 Operational road traffic noise impacts

The same approach proposed to be used to predict and assess construction road traffic noise impacts will be used to identify potential operational road traffic noise impacts.

5.12 Air quality

This section considers the potential air quality effects from the proposed development's construction and operational on sensitive air quality receptors. The study area considered by this section includes the location of the proposed development, which is situated towards the Eastern end of the Port of Milford Haven, and a 2km buffer, radiating from the proposed development.

5.12.1 Overview of existing environment

Existing sources of air pollution in the vicinity of the proposed development include road transport, and existing vessel movements associated with existing operations in the Waterway. The main pollutants of concern from these emission sources are likely to be those relating to fuel combustion, such as oxides of nitrogen (NO_x), sulphur dioxide (SO₂), carbon monoxide (CO) and particulate matter (including PM_{2.5} and PM₁₀).

The proposed development is not situated within, or adjacent to, an existing statutory designated Air Quality Management Area (AQMA). The Pembroke AQMA (PCC AQMA No. 2 2012) is located ~3 km South-East of the proposed development, along the Main Street in Pembroke. This AQMA has been declared since 2012 for exceedances of the nitrogen dioxide (NO₂) annual mean Air Quality Standard (AQS) Objective of 40 µg.m⁻³. Proposed development-generated traffic will not pass through the AQMA, as the A477 will be the main transport route used by road traffic vehicles during the construction and/or operational phases of the proposed development.

Nitrogen dioxide (NO₂) is monitored across Pembrokeshire as part of the Welsh NO₂ Diffusion Tube Monitoring Network. There are no current NO₂ monitoring sites within the study area. Continuous monitoring of NO₂, ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}) and SO₂ is performed by the Welsh Automatic Urban Pollution Monitoring Network (WAUN) at one rural background site (ID: PEMB) in Pembrokeshire, located at Narberth, approximately 19.5 km North-East of the proposed development and outside the study area.

5.12.1.1 Sensitive receptor locations

In the vicinity of the proposed development, there are existing human and ecological receptors. These locations are considered as receptor locations in air quality assessments, as outlined in the Defra publication 'Local Air Quality Management Technical Guidance (LAQM TG(22))'¹⁴. Details on these receptor locations are provided in **Table 5.8**.

Table 5.8 Examples where the AQS Objectives should apply (human exposure)

Averaging period	Objectives should apply at:	Objectives should generally not apply at:
Annual mean	All locations where members of the public might be regularly exposed. Building façades of residential properties, schools, hospitals, care homes, etc.	Building façades of offices or other places of work where members of the public do not have regular access. Hotels, unless people live there as their permanent residence. Gardens of residential properties. Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
24-hour mean and 8-hour mean	All locations where the annual mean Objective would apply, together with hotels. Gardens of residential properties*.	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be shorter than either the 24- or 8-hour relevant mean.

¹⁴ Defra (2022). Local Air Quality Management Technical Guidance (TG22). August 2022

Averaging period	Objectives should apply at:	Objectives should generally not apply at:
1-hour mean	All locations where the annual mean and: 24- and 8-hour mean Objectives apply. Kerbside sites (for example, pavements of busy shopping streets). Those parts of car parks, bus stations and railway stations, etc. which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more. Any outdoor locations where members of the public might reasonably expect to spend one hour or longer.	Kerbside sites where the public would not be expected to have regular access.
15 minute mean	All locations where members of the public might reasonably be exposed for a period of 15 minutes or longer.	-
<i>*Such locations should represent parts of the garden where relevant public exposure to pollutants is likely, for example where there is seating or play areas. It is unlikely that relevant public exposure to pollutants would occur at the extremities of the garden boundary, or in front gardens, although local judgement should always be applied.</i>		

Closest existing residential dwellings to the proposed development are located as follows:

- Along Pier Road, adjacent to the proposed development to the East,
- Along Tremeyrick Street, approximately 140 m to the South-East,
- Along Stockwell and Richmond Road, approximately 175 m and 220 m to the East, respectively, and,
- Along Front Street, approximately 180 m to the South.

Furthermore, high sensitivity (residential) receptors are situated within 20m of the main transport route expected to be utilised by the development-generated traffic.

The closest statutory designated ecological sites to the proposed development include:

- The Pembrokeshire Marine / Sir Benfro Forol SAC.
- The Milford Haven Waterway SSSI.

The proposed development is adjacent to the Pembrokeshire Marine/Sir Benfro Forol SAC and the Milford Haven Waterway SSSI is approximately 40m East of the site boundary. Additionally, the shipping route passes through the West Wales Marine/Gorllewin Cymru Forol SAC, and the Skomer, Skokholm, and the Seas off Pembrokeshire SPA. Several ancient woodlands are located adjacent to the A477 (North and East), which is likely to be the main transport route used by road traffic vehicles during the construction and/or operational phases of the proposed development. It is important to note that, these designated sites, with the exception of the West Wales Marine/Gorllewin Cymru Forol SAC, contain habitats sensitive to pollutants associated with fuel combustion.

5.12.2 Potential effects during construction

The construction phase of the proposed development may result in the following emission sources that could affect local air quality conditions:

- Dust emissions generated by excavation, construction and earthwork activities associated with the construction of the proposed development, have the potential to cause nuisance to, and soiling of, sensitive receptors.
- Generation of dust from the movement of HGVs and other construction plant on unpaved roads within the site area.
- Emissions of exhaust pollutants, from construction traffic on the local road network, dredging and vessel activities, have the potential to adversely impact upon local air quality at sensitive receptors.
- Emissions of NO₂, PM₁₀ and PM_{2.5} from non-road mobile machinery (NRMM) operating within the proposed development site boundary, have the potential to adversely impact local air quality at sensitive receptors in close proximity to the works.
- Potential odour, fugitive particulate emissions and vessel exhaust emissions, associated with dredging of marine sediment which may be used as part of the reclamation and disposal of material may impact upon sensitive receptors.

5.12.3 Potential effects during operation

The following emission sources have the potential to affect local air quality conditions during the operational phase of the proposed development:

- Emissions of exhaust pollutants associated with vessels delivering the offshore renewable energy components.
- Emissions of exhaust pollutants associated with operational phase road traffic movements on the local road network.
- Emissions of exhaust pollutants associated with potential generators that may be required to provide power to the large crane loading/unloading WTG parts and integrating the component parts with the floating foundations.

5.12.4 Proposed approach to the EIA

It is proposed that this topic is **scoped into** the ES. As part of the EIA, an air quality assessment will be undertaken. Baseline air quality conditions will be established using the most recently available LAQM reports published by the PCC. Additionally, the assessment will consider the air pollution background concentration maps published by Defra¹⁵. Air quality monitoring is therefore explicitly excluded and will not be considered as part of the assessment process.

5.12.4.1 Construction phase

A risk based approach will be used to assess the effects of construction dust generated by the proposed development on air quality. The assessment will be carried out in accordance with guidance provided by the Institute of Air Quality Management (IAQM)¹⁶. Suitable mitigation measures will be defined based on the risk of dust impacts.

An initial screening assessment using the screening criteria provided in IAQM and Environmental Protection UK (EPUK) 2017 guidance¹⁷ will be carried out to determine if a detailed assessment of construction road traffic emissions is required (an increase in HGVs annual average daily traffic (AADT) by 25 within or adjacent to an AQMA and by 100 elsewhere).

A qualitative assessment of pollutant emissions associated with the movement and use of NRMM and/or vessels during the construction phase will be undertaken.

¹⁵ *Background Mapping data for local authorities - 2018 - Defra, UK*

¹⁶ *IAQM (2018). Guidance on the assessment of dust from demolition and construction, Version 1.1*

¹⁷ *IAQM and EPUK (2017). Land-Use Planning & Development Control: Planning For Air Quality. January 2017.*

If required, a qualitative assessment of odour emissions associated with dredging works during the construction phase will be carried out. No dredging or permanent construction works will be undertaken within the Sir Benfro Forol/Pembrokeshire Marine SAC boundary.

5.12.4.2 Operational phase

The majority of offshore renewable energy components would be delivered to the proposed development by sea, with cabling, smaller locally fabricated steelwork components and plant/equipment required in the turbine integration process potentially delivered by road.

An initial screening assessment will be conducted to determine locations where detailed assessment of road traffic emissions is required. The assessment will use the screening criteria provided in IAQM & EPUK guidance¹⁷ to determine where detailed assessment of road traffic emissions is required for operational phase development-generated traffic movements.

If the screening criteria are exceeded, a detailed road traffic emissions assessment may be required. Dispersion modelling software will be used to predict increases in NO₂, PM₁₀, PM_{2.5} and ammonia (NH₃) concentrations as a result of the proposed development at identified human receptor locations, and, where relevant, at designated ecological receptors within 200 m of the affected road network. The technical approach to the air quality assessment will be in accordance with Defra LAQM Technical Guidance (TG22)¹⁴.

As the proposed development is anticipated to increase the number of vessel movements to/and from the refurbished jetty and associated berths, potentially leading to emissions (i.e. NO_x, PM₁₀, PM_{2.5}, CO and SO₂) from these vessels during hotelling, manoeuvring and in transit. This may result in an increase in ambient air pollutant concentrations in the vicinity of the proposed development.

If vessel movements are not anticipated to be significant, it is likely that a qualitative assessment could be undertaken. If a detailed assessment is required, it will consider emissions from the vessels at relevant human and ecological receptor locations in the vicinity of the proposed development.

A substantial power supply will be required at the berth during the operation, potentially involving generators if a mains supply is not practicable. It is intended that this will be used for the commissioning of the turbines, powering the large crane (if this can be practically achieved) and for shore supplies to vessels, where suitably equipped. The use of generators may lead to emissions of NO_x, particulates and/or CO (depending on the generator). If power requirements are not anticipated to be significant, it is likely that a qualitative assessment could be undertaken. If a detailed assessment is required, emissions from the potential generators will be considered at relevant human and ecological receptor locations in the vicinity of the proposed development.

5.13 Archaeology and cultural heritage

This section of the Scoping Report considers the potential effects of the proposed development associated with archaeology and cultural heritage (onshore and offshore). This relates specifically to the construction and operation of the proposed development.

The archaeology and cultural heritage assessment is likely to interact with the following topics:

- **Section 5.1-** Hydrodynamic and Sedimentary Regime
- **Section 5.10 -** Traffic and Transport
- **Section 5.11-** Noise and Vibration

- **Section 5.14-** Landscape/Seascape
- **Section 5.15-** Coastal / tidal defence and flood risk

5.13.1 Overview of existing environment

5.13.1.1 Offshore/Intertidal

Within the vicinity of the proposed development, there are no maritime designated heritage assets (Protected Wrecks). However, there are two wrecks, one recorded by Coflein (90544) and a UKHO record of a live wreck (96912) within the RLB of the proposed development (**Figure 5.4**). There are no details regarding origin of the UKHO wreck, while the Coflein wreck has been identified as a post-medieval wreck identified on aerial photography. Further wreck remains are within the wider dock channel including several records associated with a Short Sunderland IT9044 aircraft, approximately 600m North-West of the proposed development.

5.13.1.2 Onshore

The onshore section of the proposed development primarily consists of land that was reclaimed post-1953 as indicated by the 1953 Ordnance Survey (OS) map. The pier was constructed sometime between 1869 and 1909 as indicated by the corresponding OS maps, while the modern pier was built post 1973.

Within the proposed development there are no designated heritage assets (scheduled monuments (SM) or listed buildings (LB)), however, there are eight LBs adjacent to the Eastern edge of the proposed development. In addition, there are three SMs and multiple LBs within 1km of the proposed development (**Figure 5.4**).

There is one non-designated Historic Environment Record (HER) which refers to the post-medieval pier constructed between 1869 and 1909.

5.13.2 Potential effects during construction

5.13.2.1 Offshore/Intertidal

Direct effects may occur if archaeological material is present within the footprint of the proposed development (e.g., piling, land reclamation, dredging, anchor footprint of construction vessels).

Indirect effects to heritage assets may occur if dredging leads to localised effects on sedimentary processes.

5.13.2.2 Onshore

Direct effects may occur if archaeological material is present within the footprint of the proposed development where activities associated with the Laydown Area. However, as this area comprises reclaimed land, no impacts to archaeological material are anticipated.

There would also be potential for temporary effects on the setting of heritage assets and on the historic seascape character from the presence of plant associated with onshore construction activities.

5.13.3 Potential effects during operation

5.13.3.1 Offshore/Intertidal

Indirect effects on heritage assets may occur if the physical presence of the installed infrastructure affects the hydrodynamic or sedimentary regime within the Waterway. This includes the potential for increased scour around foundations.

There would also be potential for effects to the setting of heritage assets a from the presence of the installed infrastructure and ongoing maintenance activities.

5.13.3.2 Onshore

Activities which could have an ongoing effect on onshore archaeology and cultural heritage are considered to include the presence of any permanent above ground infrastructure such as the crane. This has the potential to result in a change to the setting of heritage assets, which could affect heritage significance.

The main potential effects during operation are anticipated to be:

- 'Permanent' change to the setting of designated heritage assets, which could affect their heritage significance.
- 'Permanent' change to the setting of non-designated heritage assets, which could affect their heritage significance.

5.13.4 Proposed approach to the EIA

5.13.4.1 Approach to Assessment and Data Gathering

It is proposed that this topic is **scoped into** the ES. The data sources that will be accessed to characterise the existing historic environment with respect to archaeology and cultural heritage are set out in **Table 5.9**.

Table 5.9 Data sources to be used for the assessment on archaeology and cultural heritage

Data source	Data Contents
UKHO	Records of wrecks and obstructions data including 'dead' and salvaged wrecks that are no longer charted as navigational hazards.
Cadw	The Welsh Government's Historic Environment Service regarding Welsh designated sites: including (where present) World Heritage Sites, Scheduled Monuments, Listed Buildings, Protected Wrecks, Parks and Gardens, Conservation Areas and Historic Landscape Areas.
Royal Commission for Ancient and Historic Monuments Wales (RCAHMW)	The National Monuments Record of Wales (NMRW) regarding onshore and offshore sites.
HER Data (Dyfed Archaeology Trust)	Contains data on all recorded non-designated heritage assets. The data includes archaeological, historic landscape and historic building information. Information on previous events (archaeological surveys and investigations) will also be obtained.
British Geological Survey (BGS)	Historic borehole logs and the wider geological background for the region.
Existing archaeological studies and published sources	Background information on Milford Haven and Pembroke Dock.
The Archaeology Data Service (ADS).	Regional, Local and Period Archaeological Studies and Journals.
A Research Framework for the Archaeology of Wales (IFA Wales, first published in 2008 – present: on-going).	

In addition to the data presented in **Table 5.9** the surveys presented in **Table 5.10** will be undertaken and will inform the assessment.

Table 5.10 Surveys proposed to inform the assessment on archaeology and cultural heritage

Survey
Geophysical (multibeam echosounder, side scan sonar, gradiometer/magnetometer & sub bottom profiling) survey

Survey
Geotechnical (borehole) survey
Walkover Surveys: Targeted areas of the proposed application boundary (Onshore Scoping Area) will be visited to identify current land use and any potential unrecorded non-designated heritage assets, as well as ground truthing of certain previously recorded assets.
Setting Assessment Site Visit: Heritage assets identified as potentially being affected by the projects (through a change in their setting and associated heritage significance) will be visited to inform the setting assessment.

Design assumptions used to inform assessments will be clearly identified in the project design envelope (PDE), considering worst case parameters specifically for archaeology and cultural heritage receptors.

An Archaeological Desk-Based Assessment (ADBA) will be undertaken to establish the baseline for both known and potential heritage assets within the defined Development Area based upon the desk-based sources listed in **Table 5.9**. This will include a review of heritage assets which will require a setting assessment.

Initial consideration of the setting of heritage assets and any potential for effect upon their associated heritage significance will be undertaken as part of the setting assessment. This will be informed by site visits. A full consideration of, and conclusions regarding, setting impacts will be made in the final ES, following finalisation of the proposed development design.

Where appropriate, the ADBA and assessment of marine geophysical data will be used to identify a strategy for mitigation including the avoidance of identified marine heritage assets through the application of Archaeological Exclusion Zones (AEZs) where appropriate.

Following the scoping stage, technical-level consultation with the relevant Historic Environment Consultees will begin. This will help to further identify and agree the primary methodologies and required surveys, present any initial findings and ensure potential historic environment issues are identified, discussed and considered during the EIA process.

5.14 Landscape/seascape

This section considers the existing landscape and seascape character in relation to the proposed development. The study area for this section considers the length of the Waterway.

5.14.1 Overview of existing environment

The Waterway supports historic port and seaside towns with residential properties and recreational/leisure facilities from Milford Haven to Haverfordwest. The Waterway has a long history of heavy industrial and port use which has come to characterise the landscape, as described by the Dyfed Archaeological Trust¹⁸

Views along the Waterway depend on the viewpoint, however the proposed development will likely be visible from Pembroke Dock, Hobbs Point, Neyland, Pembroke Ferry, Llanstadwell and parts of Burton. The relatively small scale (in relation to the wider use of the Waterway) of infrastructure and construction related vessel traffic create an overall small-scale character, only forming a dominant presence during the operational phase due to wind turbine components and large plant (crane). The subsequent change in landscape would not represent a change in character for the area, but a shift from fossil fuel related infrastructure to that of renewable energy.

¹⁸ <https://dyfedarchaeology.org.uk/HLC/milford/milfordhavenmap.htm>

Seascape assessments undertaken in 2013 identified a number of Seascape Character Areas (SCA) of which three are relevant to the study area (along the length of the Waterway), though the whole of the proposed scheme will fall within SCA 32. These are detailed in **Table 5.11** and their location are shown on **Plate 5.8**.

Table 5.11 SCA descriptions as part of the Waterway (Source: Pembrokeshire Coast National Park Authority, 2013c, 2013a, 2013b) (Source: Pembrokeshire Coast National Park Authority, 2013c, 2013a, 2013b)

SCA	Description
Outer Milford Haven (SCA 31)	The area forms the outer part of Milford Haven which is a large sheltered drowned ria. The mouth of the Sound has an exposed open sea aspect with strong tides and currents contrasting with the sheltered bay of Dale, small beach at West Angle Bay, and creeks such as Sandyhaven Pill. There is nature conservation interest especially around Dale and coastal forts relating to the Haven's historic strategic value. The sea area is busy with ferry and commercial shipping, with the refinery and other energy and port infrastructure in background views and the area is popular for recreation and sailing, especially around Dale
Inner Milford Haven (SCA 32)	This deep-water ria acts as a commercial and ferry shipping channel and sheltered harbour, serving oil refinery, gas and oil storage, power station and related industrial and urban settlement with tall structures rising up above the surrounding slopes. This contrasts with indented bays and silted inlets with nature conservation interest and recreational uses, and farmed hinterland.
Daugleddau (SCA 33)	The reaches of the Daugleddau and Western and Eastern Cleddau East of Pembroke Dock comprise a unique area of upper tidal river estuary, with branched side channels, often with mud exposed and remnant quays with associated small scale commercial enterprises. The surrounding land is rolling rural lowland which is sometimes steeper at water's edge, with parkland, mixed woodland to the water's edge and mixed agriculture. This is a peaceful, enclosed and intimate landscape with channelled vistas. The County Town of Haverfordwest touches the Northern tip of this SCA

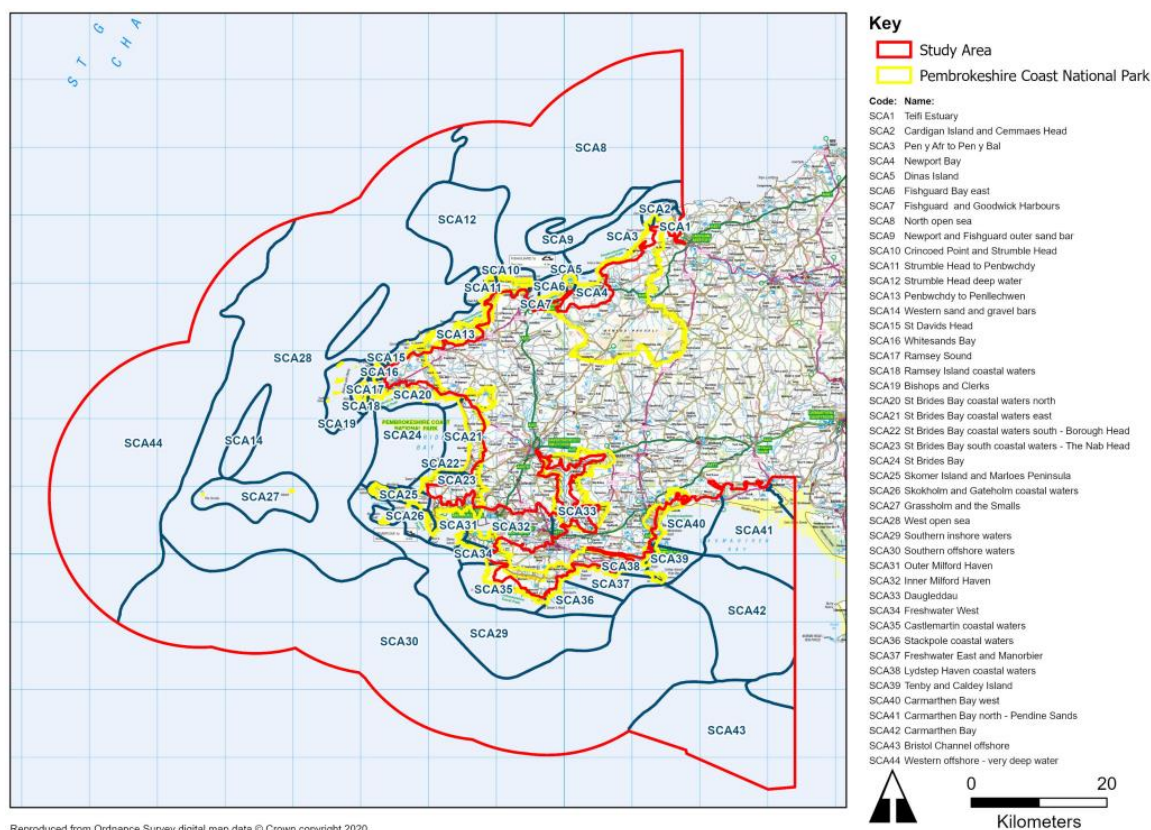


Plate 5.8 Seascape Character Areas¹⁹

¹⁹ <https://www.pembrokeshirecoast.wales/wp-content/uploads/2020/08/Figure-15-Seascape-Character-Areas.pdf>

5.14.2 Potential effects during construction

Potential effects on landscape/seascape character during the construction phase of the proposed development are limited to the temporary presence of construction machinery and vessels. Any effects would therefore be reversible and as such it is proposed that construction effects are **scoped out** of the assessment.

5.14.3 Potential effects during operation

Potential effects on landscape/seascape character during the operational phase of the proposed development include:

- Changes to visual amenity due to the increased presence of vessels, wind turbine components and associated crane/other plant; and,
- New landside infrastructure in place of terrestrial habitat described in **Section 5.8**.

5.14.4 Proposed approach to the EIA

It is proposed that an assessment of the operational presence of the proposed development on visual receptors is **scoped into** the ES. Construction effects are proposed to be **scoped out**.

The proposed development is not considered to have the potential to significantly affect the overall landscape/seascape character of the area, given that it re-develops existing port facilities in an area of historic industrial and port use. As such, a full Landscape and Visual Impact Assessment (LVIA) is not considered necessary to inform the assessment. The proposed development will however result in the provision of commercial activity in a new location and as such it is proposed that a visual assessment is undertaken to understand the proposed developments potential effect on the area's visual setting during operation.

5.15 Coastal/tidal defence and flood risk

This section considers the potential impacts of the construction and operation of the proposed development, including the new quay wall, berth and jetties, on the existing defences and flood risk, both within the proposed development area as well as the surrounding area.

It is noted that the Welsh Government is currently consulting on revisions to the guidance set out in TAN 15: Development and Flood Risk. However, until such time as this consultation process is complete, the Welsh Government has indicated that the adoption of the revised TAN 15 has been suspended and the preceding version, published in 2004, remains valid. As such, this section of the Scoping Report has been considered within the context of the current TAN 15 and its accompanying mapping.

5.15.1 Overview of existing environment

The proposed development area would be located partially within the Waterway and partially on the existing adjacent land.

A review of the NRW datasets with regards to the various sources of flood risk has confirmed that the primary source of flooding to the proposed development area appears to be a coastal / tidal flood risk associated with the Waterway.

The areas around the periphery of the proposed development comprising the existing jetty and inter-tidal areas are shown, on the NRW Development Advice Map, to be located in Flood Zone C2, which is classified

as being an area “without significant flood defence infrastructure”. Given the nature of the proposed development this appears to relate to land that is located seaward, or in front, of any existing coastal defences. Guidance within TAN 15 (Welsh Assembly Government, 2004) indicates that this description of the Flood Zone is:

“Used to indicate that only less vulnerable development should be considered subject to application of justification test, including acceptability of consequences. Emergency services and highly vulnerable development should not be considered.”

Additionally, guidance in TAN 15: Development and Flood Risk (Welsh Assembly Government, 2004) indicates that:

“There are uses which are considered to be exceptions to the general rule, and have not been allocated a development category, because they are required in a fluvial, tidal or coastal location by virtue of their nature. These include boatyards, marinas, essential works required at mooring basins, and development associated with canals. They will not be subject to the first part of the justification test but will be subject to the acceptability of consequences part of the test.”

Some parts of the proposed development area, namely the area of bare ground to the North of Criterion Way, are shown to be located in Flood Zone A, which is classified as being an area “considered to be at little or no risk of fluvial or tidal / coastal flooding”. Development in this Flood Zone does not usually require the application of the justification test and TAN 15 Development and Flood Risk (Welsh Assembly Government, 2004) indicates there is no need to consider flood risk further in these areas.

In addition to coastal / tidal flood risk a review of the NRW dataset, specifically the National Flood Hazard Maps, has been undertaken in relation to the surface water flood risk to the proposed development area. A review of this dataset indicates that the proposed development area is not shown to be at risk of flooding from surface water or small watercourses. Therefore, it is concluded that there is no requirement to consider this source of flooding further.

As noted above, the formal implementation of the revised TAN 15 and Flood Map for Planning has been suspended and therefore the Flood Map for Planning has no official status until the Welsh Government implements the revised TAN 15. However, NRW notes that it represents the best available information on flood risk and that they will continue to use this to inform our planning advice. As such a review of the Flood Map for Planning has also been undertaken.

This confirms that the primary source of flood risk to the proposed development area is a coastal / tidal flood risk. In addition, the mapping indicates that the proposed development area is not within an area that has experienced historic flooding and does not appear to be within an area classified as a **“Defended Zone”** which is based on any existing defences providing a minimum 1 in 200-year present day standard of protection against flooding from the sea.

Furthermore, the proposed development is not located within an area that is shown to be at risk of flooding from reservoirs.

The proposed development area is located within the study area covered by the Lavernock Point to St Ann’s Head SMP2 (Halcrow, 2012) and within Policy Unit 19.6. For all epochs i.e. short term (2005 – 2025), medium term (2025 – 2055) and long term (2055 – 2105) the SMP2 policy for this unit is **“Hold the line”**.

5.15.2 Potential effects during construction

The construction phase of the proposed development is not anticipated to have any effects on coastal defence and flood risk in the study area.

5.15.3 Potential effects during operation

Potential effects on coastal defences and flood risk during the operational phase of the proposed development include:

- Changes to the level of flood risk protection afforded to the land to the rear of the existing defence line; and
- Change to the surface water flood risk within the proposed development area and surrounding area, as a result of changes in the drainage network and an increase in built footprint / impermeable area.

However, it has been confirmed that the design of the new berth will contribute to wider flood defence work in the area. It is also proposed that the works will envelop the existing dilapidated river walls in the vicinity of the proposed development, restoring long term stability to them.

5.15.4 Proposed approach to the EIA

The findings of the hydrodynamic and sedimentary regime assessment (**Section 5.1**) will inform consideration as to whether the proposed development would have an effect on flood risk or coastal defence, and the susceptibility of the proposed development to climate change.

As noted above, it is proposed that the design of the new berth will contribute to wider flood defence work in the area. It is also proposed that the works will envelop the existing dilapidated river walls in the vicinity of the proposed development, restoring long term stability to them. On this basis, it is concluded that coastal / tidal defences and flood risk can be **scoped out** of the EIA.

Given the proposed development is partially located in Flood Zone C2, it will be necessary to produce a FCA, in line with guidance provided within TAN 15: Development and Flood Risk, to support the marine licence and planning applications.

Furthermore, the FCA will be required to demonstrate the beneficial impact of the proposed development, considering flood risk both to it and on the surrounding area.

As such, it is proposed that the results of the hydrodynamic modelling, identified in **Section 5.15.1**, will be used to inform the assessment and conclusions of the FCA, which will be produced as a standalone document and a dedicated chapter within the ES is not required.

5.16 Tourism and recreation

This section considers the tourism and recreational interests of Pembrokeshire and Pembroke Dock in particular, in relation to the proposed development. Details of recreational navigation and socio-economics are covered in **Sections 5.9** and **5.18** respectively.

The study area considered for this section includes the coastline at Hobbs Point. As well as the wider tourism effects to Pembroke Dock, Pembrokeshire and Wales.

5.16.1 Overview of existing environment

Tourism in Pembroke Dock is an area of growth led by Pembroke Dock Town Team and Pembroke Dock Tourism and Heritage Group. These groups research, provide information for, and support the production of business plans for social enterprise projects to encourage locals and visitors alike to spend more time and money in Pembroke Dock. Specific tourism data for Pembroke Dock is not available, however a report on the economic impact of tourism in Pembrokeshire conducted in 2019 identified an annual tourism value of £589,945,000 from 7,000,000 tourists (Destination Research, 2019). This supported the equivalent of 9,244 fulltime jobs and 12,437 actual tourism related jobs representing 21% of employment in Pembrokeshire.

Tourism associated with Pembroke Dock includes the long Royal Navy and dock heritage, castle gardens and golf club, family activities and the Pembrokeshire Coastal Path.

The top five visitor attractions in Pembroke Dock (as listed by TripAdvisor LLC, 2023) are:

1. Pembrokeshire Coastal Path.
2. West Wales Maritime Heritage Society.
3. Pembroke Dock Heritage Centre.
4. Upton Castle Gardens.
5. Hobbs Point.

Ferries arrive and depart the Pembroke Dock ferry port as frequently as twice a day bringing tourists to and from Rosslare, the Republic of Ireland. Domestic sea passenger numbers saw an increase of 26% to 37.4 million in 2022 compared to 2021²⁰. This follows a broadly stable trend in domestic sea passengers from 2012 to 2019. A sharp decrease between 2019 and 2020 was recorded, due to the coronavirus pandemic however passenger numbers between 2021 and 2022 have increased. However, domestic sea passenger numbers remain 11% below 2019 figures⁵. The recovering domestic sea travel industry should see more people travelling to/through port towns and cities like Pembroke Dock, boosting tourism value.

Recreational angling is popular along the Waterway with Hobbs Point noted as a great place to catch a large variety of marine species from as big bass to conger eels²¹. Further supported by Haven Boat Charters that operate local fishing trips from Hobbs Point. The Pembrokeshire Coastal Path runs directly past Criterion Quay, along the bay where the proposed development is situated and past Martello Tower²². The coastal path then heads South away from the coast and through Pembroke Dock towards Pembroke.

Recreational sailing is popular within the Waterway with marina facilities available at Milford Haven and Neyland. The latter is located directly North of the proposed development across the Waterway. Sailing boats also moor along the bay between Hobbs Point and Cleddau Bridge as outlined in **Section 5.9**.

5.16.2 Potential effects during construction

Potential effects on tourism and recreation during the construction phase of the proposed development include:

- Disruption of recreational sailing and tourism activity in and around the port; and
- Construction workforce reducing the availability of tourist accommodation (could also be a benefit as an increase in income (see **Section 5.18**).

²⁰ <https://www.gov.uk/government/statistics/sea-passenger-statistics-all-routes-2022/sea-passenger-statistics-overview-2022>

²¹ <https://www.total-fishing.com/hobbs-point-pembroke-dock-wales/>

²² <https://www.visitpembrokeshire.com/explore-pembrokeshire/coast-path>

5.16.3 Potential effects during operation

Potential effects on tourism and recreation during the operational phase of the proposed development include:

- Increased vessel activity disrupting recreational sailing and tourism activity in and around Pembroke Dock; and,
- Potential effects of the proposed development on the cultural setting and visual amenity of Pembroke Dock and the surrounding environments.

5.16.4 Proposed approach to the EIA

The main potential effects of the proposed development on tourism and recreation relate to issues that will be investigated elsewhere within the EIA (e.g. potential impacts on socio-economics, cultural heritage, noise and air quality, and on commercial and recreational navigation). It is not therefore envisaged that any additional detailed assessment will be required with respect to effects on tourism and recreation and it is proposed that this topic is **scoped out** of any further assessment. However, it will be important to identify the key organisations that are likely to be affected by the proposals and to undertake consultation to identify the main issues and to suggest possible mitigation.

5.17 Existing infrastructure

This section considers the existing infrastructure in the vicinity of the proposed development. Details of navigation and socio-economics are covered in **Sections 5.9**, and **5.18**, respectively.

5.17.1 Overview of existing environment

The following existing infrastructure is located in close proximity to the proposed development:

- A slipway directly to the South of the reclamation area,
- A dry dockyard associated with the Maritime Museum directly to the South of the reclamation area,
- Hobbs Point Jetty is located immediately to the East of the proposed development, and
- Pembroke Docks, including the ferry terminal, are located to the West of the proposed development.

No pipelines or sub-sea cabling are located within the footprint of the proposed development. The nearest pipeline is located to the West of Pembroke Port.

5.17.2 Potential effects during construction

Potential effects on existing infrastructure during the construction phase of the proposed development include:

- Disruption to the use of existing infrastructure.

5.17.3 Potential effects during operation

Potential effects on existing infrastructure during the operational phase of the proposed development include:

- Disruption to the use of existing infrastructure.

5.17.4 Proposed approach to the EIA

The existing quay and river wall infrastructure at Hobbs Point will be upgraded to support the safe long-term use of the proposed development. Existing infrastructure and utilities at Hobbs Point will be identified and avoided as part of the detailed design phase following the best practice by the chosen contractor. The potential effect to other users will be investigated elsewhere within the EIA (e.g. potential impacts on socio-economics, commercial and recreational navigation, commercial fisheries, traffic and transport). It is not therefore envisaged that any additional detailed assessment will be required with respect to effects on existing infrastructure and it is proposed that this topic is **scoped out** of any further assessment.

5.18 Socio-economics

This section considers the current socio-economics at Pembroke Dock, Pembrokeshire.

5.18.1 Overview of existing environment

Pembroke Dock is the third largest town in Pembrokeshire after Haverfordwest and Milford Haven with a population of 9,663 as of 2021²³. The population of Pembrokeshire grew 0.8% between 2011 and 2021 constituting 1,000,000 people, below the Welsh average of 1.4%⁴. Pembrokeshire has an aging population as seen by a decrease in children under 15 (5.5%) and people aged 15 – 64 years (4.9%) with a 20.6% increase in people aged over 65²³.

Pembroke Dock has a rich history in shipbuilding, with the Royal Navy Dockyard being the town's principal industry for more than a century, growing a population of 11,000 residents and offering a valuable tourism attraction. In the 1960s and 70s, the oil industry became a major source of employment in Pembrokeshire, with the Esso, Texaco, Gulf and Amoco refineries and the BP jetty.

Irish ferries now operate from Pembroke Dock with services between Rosslare, Southern Ireland. There has been growth in zero-carbon marine energy technologies in the area, which would also include the proposed development from which new job opportunities will arise.

5.18.2 Potential effects during construction

Potential effects on the socio-economics of the area during the construction phase of the proposed development are considered to include:

- Direct and indirect benefits to local employment and business opportunities through the introduction of contract staff to the area and use of the local supply chain. Local opportunities will be maximised where identified;
- Beneficial effects on the local economy and community services through increased local population through contractor migration to the area using local businesses (e.g. hotels, restaurants);
- Disturbance to local tourism through the presence of the contractor workforce; and,
- An influx of contractors to the area could result in an increase in house or rental price depending on the availability of homes and relocation preferences. This could benefit existing homeowners but have negative implications for first time buyers/renters in the area.

5.18.3 Potential effects during operation

Potential effects on the socio-economics of the area during the operation phase of the proposed development are:

²³ <https://census.gov.uk/>

- Significant beneficial impacts on the socio-economics of Pembroke Dock, Pembrokeshire and Wales as a whole through the generation of jobs/careers within the marine renewable and port industries; and,
- Influx of new workers and their families contributing to the local economy through the use of local services.

5.18.4 Proposed approach to the EIA

It is proposed that this topic is **scoped into** the ES. A desk-based assessment will be undertaken on the local social, employment and public sector services of the area to determine the potential effects as a result of the proposed development. The potential socio-economic effects will be assessed against the Local Planning Policies.

5.19 Waste

This section considers the current waste disposal options and waste production within Pembroke Dock.

5.19.1 Overview of existing environment

Specific detail on MHPA's waste management processes is not available, however MHPA does conform to all legal, environmental and health requirements of UK, Welsh and European law. In early 2020, MHPA acquired an environmental permit for a waste storage and transfer station at Pembroke Dock. MHPA plans to temporarily store non-hazardous baled waste and loose wood waste on its yard before it is shipped offsite²⁴ for use as fuel in offsite energy from waste facilities. Another waste site is located on the same dockyard and is operated by PCC. PCC has applied to amend the environmental permit to expand the area of land on which waste can be stored, and to increase the types of waste that can be accepted in line with a new recycling regime.

The closest licenced disposal sites for marine dredged materials in the vicinity of the proposed development are:

- Neyland (off Milford Haven), site: LU190, distance: ~0.8km; and,
- Milford Haven Two, site: LU168, distance: ~26km.

5.19.2 Potential effects during construction

Potential effects on waste during the construction phase of the proposed development are:

- Dredging of marine sediments; and,
- Generation of typical construction site related waste (e.g. plastics, food, hazardous, demolition waste, portal waste).

5.19.3 Potential effects during operation

Potential effects on waste during the operational phase of the proposed development are:

- Increased port related and vessel waste.

²⁴ <https://naturalresourceswales.gov.uk/about-us/news-blog-and-statements/news/milford-haven-port-authority-waste-permit-granted/?lang=en>

5.19.4 Proposed approach to the EIA

Material will be reused on site as much as possible, with landfill waste kept as low as possible. Where possible, dredged arisings will be used as reclamation fill. In the instance that dredged arisings are unsuitable for use in reclamation, there may be the requirement for the disposal of dredged material, this may be either onshore or offshore at the licenced disposal sites listed above, as is permitted. A disposal options study will be undertaken to identify the most appropriate route of disposal for any arisings that cannot be reused in the reclamations.

During the operational phase, any increase in waste will be managed according to MHPAs existing procedures.

Taking the above into account, it is not envisaged that additional detailed assessment will be required with respect to effects of waste, and it is proposed that this topic is **scoped out** of any further assessment.

5.20 Climate change

This section considers climate change, specifically the effects of to the proposed development to regional and national carbon emissions. The main climate resilience matters related to the proposed development are related to coastal defence and flood risk, as discussed in **Section 5.15**.

5.20.1 Overview of existing environment

The ambitious targets set by the UK and Welsh Governments for renewable energy production (outlined in **Section 1.1**) can only be met through the sustainable development of supply chain port infrastructure. Functionally, the proposed development is an essential aspect of the FLOW supply chain, providing an area for transshipment storage and assembly in the strategic aid of Irish Sea developments. As such, carbon released from activities related to the proposed development, including embodied emissions in materials, construction works and operation of the proposed development would be offset by the renewable energy produced via the operation of FLOW in the Irish Sea.

The main effects of climate change on the proposed development are the increased risks to flood and coastal defence as a result of climate change as discussed and assessed in **Section 5.15**. Therefore, a Climate Change Resilience assessment for other climate parameters is **scoped out** of the assessment.

5.20.2 Potential effects during construction

Potential effects on climate change during the construction phase of the proposed development are:

- Carbon released through traffic movements to and from the proposed development;
- Carbon release through the use of construction plant and equipment;
- Carbon release through the use of construction vessels and dredgers; and,
- Loss of carbon sequestration and storage as a result of habitat loss.

5.20.3 Potential effects during operation

Potential impacts to climate change during the operational phase of the proposed development are:

- Carbon released through operation of the proposed development, such as sources from vessels, plant, staff and the crane; and,
- Aiding in the construction and operation of offshore wind offsets the carbon emissions associated with the proposed development.

5.20.4 Proposed approach to the EIA

The proposed development and similar schemes are essential for the UK to reach its ambitious offshore wind and net-zero targets outlined above. Therefore, the proposed development and the carbon it will emit through the construction and operational phases are likely to be offset by the production of green energy from associated windfarms.

The coastal defence and flood risks associated with climate change in relation to the proposed development are assessed in **Section 5.15**. It is therefore envisaged that no additional detailed assessment will be required with respect to effects on climate change and it is proposed that this topic is **scoped out** of any further assessment.

5.21 Human health

This section considers the human health within Pembroke Dock and surrounding areas in relation to the proposed development. Details on noise and vibration, air quality, landscape/seascape, coastal defence and flood risk, tourism and recreation and socio-economics are covered in **Sections 5.11, 5.12, 5.14, 5.15, 5.16 and 5.18** respectively.

5.21.1 Overview of existing environment at Pembroke Dock

Human health is considered within the relevant sections of this report including noise and vibration, air quality, landscape/seascape, coastal defence and flood risk, tourism and recreation and socio-economics. As such, see the relevant sections for details on the existing environment in relation to human health.

5.21.2 Potential effects during construction

Potential effects on human health during the construction phase of the proposed development are:

- Noise disturbance associated with construction activities;
- Pollution from dust and other air emissions;
- The production of hazardous waste and substances;
- Loss of natural habitats; and
- Disruption to local road network, reducing access to services and amenities.

5.21.3 Potential effects during operation

Potential effects on human health during the operational phase of the proposed development are:

- Noise disturbance from vessels, vehicles and operation of the proposed development;
- Visual impact of heavy plant and wind turbine components;
- Positive socio-economic impacts associated with the proposed development; and,
- Changes to the level of flood risk protection afforded to the land to the rear of the existing defence line.

5.21.4 Proposed approach to the EIA

Considering the assessments made by the relevant sections of this report, it is envisaged that any additional detailed assessment will not be required with respect to effects on human health and it is proposed that this topic is **scoped out** of any further assessment.

In particular, the results of the FCA discussed in **Section 5.15** will outline the potential effects on human health in relation to flood risk. Further assessments of air quality, noise and vibration, tourism and recreation and landscape/seascape are also outlined in the relevant sections, and will assess the potential effects of the proposed development on human receptors. In addition, it is expected that the proposed development will have a positive effect on the socio-economics of Pembroke Dock and the surrounding areas, enhancing the local area and human health in the process.

5.22 Major accidents and disasters

This section considers the likelihood of major accidents and disasters in relation to the proposed development.

5.22.1 Overview of existing environment

The proposed development is situated along the coast of the Waterway, with access available by road and sea. Given this coastal setting, the main disaster risks are likely to be linked with coastal flooding.

Milford Haven has been subject to major accidents throughout its long history. The largest and most recent of which include the collapse of Cleddau Bridge midway through construction in 1970 and the Sea Empress oil spill of 1996. It's not considered likely that similar events would occur in the future, particularly involving the proposed development as no crude oil transportation or civilian infrastructure is included.

5.22.2 Proposed approach to the EIA

As discussed above, the main disaster risk is likely to be linked with coastal flooding. As set out in **Section 5.15** an FCA will be undertaken to address the potential flood risks associated with the proposed development and therefore no additional assessment of disaster risk is proposed. It is envisaged that any additional detailed assessment will not be required with respect to effects on major accidents and disasters and it is proposed that this topic is **scoped out** of any further assessment.

5.23 Information for Habitats Regulations Assessment

The Habitats Directive (92/43/EEC) protects habitats and species of European nature conservation importance. Together with the Birds Directive (2009/147/EC), the Habitats Directive establishes a network of internationally important sites designated for their ecological status; Natura 2000. SACs and Sites of Community Importance (SCIs) are designated under the Habitats Directive and promote the protection of flora, fauna and habitats. SPAs are designated under the Birds Directive in order to protect rare, vulnerable and migratory birds.

Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations') defines the procedure for the assessment of the implications of plans or projects on protected sites. The assessment is referred to as Habitats Regulations Assessment (HRA).

Changes to the Habitats Regulations have been implemented by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. The key changes are the creation of a National Site Network (NSN) (which no longer forms part of the EU Natura 2000 network) and the establishment of management objectives for the NSN. The network objectives are to:

- Maintain or, where appropriate, restore habitats and species listed in Annexes I and II of the Habitats Directive to a favourable conservation status; and,
- Contribute to ensuring, in their area of distribution, the survival and reproduction of wild birds and securing compliance with the overarching aims of the Wild Birds Directive.

Ramsar sites do not form part of the national site network but remain protected in the same way as SACs and SPAs.

In accordance with Section 63 of the 2017 Regulations (as amended), appropriate assessment is required for any plan or project, not connected with the management of a site within the national site network, which is likely to have a significant effect on the site, either alone or in-combination with other plans and projects.

5.23.1 Proposed approach to the EIA

The following sites are in close proximity to the proposed development (**Figure 5.2** and **Figure 5.3**):

- Sir Benfro Forol/Pembrokeshire Marine SAC (adjacent to the proposed development).
- Milford Haven Waterway SSSI (~170m from the proposed development).

The following sites are located at a distance from the proposed development and have the potential to be indirectly affected:

- Castlemartin Coast SPA (~7km from the proposed development).
- Gorllewin Cymru Forol/West Wales Marine SAC (~11km from the proposed development).
- Afonydd Cleddau/Cleddau Rivers SAC (~18km upstream from the proposed development).
- Sgomer, Sgogwm a Moroedd Penfro/Skomer, Skokholm and the seas off Pembrokeshire SPA (~20km from the proposed development).
- Grassholm SPA (~36km from the proposed development).
- Dynesfeydd Môr Hafren/Bristol Channel Approaches SAC (~40km from the proposed development).

A HRA will therefore be undertaken to assess the potential LSE of the proposed development, both alone and in-combination with other plans or projects, on the NSN sites listed above. The information for HRA will be presented as a chapter in the EIA.

5.24 Water Framework Directive Compliance Assessment

The WFD is transposed into Welsh law by means of the Water Environment (WFD) (England and Wales) Regulations 2017, as amended²⁵. These Regulations provide for the implementation of the WFD, from designation of all surface waters (rivers, lakes, transitional (estuarine) and coastal waters and ground waters, including those that are man-made) as water bodies to the requirement for achievement of good ecological status or good ecological potential by 2027. The consideration of the proposed scheme under the WFD, therefore, applies to all water bodies that have the potential to be impacted.

Classification schemes for both estuarine and coastal waters from MHWS out to one nautical mile (nm) have been developed in response to the WFD. The schemes classify the status of Transitional and Coastal Waters (TraC) using information on the ecological, chemical and hydromorphological quality of a body of water. For TraC water bodies that have been designated as heavily modified water bodies (HMWB), NRW classify according to their ecological potential rather than status.

The WFD applies to all water bodies, including those that are man-made. The consideration of the proposed development under the WFD will, therefore, need to be applied to all water bodies that have the potential to

²⁵ Amended by the Floods and Water (Amendment etc.) (EU Exit) Regulations 2019

be impacted by the proposed development. This applies to those water bodies within which direct effects would take place, including dredging, construction and land reclamation activities.

5.24.1 Proposed approach to the EIA

To appropriately assess the impacts of the proposed development on WFD waterbodies, a WFD Compliance Assessment to identify any non-temporary effects on the Milford Haven Inner Transitional water body (GB531006114100) will be undertaken as part of the EIA. If non-temporary effects are identified, indirect effects on down- or upstream water bodies would be assessed.

5.25 Cumulative effects

5.25.1 Proposed approach to the EIA

There is no legislation that specifically applies to cumulative effects assessment (CEA) or that outlines how such assessment should be undertaken; however, the EIA Directive (85/337/EEC) and associated EIA Regulations require consideration of direct impacts and any indirect, secondary and cumulative effects of a project. Government guidance states that: "cumulative effects could refer to the combined effects of different development activities within the vicinity" (Department of Environment, 1999).

A CEA assesses the potential effects of a proposed development with other past, present (current) and reasonably foreseeable (proposed) plans and projects. With respect to 'past' projects, a useful ground rule in CEA is that the environmental effects of schemes that have been completed should be included within the environmental baseline; as such, these impacts are already taken into account in the EIA process for a development. Consequently, generally completed projects can be excluded from the scope of CEA. However, the environmental effects of recently completed projects may not be fully manifested and, therefore, the potential effects of such projects should be taken into account.

In line with established practice, this assessment will be limited to plans and projects where there is sufficient information to allow consideration of the potential for a cumulative effect to arise. In the absence of publicly available information (usually in the form of consent applications) or a defined 'scheme', it is not possible to undertake a proper consideration of cumulative effects (i.e. if proposals are speculative or where assumptions regarding potential impacts may be contentious).

All topics considered as part of the EIA will initially be considered as part of the CEA, with a view to remove topics from the scope where no pathway is predicted. The CEA will be undertaken using the same methodology as used for the EIA. The approach to and scope of the CEA will be agreed through consultation with PCC and NRW.

6 SUMMARY OF SCOPING

Table 6.1 summarises the outcome of the scoping assessments presented in **Section 5**.

Table 6.1 Summary of the scoping assessment

Topic	Scoping outcome	Comment
Hydrodynamic and sediment regime	Scoped in	A 3D tidal hydrodynamic model used to drive a sediment plume dispersion model will be used to assess the sediment plume and change to coastal processes expected during construction and operation.
Marine water and sediment quality	Scoped in	To further inform the marine water and sediment quality baseline a marine geotechnical and geo-environmental investigation will be undertaken to characterise the physical and chemical nature of the sediments affected by the construction and operational phases of proposed development.
Marine benthic ecology	Scoped in	To determine the effects of construction and operation of the proposed development on marine benthic ecology, a benthic ecology survey will be undertaken to determine the intertidal and subtidal biotopes within the footprint and indirectly affected areas.
Fish and shellfish resource	Scoped in	The hydrodynamic modelling outlined in Section 5.1 will inform the potential effects of sediment plumes on fish in the vicinity of the proposed development and smothering of nursery areas during construction and operation. Further assessment utilising underwater noise modelling will establish the magnitude of noise level increases and the effects on fish and shellfish resource.
Marine mammals	Scoped in (construction only)	Site specific underwater noise modelling will be undertaken for impact piling (including soft-start and ramp-up piling procedures), drill piling, dredging, percussive rock breaking/rock blasting and rock placement, to determine the potential for both auditory injury and disturbance to marine mammal species (excluding harbour seals) during construction only. Harbour seals are scoped out of the assessment as they are not present in the vicinity of the proposed development.
Ornithology	Scoped in	Wetland bird survey data within 2.5km of the proposed development will be procured to inform waterbird usage in the vicinity of the proposed development. Noise modelling outlined in Sections 5.5 and 5.11 will also inform the effects of construction and operation of the proposed development on ornithological features
Commercial fisheries	Scoped out	The hydrodynamic and noise modelling mentioned in fish and shellfish resource (Section 5.4) along with the navigational study outlined in commercial and recreational navigation (Section 5.9) will consider potential effects on commercial fisheries.
Terrestrial ecology	Scoped in	A second extended phase 1 habitat survey will be conducted to assess the potential effects of construction and operation on terrestrial ecology and, if required, establish appropriate and effective mitigation measures
Commercial and recreational navigation	Scoped in	A navigational study will inform the effects of increased vessel traffic as a result of construction and operation on commercial and recreational navigation
Traffic and transport	Scoped in	A traffic assessment will identify the expected increase in traffic around the proposed development as a result of delivery of materials and people to site during construction and the potential increased road use associated with operation
Noise and vibration	Scoped in	Noise and vibration assessments will inform the effects of construction and operational noise on local receptors with data gathering to be discussed and agreed with PCC prior to commencement.
Air quality	Scoped in	An air quality assessment will be conducted to establish the baseline air quality conditions with monitoring explicitly excluded from the assessment process.

Topic	Scoping outcome	Comment
Archaeology and cultural heritage	Scoped in	The local archaeological and cultural heritage will be characterised by geophysical, geotechnical, walkover and setting assessment site visit surveys to inform the assessment.
Landscape/seascape	Scoped in (operation only)	No effects to the landscape/seascape character/value are expected during the construction phase as the proposed development sits within an active port setting and construction activities are temporary. A visual assessment will be undertaken to understand the proposed developments potential effect on the area's visual setting during operation.
Coastal/tidal defence and flood risk	Scoped out	The proposed development will enhance wider flood defence work and restore long-term stability to sections of near by dilapidated seawall. The production of a standalone FCA means coastal/tidal defence and flood risk will not require further assessment in the ES.
Tourism and recreation	Scoped out	No further assessment for tourism and recreation are required as effects to socio-economic, cultural heritage, noise and air quality, and on commercial and recreational navigation and tourism and recreation are discussed further in their sections.
Existing infrastructure	Scoped out	The existing infrastructure will only be enhanced by the proposed development and will therefore not require further assessment.
Socio-economics	Scoped in	Further desk-based assessment is proposed to demonstrate the socio-economic benefits of the scheme.
Waste	Scoped out	Construction related waste will be processed following best practice guidelines and operational waste will be managed according to MHPAs existing policies, therefore requiring no further assessment. If required a disposal options study will be undertaken to identify the best option for the dredged material.
Climate change	Scoped out	Associated effects on coastal/tidal defence and flood risk will be assessed in the FCA. No further climate change related effects are expected.
Human health	Scoped out	Effects on human health are outlined within the noise and vibration, coastal/tidal defence and flood risk, tourism and recreation and socio-economics sections, therefore further assessment is not required.
Major accidents and disasters	Scoped out	All major accidents and disasters are assessed within coastal/tidal defence and flood risk FCA, therefore no further assessment is required.

7 REFERENCES

Carey, D. A., Hayn, M., Germano, J. D., Little, D. I., & Bullimore, B. (2015). Marine habitat mapping of the Milford Haven Waterway, Wales, UK: Comparison of facies mapping and EUNIS classification for monitoring sediment habitats in an industrialized estuary. *Journal of Sea Research*, 100, 99–119. <https://doi.org/10.1016/j.seares.2014.09.012>

Carter, M.I., Boehme, L., Duck, C.D., Grecian, J., Hastie, G.D., McConnell, B.J., Miller, D.L., Morris, C., Moss, S., Thompson, D. and Thompson, P., 2020. Habitat-based predictions of at-sea distribution for grey and harbour seals in the British Isles: Report to BEIS, OESEA-16-76, OESEA-17-78.

Carter MID, Boehme L, Cronin MA, Duck CD, Grecian WJ, Hastie GD, Jessopp M, Matthiopoulos J, McConnell BJ, Miller DL, Morris CD, Moss SEW, Thompson D, Thompson PM and Russell DJF (2022) Sympatric Seals, Satellite Tracking and Protected Areas: Habitat-Based Distribution Estimates for Conservation and Management. *Front. Mar. Sci.* 9:875869.

Coull, K. A., Johnstone, R., & Rogers, S. I. (1998). *Fishery Sensitivity Maps in British Waters-Introduction.*

Destination Research. (2019). *Economic Impact of Tourism Visit Pembrokeshire - 2019.*

Evans, P.G.H. and Waggitt, J.J. 2023. Modelled Distribution and Abundance of Cetaceans and Seabirds in Wales and Surrounding Waters. NRW Evidence Report, Report No: 646, 354 pp. Natural Resources Wales, Bangor.

Hammond, P.S., Lacey, C., Gilles, A., Viquerat, S., Boerjesson, P., Herr, H., Macleod, K., Ridoux, V., Santos, M., Scheidat, M., Teilmann, J., Vingada, J., and Oien, N. (2021). Estimates of cetacean abundance in European Atlantic waters in summer 2016 from the SCANS-III aerial and shipboard surveys. Wageningen Marine Research. Available from: https://synergy.st-andrews.ac.uk/scans3/files/2021/06/SCANS-III_design-based_estimates_final_report_revised_June_2021.pdf

Heinänen, S. and Skov, H. (2015). The identification of discrete and persistent areas of relatively high harbour porpoise density in the wider UK marine area, JNCC Report No.544 JNCC, Peterborough.

IAMMWG. 2023. Review of Management Unit boundaries for cetaceans in UK waters (2023). JNCC Report 734, JNCC, Peterborough, ISSN 0963-8091. <https://hub.jncc.gov.uk/assets/b48b8332-349f-4358-b080-b4506384f4f7>.

NRW (2022) Water Watch Wales. Available at: <https://waterwatchwales.naturalresourceswales.gov.uk/en/>. Accessed August 2023.

Pembrokeshire Coast National Park Authority. (2013a). *Description Pembrokeshire Coast National Park Seascape Character Assessment 31.*

Pembrokeshire Coast National Park Authority. (2013b). *Pembrokeshire Coast National Park Seascape Character Assessment 32.*

Pembrokeshire Coast National Park Authority. (2013c). *Pembrokeshire Coast Seascape Character Assessment Supplementary Planning Guidance.*

Reade, S., Etridge, C., Richardson, L., Pilkington, J., Meijers, Y., Oliver, M. E., & Patrick Wintz, M. (2021). UK Sea Fisheries Statistics 2021. <https://www.gov.uk/government/statistics/uk-sea-fisheries-annual-statistics-report-2021>

Rogan, E., Breen, P., Mackey, M., Cañadas, A., Scheidat, M., Geelhoed, S. & Jessopp, M. (2018). Aerial surveys of cetaceans and seabirds in Irish waters: Occurrence, distribution and abundance in 2015-2017. Department of Communications, Climate Action & Environment and National Parks and Wildlife Service (NPWS), Department of Culture, Heritage and the Gaeltacht, Dublin, Ireland. 297pp

Russell, D.J.F. and McConnell, B.J. (2014). Seal at-sea distribution, movements and behaviour. Report to DECC. URN: 14D/085. March 2014 (final revision).

SCOS, 2022. Scientific Advice on Matters Related to the Management of Seal Populations: 2021. Available from: <http://www.smru.st-andrews.ac.uk/files/2022/08/SCOS-2021.pdf>

SCOS, 2021. Scientific Advice on Matters Related to the Management of Seal Populations: 2020. Available from: <http://www.smru.st-andrews.ac.uk/files/2021/06/SCOS-2020.pdf>

Sharples R.J., Matthiopoulos, J. and Hammond, P.S. (2008) Distribution and movements of harbour seals around the coast of Britain: Outer Hebrides, Shetland, Orkney, the Moray Firth, St Andrews Bay, The Wash and the Thames, Report to DTI July 2008.

Vincent, C., Huon, M., Caurant, F., Dabin, W., Deniau, A., Dixneuf, S., Dupuis, L., Elder, J.F., Fremau, M.H., Hassani, S. and Hemon, A., 2017. Grey and harbour seals in France: Distribution at sea, connectivity and trends in abundance at haulout sites. Deep Sea Research Part II: Topical Studies in Oceanography, 141, pp.294-305.

Welsh Assembly Government. (2004). Technical Advice Note 15: Development and flood risk. National Assembly for Wales.

Appendices

A1 Letter to stakeholders: Hobbs Point Floating Offshore Wind Development: Early Consultation

Note

**HaskoningDHV UK Ltd.
Water & Maritime**

To: Statutory Stakeholders
From: Sarah Marjoram
Date: 08 June 2023
Copy:
Our reference: PC4679-RHD-XX-XX-ME-X-0001
Classification: Project related
Checked by: Alistair Reid

Subject: Hobbs Point Floating Offshore Wind Development: Early Consultation

1 Introduction

The UK Government has set an ambitious target to reach up to 50GW of offshore wind deployment by 2030, including up to 5GW of floating offshore wind (FLOW). Wales has also set ambitious renewable energy and decarbonisation targets, including an aspiration to generate 70% of its electricity consumption from renewable sources by 2030. 4GW of floating offshore wind seabed potential has been announced by the Crown Estate to be leased in the Celtic Sea, which could see rights awarded by the end of 2023. These targets will help achieve the UK's target of net zero by 2050.

Offshore wind supply chain activities often cluster around construction and operations and maintenance ports. It is recognised that ports around the UK would benefit from offshore renewable energy development and act as a catalyst for supply chain investment. To support investment to facilitate capacity and capability to deploy and service the scale of the FLOW pipeline, the UK Government has announced that up to £160 million in grant funding will be made available for certain investments. Subsequently, the Department for Energy Security and Net Zero has established the Floating Offshore Wind Manufacturing Investment Scheme (FLOWMIS) to distribute this funding to support critical port infrastructure that will enable the delivery of FLOW.

Given the proximity of the Port of Milford Haven to the Celtic Sea seabed leased areas and planned projects, it has been identified that the Port of Milford Haven should be a strategic element in the offshore wind supply chain. Milford Haven Port Authority (MHPA) is therefore proposing to develop a deep-water berth at Criterion Way, the Offshore Jetty, known as Hobbs Point, at the eastern end of the Port of Milford Haven. The site includes an existing jetty, which is in poor condition and an area of hardstanding (**Figure 1**). The area will be developed to support vessels associated with the offshore renewables industry (the 'proposed development'). An initial design for the site layout is presented in **Figure 2**.



Figure 1 Location of the proposed development

The proposed development would provide:

- A replacement and extension of the existing berth the provide for wind turbine integration and unloading of components (such as the blades, towers and nacelles),
- an area of hardstanding to be used for storing components, and
- space within the existing operational port for unloading and storage of components.

This note provides an introduction to the proposed development for the purposes of early stakeholder consultation, as required by the FLOWMIS funding application process, and includes:

- a description of the proposed development,
- an overview of the potential environmental constraints and opportunities that have been identified,
- the key legislation relevant to the proposed development; and,
- consultation objectives.

2 Description of the proposed development

At this early stage the following information on the proposed development is available.

2.1 Construction phase

The existing jetty at Hobbs Point is in a state of disrepair and will be rebuilt and extended as part of the proposed development. The rebuilt jetty will form a new 60m long deep-water berth, with additional mooring dolphins accessed via walkways (**Figure 2**, orange area). The quay wall could be constructed using a combi-wall method or could be a concrete deck on steel piles. The piling method will depend on the design but could include driving and drilled rock sockets. If a combi-wall method is preferred, the area behind the new quay wall would be infilled with a combination of material won during dredging and imported rock and will include a heavy lift pad supported by piles.

The design of the new berth will contribute to wider flood defence work in the area. It is also proposed that the works will envelop the existing dilapidated river walls, restoring long term stability to them.

Some dredging may be required along the berth edge to deepen it to -14mCD. It is also proposed that a pocket shall be dredged down to -10.5mCD adjacent to the new berth with a prepared base for FLOW foundations to sit during grounded turbine integration (**Figure 2**, green area). The dredging method will depend on material found below bed level and may include percussive breaking or blasting. No dredging will be undertaken within the Sir Benfro Forol/Pembrokeshire Marine Special Area of Conservation (SAC) boundary.

As shown in **Figure 2** (blue area), the land reclamation shall extend south from the new berth to increase the laydown area for operations and will be bounded by a rock revetment. Landside works are also proposed to form the laydown area.

2.2 Operation phase

The primary use of the proposed development would be to support the offshore renewables industry, providing facilities for the transshipment, storage and assembly of components such as all wind turbine generator (WTG) parts associated with a wind farm project (including the blades, towers and nacelles) as well as foundations (such as pin piles and floating foundations).

The offshore renewable energy components would be delivered to the Port of Milford Haven from various locations across the UK, Europe and other international locations. Loading/unloading is expected to take up to 24 hours. Overall berth utilisation would be controlled by MHPA, as is the case today. The number of required trips per wind farm project would be dependent on the size of the wind farm (noting that one wind farm may be served from more than one port) and the source locations of the turbine components for a particular wind farm project. A substantial power supply will be required at the berth. It is intended that this will be used for the commissioning of the turbines, powering the large crane (if this can be practically achieved) and for shore supplies to vessels where suitably equipped.

The WTG parts will be integrated with the floating foundations using a large crane located on the new jetty. The foundations may be afloat in the dredged pocket or grounded onto a prepared bed.

The proposed laydown area would be formed of a gravel or concrete surface allowing for drainage into collector drains and, following suitable treatment, would be discharged to sea.

3 Environmental considerations

It is considered there is potential for temporary significant effects to arise during the construction of the proposed development. Operational phase effects arising from the proposed development are also likely given the change in use of this area. The following environmental sensitivities will require consideration as part of the consenting for the proposed development (noting that this is based on an initial assessment of the proposed development and is unlikely to be exhaustive).

- **Protected sites for nature conservation:**

- The following sites are in close proximity to the proposed development:
 - Sir Benfro Forol/Pembrokeshire Marine SAC (0km from the proposed development).
 - Milford Haven Waterway Site of Special Scientific Interest (SSSI) (~170m from the proposed development).
- The following sites are located at a distance from the proposed development and have the potential to be affected, for the reasons indicated below:
 - Castlemartin Coast Special Protection Area (SPA) (~7km from the proposed development); potential for bird connectivity with the zone of potential impact.
 - Gorllewin Cymru Forol/West Wales Marine SAC (~11km downstream from the proposed development); potential for marine mammal connectivity with the zone of potential impact.
 - Afonydd Cleddau/Cleddau Rivers SAC (~18km upstream from the proposed development); potential for migratory fish species connectivity with the zone of potential impact.
 - Sgomer, Sgogwm a Moroedd Penfro/Skomer, Skokholm and the seas off Pembrokeshire SPA (~20km from the proposed development); potential for bird connectivity with the zone of potential impact.
 - Grassholm SPA (~36km from the proposed development); potential for bird connectivity with the zone of potential impact.
 - Dynesfeydd Môr Hafren/Bristol Channel Approaches SAC (~40km from the proposed development); potential for marine mammal connectivity with the zone of potential impact.

- **Designated Water Framework Directive (WFD) water bodies:**

- The following water bodies are designated within or close to the proposed development:
 - Milford Haven Inner transitional waterbody (the proposed development is within this water body).
 - Pembrokeshire Carboniferous Limestone groundwater body (the proposed development is within this water body).
 - Milford Haven Outer coastal waterbody (~3km downstream from the proposed development).

- **Flood Risk:**

- The proposed development is in Flood Zone C2 (areas of the floodplain without significant flood defence infrastructure).

- **Heritage:**
 - The proposed development is situated within the non-statutory Milford Haven Waterway Landscape of Historic Interest in Wales and adjacent to the Pembroke Dock Conservation Area.
 - There are a number of Grade II listed buildings within 200m of the proposed development, namely:
 - Pier House (14370).
 - Old Pier House (14421).
 - Premises attached to South [of Old Pier House] (14422).
 - Telephone call box at Hobbs Point (6551).
 - Hobbs Point (14369).
 - Pembroke Haven Yacht Club (6447).
 - Slipway and Quay Wall at Hobbs Point (6446).
 - One Former Cannon Barrel to SW side (14368).
 - Two bollards on N side of quay (14367).
 - The Dry Dock Yard is Grade II listed and located ~220m from the proposed development.
 - A Grade II* Martello Tower (Northeast Dockyard Tower) is located ~320m from the proposed development.
 - Three properties along Front Street are also Grade II listed:
 - 10 Front Street (6347), 27 Front Street (6348) and 33 Front Street (6350).
 - A Scheduled Monument – American War of Independence Redan at Bath House (PE452) is located ~600m from the proposed development on the northern bank of Milford Haven.
- **Existing residential properties** within 100m of the proposed development along Pier Road, and those along Front Street (~300m from the proposed development) could be subject to noise and air quality effects.

4 Legislation relevant to the proposed development

The legislation of relevance to the proposed development is:

- **Marine and Coastal Access Act 2009** (as amended)¹ – Part 4 of the Marine and Coastal Access Act (MCAA) 2009 provides a framework for the marine licensing system for those ‘licensable marine activities’ below Mean High Water Spring tides undertaken within the UK marine area. Natural Resources Wales (NRW) is the regulatory authority for marine licensing in Welsh inshore waters.
- **Town and Country Planning Act 1990** – the Town and Country Planning Act 1990 (TCPA 1990) would apply to those works above Mean Low Water Spring tides. Pembrokeshire County Council (PCC) is the relevant Local Planning Authority for the proposed development.
- **The Harbours Act 1964** (as amended)² – the proposed development may require a Harbour Revision Order (HRO) to enable the works to be undertaken. As the Port of Milford Haven is a ‘reserved trust port’, the transfer of executive functions set out in the Wales Act 2017 do not apply. Therefore, an application for a HRO would need to be made to the Marine Management Organisation (MMO) which exercises this delegated function from the Department for Transport (DfT), and not Welsh Ministers. The Port is currently seeking legal advice on if a HRO will be required for these proposed works.

¹ The Marine and Coastal Access Act 2009 (Amendment) Regulations 2011

² Supplemented by the Harbours Act 1964 (Delegation of Functions) Order 2010

- **The Conservation of Habitats and Species Regulations 2017**, as amended³ - the requirement for a Habitats Regulations Assessment (HRA).
- **Wildlife and Countryside Act 1981**, as amended by Schedule 9 to the Countryside and Rights of Way Act (CROW) 2000 – any operations within or adjacent to a SSSI require assent from NRW.
- **Water Environment (WFD) (England and Wales) Regulations, 2017** (as amended)⁴ – the requirement to undertake a WFD Compliance Assessment.
- **Planning (Listed Buildings and Conservation Areas) (Wales) Act 2012**, as amended⁵ – as no listed buildings would be directly affected by the proposed development, Listed Building Consent would not be required.

It is considered that the proposed development will require an Environmental Impact Assessment (EIA) as it falls within Schedule 2, Article 10 (g) and will exceed the 1ha threshold. As such, Scoping Opinions will be sought from NRW and PCC with respect to the Marine Works (EIA) Regulations 2007 (as amended)⁶ and the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017, respectively to determine the scope of the Environmental Statement. Should it be determined that an HRO is required the HRO process will be adhered to in consultation with the MMO and a scoping opinion would be requested under the under the Harbour Works (EIA) Regulations 1999.

5 Request for consultation

As part of the early consultation being undertaken, we are seeking stakeholders' initial views on the proposed development, and in particular:

- any other key environmental constraints and opportunities.
- potential issues (relating to the environmental impacts, or otherwise) that should be considered through the consenting process; and,
- any information held that would benefit the assessment and consenting process.

We would therefore like to invite you to a one-hour stakeholder workshop to discuss the proposed development and the items listed above.

Due to the programme for submitting the FLOWMIS application, we would be grateful if you could confirm your availability for the stakeholder workshop as soon as possible between the date of this letter and 16 June 2023. Should it not prove possible to organise the workshop during that period, we will revert to holding individual stakeholder meetings. In any event, your written response to this request would be welcomed.

³ Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

⁴ The Floods and Water (Amendment etc.) (EU Exit) Regulations 2019

⁵ Planning (Listed Buildings and Conservation Areas) (Wales) (Amendment No. 2) Regulations 2017

⁶ The Marine Works (EIA) (Amendment) Regulations 2017

**A2 Minutes of NRW Licencing Early Consultation Meeting
(14/06/2023)**

Minutes

**HaskoningDHV UK Ltd.
Industry & Buildings**

Present: Sarah Marjoram (SM) – Royal HaskoningDHV (RHDHV)
Hugo Morgan (HM) - RHDHV
Alex Scott (AS) - RHDHV
Tam Bardell (TB) – Milford Haven Port Authority (MHPA)
Jonathan Monk (JM) - MHPA
Maria Alvarez (MA) – Natural Resources Wales (NRW)

From: Alexander Scott
Date: 14 June 2023
Location: Teams
Copy: N/A
Our reference: PC3903-RHD-XX-XX-MI-X-0001
Project related
Classification:
Enclosures:

MHPA FLOWMIS Bid Discussion (NRW)

Subject:

Number	Details	Action
1	Agenda 1) Introduction 2) Initial engineering plans and overview 3) Potentially relevant legislation and environmental constraints + feedback from NRW	
2	TB – Provided an introduction to the proposed scheme and the need for the project, highlighting government targets for renewable energy production including floating offshore wind (FLOW) There is a need for port infrastructure to assemble FLOW components. Pembroke port ideally situated for development in this area. Risk to deployment if port facilities not built or sourced overseas, lose benefits to supply chains etc. Local site to be used for turbine integration initially, support O&M longer term. Deep water quay for repairs etc. Funding is available (FLOWMIS) for port infrastructure. Question (MA) – what is the timeline for funding? Response – Grant funds to be defrayed by March 2025. Materials to be gathered before consent, and FLOWMIS will contribute 80% of overall funds. Potentially unrealistic timelines	

Number	Details	Action
	are being discussed with government, however, this project is seen as achievable compared to others. MA – Land reclamation near to SAC will require a lengthy consultation process, not a quick determination. JM – the proposed scheme has been designed to be adjacent to SAC, reduce impacts as much as possible.	
3	HM introduced the project boundary outline and current design plans, need for dredging, piling, blasting etc. Not final design, but worst-case footprint being shown. MA – Best to include as much detail in terms of design and construction as possible in scoping. Question (MA) – Plans for dredged material? Response (HM) – Where possible used as reclamation fill. JM – Expect historical contaminants to be present in sediments. SM – Surveys will be undertaken – marine ecology, sediment quality etc. to inform the HRA, ES, WFD etc. Survey plan to be submitted to NRW for approval/advice. MA – No comments on survey plan at this time, surveys will need separate marine licence for sediment removal from seabed. MA advises to consult local archaeological groups, robust consideration of historic environment. Consult Cadw, Welsh Archaeological Society and Royal Commission on the Ancient & Historical Monuments of Wales. JM – Added Sunderland Trust and Maritime Museum. Question (SM) – Any advice for Planning or Marine Licence applications? Response (MA) – To consult with NRW Advisory before application. Advise to embed mitigation into project design (e.g. CEMP, soft start procedures etc.) to reduce later conditions and back and forth. Ensure Welsh-specific plans and policies, e.g. Welsh Marine Plan, Well-Being of Future Generations Act etc are considered within the ES. ABMmer or Cefas will be consulted on sample plans to ensure enough samples and robust design to allow for meaningful ES. SM – confirmed a sample plan to be submitted to NRW for consultation.	

**A3 Minutes of NRW Advisory Early Consultation meeting
(05/07/2023)**

Minutes

**HaskoningDHV UK Ltd.
Industry & Buildings**

Present: Sarah Marjoram (SM) - Royal HaskoningDHV (RHDHV)
Alex Scott (AS) - RHDHV
Hugo Morgan (HM) - RHDHV
Adam Cooper (AC) – National Resources Wales (NRW) Advisory
Jonathan Monk (JM) - Milford Haven Port Authority (MHPA)
Tim Bownes (TB) - MHPA

From: Alexander Scott
Date: 05 July 2023
Location: MS Teams
Copy: N/A

Our
reference: PC3903-RHD-XX-XX-MI-X-0001
Classification: Project related
Enclosures:

Subject: MHPA Consultation Meeting

Number	Details	Action
--------	---------	--------

Agenda

1. Introductions and details of the project
2. Environmental issues, DAS, & Survey requirements
3. Next Steps

1.

Introductions.

TB – introducing the project, plans between now and 2030.
FLOW development, twin hub, larger future plans.
FLOWMIS fund introduction, need for facilities for turbine
integration. Short timescales (March 2026) to spend funds.
Consent needed by end of 2024. 15 months to spend
FLOWMIS funds.

JM – plans have sought to avoid more complex aspects to
expedite plans, and the project will avoid direct impacts to the
SAC, so will not require derogation.

TB – Shared screen to show plan overview and location of
proposals, dredging areas, reclamation, grounding quay, heavy
lift jetty 1&2 (inc. piling), Afloat quay etc.

Question (AC) – what is the Afloat Quay?

Response (TB) – provides overview of this aspect &
requirements for FLOW, will provide space for turbine

Number	Details	Action
	integration while afloat, adjacent to the new berth and in reach of the crane. TB - Hoping to use dredge material for reclamation areas. Highlights SAC is outside of proposal areas. HM – Outlined engineering plans and shared screen, modified version of design. Shows SAC boundary. Try to avoid need of a JUB, land side preferred e.g for piling. TB –JUB will be needed for ground investigation, or blasting /dredging. Question (AC) - plan that the grounding pocket is flat? Response (TB) – yes idea is it is level, rocky bed but down to -10.5. Gravel bed with steel plate on top. Hoovered up at end when finished, to be replaced (temporary). Steel structures may be needed, hard to say at this stage, but -10 seems reasonable at this time. -10 minimum for FLOWMIS application to be compliant.	
2.	SM – Environmental issues – intertidal, subtidal habitats, migratory species, SAC nearby, outlined in shared letter. Next stages, environmental survey specs, to characterise area, marine & terrestrial within footprint. High priority, approved with NRW asap. TB – issue at the moment is tight deadline, any surveys that can be done now is crucial. Question (SM) – would PCC come to NRW for terrestrial survey requirements? Response (AC) – advised that he would manage input from marine specialists, with a counterpart managing the terrestrial specialists. A DAS (Discretionary Advice Service) agreement should be put in place. A DAS request should include details of the plans, which specialists are required to advise and a timeline to allow a DAS agreement to be drawn up. Advised that DAS can be deprioritised is statutory work is busy. Scoping stage is statutory and therefore free. SM – some terrestrial surveys have seasonal restrictions, marine surveys ideally undertaken before winter. Survey plan is being drawn up.	

Number	Details	Action
	AC – physical process is important. Modelling ideally precedes everything else. Zone of impact can dictate surveys footprint. SM – noted the footprint of development, as well as the wider area, will be surveyed. JM – added existing surveys and data does exist, e.g. on seagrass in the Haven. Action - JM to share website & reports that exist to SM AC – is on leave 17 – 01/08. Advise if DAS request will be submitted in this time, to alert colleague. SM – it will be submitted before 2nd August. ACTION - AC to send team address to SM and JM. Question (AC) – what surveys will be done, topics? Response (SM) – terrestrial ecology, benthic. Modelling hydrodynamic/noise will also be undertaken but they are less time critical. TB – also ML needed for JUB for bore holes. SM - as well as grab/core samples, all sampling needs ML (ideally in one ML) AC – more information the better for quotes + specialists time. Benthic team will want ZoI, physical processes, dredging plume into SAC. Include methodology, cofferdam or standard dredge etc TB – Assume envelope of options, until GI we won't know. Assuming worst case impacts. AC – Advises to make this clear in DAS TB – Drilling/blasting may be required to shift rock. Piles not sure on yet. Drilling/socketing may be possible, or impact piling. HM – some drilling/socketing may be needed. May be able to avoid blasting on some. Hard to say at this stage. Question (JM) – Biosecurity RA needed for GI?	JM to share data for existing surveys with RHDHV AC to send team address to RHDHV

Number	Details	Action
3.	Response (AC) – not sure, possibly. If bringing kit from elsewhere. JM – Add to spec to include RA. There is a template. TB – may be landside assembled. - Aim to do more surveys rather than less, useful for future developments if not needed here. Question (SM) – borehole survey, should include chemical analysis for sediments, separate submission on NRW system? Formal advice from NRW/Cefas needed on dredged material and no. samples. Response (AC) – Survey plan procedure, unsure and need to confirm. Question (AC) – once survey plan is provided for DAS, what are your timescales for response from NRW? Response (TB) – ASAP, but notes without cutting corners. AC – DAS agreement can take 2-3 weeks to pull together, specialists need time after to look over document. So 6 weeks possible. Statutory takes priority. JM – terrestrial side not expecting much, possibly slow worms, botany. Scrub land not well connected. SM – extended phase 1 may cover it. These have been done in the past (2018) to inform. AC – More info the better, and quicker. Include topics to look at especially. JM – Notes Japanese knotweed presence on site, treating every year, management needed for ES. SM – avoid area to avoid spreading in survey process. Aim to submit DAS email before AC goes on leave. AC – Details requirements needed for DAS quote. E.g. Contacts, senior representative, invoice address etc. Can be between MHPA or RHDHV. TB – will be with MHPA but work done by RHDHV. DAS requirement should with scoping at next stage.	

Number	Details	Action
	AC – confirmed, it should stop you going down a dead end. You can go direct to scoping, for no cost. DAS more specific. TB – DAS route should mitigate some of the risk. Benefits of inside knowledge. AC – Will prepare colleague for when I am on leave to avoid delays. ACTION - Please send drawing with DAS email to show plans	RHDHV to send drawings to NRW with DAS request email

A4 Minutes of PCC Early Consultation Meeting (20/06/2023)

Minutes

**HaskoningDHV UK Ltd.
Industry & Buildings**

Present: Sarah Marjoram (SM) - Royal HaskoningDHV (RHDHV)
 Alex Scott (AS) - RHDHV
 Hugo Morgan (HM) - RHDHV
 Nicola Gandy (NG) - Pembrokeshire County Council (PCC)
 Rachel Moxey (RM) - PCC
 Mike Simmons (MS) - PCC
 Tam Bardell (Tam) - Milford Haven Port Authority (MHPA)
 Tim Bownes (TB) - MHPA

Apologies: N/A

From: Alexander Scott

Date: 20 June 2023

Location: teams

Copy: N/A

Our reference: PC3903-RHD-XX-XX-MI-X-0001

Classification: Project related

Enclosures: [Click to enter "Enclosures"](#)

Subject: MHPA Consultation Meeting

Number	Details	Action
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Agenda

1. Introductions & project overview
2. Environmental considerations / consent process
3. Other considerations / useful contacts

1. Introductions.

TB – introducing the project and MHPA team.
 Freeport looking to support FLOW, including FLOWMIS bid (deadline extended until August).
 Tight spending requirements, consenting & construction process needs to be quick. All options would fit into future plans for the port – currently test and demonstration phase. RHDHV to look at engineering and environmental side.

TB shares screen to show project for consenting and different areas for development / reclamation / jetty / dredging etc.

Question (RM) – TCE escalating licencing, up to 24GW, do your plans assume this is the case, e.g are they futureproofed?
 NRW positive about plans re. climate change benefits.

Number	Details	Action
	Response (TB) – yes, all options have great uses for future phases beyond test and demonstration. Also project is outside of local SAC (adjacent). TB – explaining plans including reclamation area. Question (NG) – clarify what reclamation is? Response (TB) – flat land creation, no big buildings needed but flat land is needed for turbine components. Potential need for rock armour. Question (MS) – level difference between grey area and water mark? Height of flat land. Is yellow area above high water mark? Response (HM) - assumption that level for laydown area is +9mCD, above high tide mark. Allows for future sea level rise in design. RM – reclamation juts out into sea, without changing current level in terms of height. TB – existing jetty is similar level & stays above flood levels. RM – need to future proof, stay ahead of rising water and potential floods. MS – note there is a shipwreck near to boundary of site or within boundary. Tam – overall plan for ports – stepping-stone approach for wider port infrastructure needed for FLOW. Provides heavy lift quay and deep water. Overspill to build out other areas of port. Includes useable space in port. FLOWMIS – deployment of FLOW targets by 2030. 440MW in pipeline. Therefore, this facility is needed, demand for local options. Helps UK deliver targets.	
2.	Environmental considerations SM – explained the environmental considerations. Early stages, needed for FLOWMIS applications – consenting requirements and consultation. Need PCC input for potential issues/risks. Eg designated sites, listed buildings etc. Question (NG) - are you speaking with NRW?	

Number	Details	Action
	Response (SM) – yes – NRW consultation ongoing to gather specifics for consenting, key topics etc. Question (NG) – notes short time for submission, when is the deadline? Response (TB) – Scoping opinion to be submitted ideally by submission of FLOWMIS application (2 months). Hence need to identify potential issues & do it comprehensively. Spending deadline extended but still tight. Efficient consent process crucial. MS – notes NRW arms do not always communicate well together. SM – hence early consultation and correct people to receive submission of application. Scoping report & ES for submission to both organisations. Scoping and ES will both be one document for all aspects of project to submit to PCC and NRW.	
3.	Other considerations RM – identify areas we can be of most help to you, PCC have a good relationship with NRW. Martin Evans retiring (Sept), keen to handover well, Freeport opportunity, supports energy projects. Welsh Gov roads policy not suitable, but potential exceptions for Freeports. PCC can steer in the right direction on this. Lean on us to help with these relationships. Action (NG) – if you want to explore Planning Performance Agreements get in touch. Can commit to fortnightly meetings and aim to reach decision by certain time. We can send over templates if useful. MS – ML will be needed for the marine works. Planning for land. PCC jurisdiction extends to mid channel in haven. PCC take NRW advice through marine licence application. Can send plan with boundary line. MS shares screen to show boundary Action (NG) – check with us when you have contact at NRW, PCC can direct you to the right people & make the process smoother.	PCC to share Planning Performance Agreement template PCC to share planning boundary RHDHV/MHPA to keep PCC informed of NRW contacts

Number	Details	Action
	TB – previous version of this project involved infilling larger area, reluctance to proceed with those plans due to opposition from residents. This proposal will not go ahead. However it was useful work done that can be used to support the assessment of alternatives for this project. Due to likely opposition from residents on Front Street and businesses, including West Wales Maritime heritage museum/boatyard. Action - RM – request to send PCC the plans, for internal discussions, GIS mapping etc. For wider plans for port development, sooner the better with NRW and PCC.	MHPA/RHDHV to share plans for the project



Royal HaskoningDHV is an independent, international engineering and project management consultancy with over 140 years of experience. Our professionals deliver services in the fields of aviation, buildings, energy, industry, infrastructure, maritime, mining, transport, urban and rural development and water.

Backed by expertise and experience of 6,000 colleagues across the world, we work for public and private clients in over 140 countries. We understand the local context and deliver appropriate local solutions.

We focus on delivering added value for our clients while at the same time addressing the challenges that societies are facing. These include the growing world population and the consequences for towns and cities; the demand for clean drinking water, water security and water safety; pressures on traffic and transport; resource availability and demand for energy and waste issues facing industry.

We aim to minimise our impact on the environment by leading by example in our projects, our own business operations and by the role we see in “giving back” to society. By showing leadership in sustainable development and innovation, together with our clients, we are working to become part of the solution to a more sustainable society now and into the future.

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