MARINE ENERGY WALES

MARINE ENERGY TEST AREA (META)

Environmental Impact Assessment

Chapter 14:

Seascape

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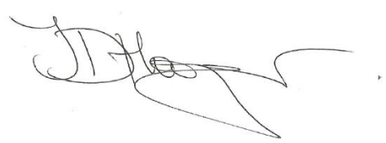
Jessica Hooper  2019-12-05

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Glossary

Term	Definition
Environmental Impact Assessment (EIA)	A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Directive and EIA Regulations, including the publication of an Environmental Impact Assessment (EIA) Report.
LANDMAP	This is the formally adopted methodology for landscape assessment and is advocated by Planning Policy Wales (PPW), is promoted by the Countryside Council for Wales (CCW) and is considered to be a "whole" landscape approach that covers all landscapes, designated and non- designated in Wales.

Units

Unit	Description
km	Kilometre
m	Metre
m^2	Metre squared
nm	nautical mile

Acronyms

Acronym	Description
ADCP	Acoustic Doppler Current Profiler
AONB	Area of Outstanding Natural Beauty
CIA	Cumulative Impact Assessment
EEA	European Economic Area
EIA	Environmental Impact Assessment
GLVIA3	The Guidelines for Landscape and Visual Impact Assessment (GLVIA3)
LNG	Liquid Natural Gas
LDA	Landscape Design Associates
MCA	Marine Character Area
MOD	Ministry of Defence
MHPA	Milford Haven Port Authority
MHWS	Mean High Water Springs
MPS	Marine Policy Statement
NPS	National Policy Statement
NRW	Natural Resources Wales
PDE	Project Design Envelope
PPW	Planning Policy Wales
PPW10	Planning Policy for Wales
PCNP	Pembrokeshire Coast National Park
PCP	Pembrokeshire Coast Path
PCNPSCA	Pembrokeshire Coast National Park Seascape Character Area
PRoW	Public Right of Way
SAC	Special Area of Conservation
SCA	Seascape Character Area
SSSI	Site of Special Scientific Interest
VP	Viewpoint Point
ZoI	Zone of Impact

14. LANDSCAPE SEASCAPE VISUAL ASSESSMENT

14.1 Introduction

14.1.1.1 This chapter of the Environmental Statement presents the results of the Environmental Impact Assessment (EIA) for the potential impacts of the META project on the landscape and seascape visual assessment.

14.2 Purpose of this chapter

14.2.1.1 The primary purpose of the Environmental Statement is to support the marine consent applications for the META project, which are outlined in chapter 1: Introduction.

14.2.1.2 It is intended that the Environmental Statement will provide statutory and non-statutory consultees with sufficient information to determine the potential significant impacts of the META project on the receiving environment and will inform the issue of appropriate consent and/or licences by the regulatory authorities. It will also inform any consent conditions.

14.2.1.3 In particular, this Environmental Statement chapter:

- Presents the existing environmental baseline established from desk studies, and consultation;
- Presents the potential environmental effects of the landscape seascape visual impacts arising from the META project, based on the information gathered and the analysis and assessments undertaken;
- Presents the potential environmental effects on the visual amenity of the study area and from the selected viewpoints including changes to the composition of views and the perception and response by receptor groups to these changes;
- Identifies any assumptions and limitations encountered in compiling the environmental information; and
- Highlights any necessary monitoring and/or mitigation measures which could prevent, minimise, reduce or offset the possible environmental effects identified in the EIA process.

14.3 Study area

14.3.1.1 The study area extends to a radial distance of 5 km around each of the three META project sites known as Warrior Way (site 6), Dale Road (site 7) and East Pickard Bay (site 8), as per the guidelines stated in the Guidelines for Landscape and Visual Impact Assessment (GLVIA3), Figure 14-1 shows the location of each of the META project sites as well as the extent of each 5 km radius.

14.4 Policy context

14.4.1.1 Policy generally seeks to minimise landscape and visual effects from development and to avoid significant adverse effects. This applies particularly to landscapes with statutory designations, including in this case, Pembrokeshire Coast National Park (PCNP), but also other landscapes outside of designated areas, where there is an aspiration in policy terms to conserve and enhance landscapes of high value or features which are particularly distinctive.

14.4.2 National Policy Statements

14.4.2.1 Planning policy on renewable energy infrastructure, specifically in relation to landscape seascape visual assessment, is contained in the Overarching National Policy Statement (NPS) for Energy (EN-1; DECC, 2011a) and the NPS for Renewable Energy Infrastructure (EN-3, DECC, 2011b), which include guidance on what matters are to be considered in the assessment.

14.4.2.2 The META project has been an evolving design process with respect to landscape seascape visual effects, which has involved an interactive process within the design team considering environmental factors including landscape/seascape character and visual impact. This approach utilises the information provided within the LANDMAP datasets. The design and location of the META project testing sites have been refined in response to this process where design and scale has been a key factor in lessening the likely landscape and visual effects. The guidance provided within NPS EN-1 on matters to be included in relation to landscape seascape and visual assessment, which are relevant to the META project are summarised in Table 14.1.

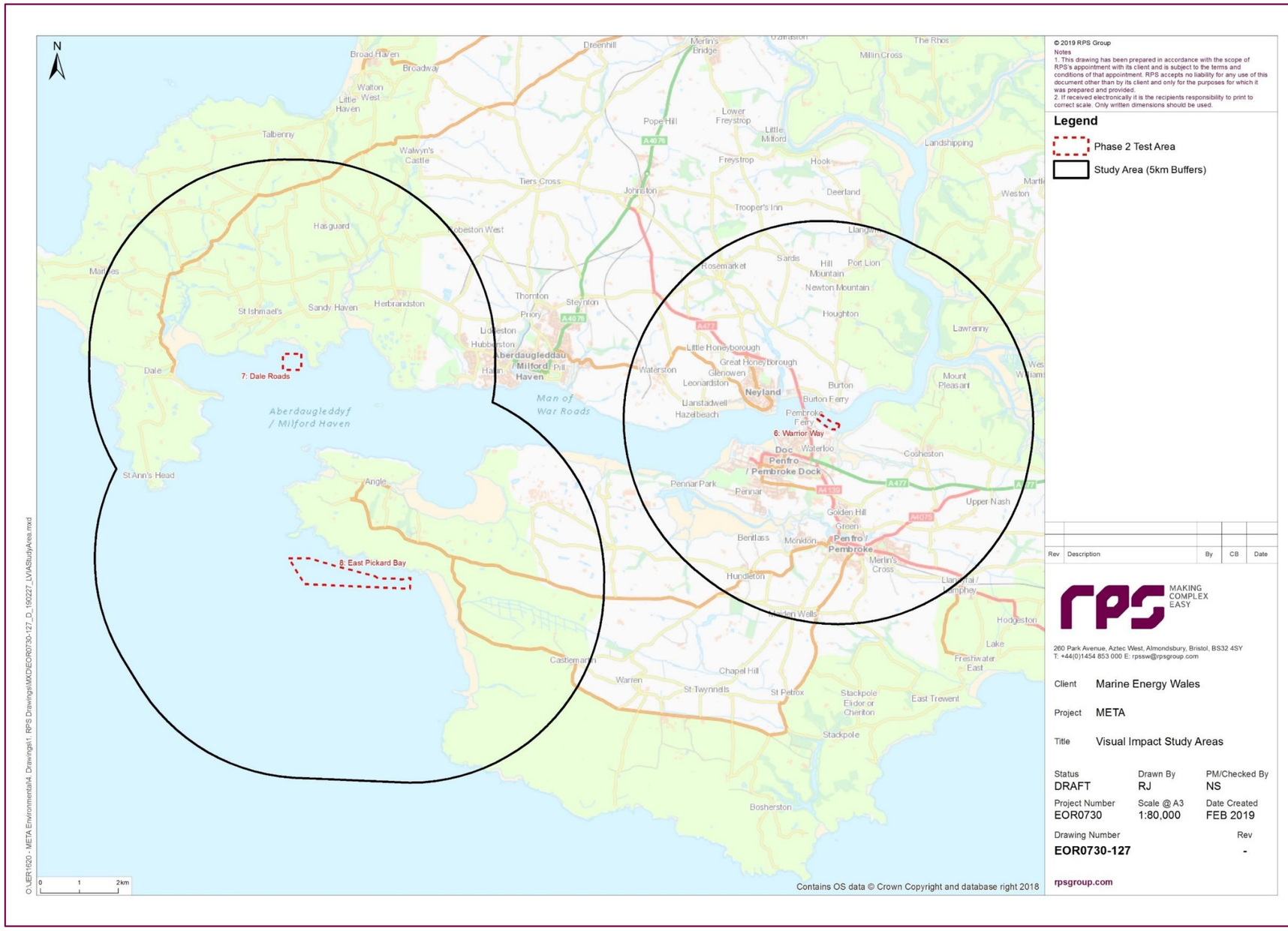

Figure 14-1: Visual Impact Study Area.

Table 14-1: Summary of NPS EN-1 policy relevant to landscape seascape visual assessment.

Summary of NPS EN-1 policies relevant to landscape seascape and visual resources	How and where considered in the Environmental Statement
Landscape Seascape Visual Assessment	
The landscape and visual assessment should include reference to any landscape character assessment and associated studies as a means of assessing landscape impacts relevant to the proposed project (paragraph 5.9.5 of NPS EN1).	The seascape and visual assessment baseline is presented in Section 14.7.
The Applicant's assessment should also take account of any relevant policies based on these assessments in local development documents in England and local development plans in Wales (paragraph 5.9.5 of NPS EN-1).	Relevant policy and guidance documents used to inform the assessment are outlined in this Section 14.4.
The Applicant's assessment should include the effects during construction of the project and the effects of the completed development and its operation on landscape components and landscape character (paragraph 5.9.6 of NPS EN-1).	Assessment of effects on the landscape and seascape elements are assessed in Section 14.11
The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity (paragraph 5.9.7 of NPS EN-1).	Effects on visual resources are assessed in Section 14.11.
The conservation of the natural beauty of the landscape and countryside should be given substantial weight by the Secretary of State in deciding on applications for development consent in these areas. Nevertheless, the [Planning Inspectorate] may grant development consent in these areas in exceptional circumstances (paragraph 5.9.9 and 5.9.10 of NPS EN-1).	Effects on visual resources are assessed in Section 14.11.
The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent (paragraph 5.9.13 of NPS EN-1).	Effects on landscape seascape visual resources including effects on areas designated for their landscape value are assessed in Section 14.11
Where a local development document in England or a local development plan in Wales has policies based on landscape character assessment, these should be paid particular attention. However, local landscape designations should not be used in themselves to refuse consent, as this may unduly restrict acceptable development (paragraph 5.9.14 of NPS EN-1).	Relevant policy and guidance documents used to inform the assessment are outlined in this Section 14.4.
In reaching a judgement, the decision maker should consider whether any adverse impact is temporary, such as during construction and /or whether any adverse impact on the landscape/seascape will be capable of being reversed in a timescale that the decision maker considers reasonable (paragraph 5.9.16 of NPS EN-1).	The effects of the temporary and permanent elements of the project on the seascape are assessed in Section 14.11.
Reducing the scale of a project can help to mitigate the visual and landscape effects of a proposed project (paragraph 5.9.21 of NPS EN1).	The maximum design scenarios as well as the likely design scenarios which have a lesser impact are assessed in Section 14.11

14.4.3 Planning Policy Wales

14.4.3.1 Planning Policy Wales 10 (PPW 10) sets out the land use policy of Welsh Government. Chapter 5 of PPW 10 emphasises the particular importance of statutory designations of National Parks and Areas of Outstanding Natural Beauty (AONBs) and also states that all landscapes in Wales are valued and should have their special qualities protected. Paragraphs 5.30 and 5.31 of PPW 10 refer to the importance of LANDMAP, the use of which is discussed in the paragraph below. Paragraph 5.113 of PPW 10 explains that areas subject to constraints or considered unsuitable for development may include those where conservation or enhancement of the natural and historic environment requires development to be limited, where visual intrusion will need to be carefully considered, including the policies to be pursued in Heritage Coast areas, and where there maybe risks of erosion, flooding or land instability.

14.4.4 Pembrokeshire Local Development Plan (February 2013)

14.4.4.1 In relation to landscape, seascape and visual impacts, Policy GN.1 'General Development Policy' states development will be permitted where the following criteria are met:

- The nature, location, siting and scale of the proposed development is compatible with the capacity and character of the site and the area within which it is located;
- It would not result in a significant detrimental impact on local amenity in terms of visual impact, loss of light or privacy, odours, smoke, fumes, dust, air quality or an increase in noise or vibration levels; and
- It would not adversely affect landscape character, quality or diversity, including the special qualities of the PCNP and neighbouring authorities.

14.4.5 National Character Areas

14.4.5.1 LANDMAP is the formally adopted methodology for landscape assessment and is advocated by Planning Policy Wales (PPW) and is promoted by Natural Resource Wales (NRW). It is considered to be a "whole" landscape approach that covers all landscapes, designated and non-designated in Wales.

14.4.5.2 LANDMAP separates each character area into nationally consistent datasets into the following five categories (Aspects) as follows:

- Geological Landscape;
- Landscape Habitats;
- Visual and Sensory Landscape;
- Historic Landscape; and
- Cultural Landscape.

14.4.5.3 Each category is provided with an evaluation level as provided in Table 14-2.

Table 14-2: LANDMAP Evaluation levels.

Evaluation	Definition
High	Of regional or county importance to the aspect
Moderate	Of local importance to the aspect
Low	Of little or no importance to the aspect
Unknown	Insufficient information exists to evaluate the area

14.4.1 Other relevant policies

14.4.1.1 The UK Marine Policy Statement (MPS) and the draft Welsh National Marine Plan (dWNMP) (Welsh Government, 2017) are also relevant to landscape, seascape and visual impact. Consideration of the UK MPS in relation to the META project is made within Table 3.1 of chapter 3: Needs and Alternatives. Consideration of the draft Welsh National Marine Plan is outlined in Table 3.2, chapter 3: Need and Alternatives.

14.5 Consultation

14.5.1.1 The Scoping Opinion provided by NRW/MMO (28 March 2019) provided no comments in relation to Seascape. No other consultees have provided comments on seascape.

14.6 Methodology to inform the baseline

14.6.1.1 The Guidelines for Landscape and Visual Impact Assessment (GLVIA3) are broad guidelines rather than detailed prescriptive methodologies. The methodologies tailored for the assessment of the META project are based on GLVIA3 guidance and are presented in detail at Appendix 14.1. The methodology is summarised below.

14.6.1.2 Landscape seascape visual assessment studies provide an analysis of the physical and perceptual attributes of an area. The assessment of seascape issues relates to the potential effect of development on the landscape/seascape resource, which encompasses character, quality and distinctive features including topography, drainage, vegetation and built features, whereas the study of visual constraints is concerned with the potential effect on views and visual amenity.

14.6.1.3 The analysis of visual constraints includes the identification of representative views towards each of the three META project sites, which are generally from a range of visual receptors, both public (highways and public rights of way) and private (residential properties). Visual receptors are of varying sensitivity to change, with views from the ground floors of private residences generally accepted as being more sensitive to change than those from highways or places of work where attention is focused elsewhere. Public rights of way through rural areas with attractive landscapes, which are used for recreational purposes, are also usually accepted as being of high sensitivity to change.

14.6.1.4 The landscape seascape visual assessment combines the results of both an objective and subjective appraisal of the landscape. This appraisal consisted of three stages including a desk study, a field survey and an analysis of the likely effects resulting from the proposed development in light of these studies. The study area for the assessment extends to a radial distance of 5 km from each of the three META project sites (Figure 14-1).

14.6.1.5 As the extent of the visible elements likely to be visible above the seascape surface is no great than 2 m in height (for Dale Roads (site 7) and Warrior Way (site 6)) and 15 m or 5 m in height for East Pickard (site 8)[1], it is considered that the visual perception of the META project development within the landscape and seascape will diminish with ever increasing distance and would be seen (if visible) as an increasingly smaller component of the wider composite view at a radial distance of 2 km. Therefore, this study area is considered to be appropriate for the purposes of this assessment.

14.6.1.6 With respect to the seascape baseline, information has been derived from the Marine Character Areas (MCA) and the PCNP Seascape Character Assessment (LDA, PCNPA, 2013).

14.6.1.7 With respect to the landscape baseline, information has been derived from NRW LANDMAP database (see paragraph 14.4.5). LANDMAP is an *"all-Wales Geographical Information System based landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated into a nationally consistent dataset".* It is administered by NRW and comprises five spatially related datasets or aspect layers as follows:

- Geological Landscape: *"considers the physical, primarily geological influences that have shaped the contemporary landscape and identifies those landscape qualities which are linked to the control or influence exerted by bedrock, surface processes, landforms and hydrology*";
- Landscape Habitats: considers the distribution of habitats at a broad scale comparable to other aspect layers leaving more localised information to be accessed through other datasets;
- Visual and Sensory: considers what aspects of landscape are *"perceived through our senses, primarily visually, from the physical attributes of landform and landcover to their visible patterns of distribution and their consistent relationships in particular areas";*
- Historic Landscape: identifies *"those classes of historic land uses, patterns and features that are structurally prominent and contribute to the overall historic character of the present landscape";* and

[1] A maximum scenario height of up to 15 m above sea surface will only apply in devices up to a maximum dimension scenario of 60 m length x 60 m width. Where maximum dimensions of a device are over 60 m length x 60 m width, a maximum height of 5 m above sea surface will be applied.

- Cultural Landscape: within LANDMAP this is *"taken to embrace any kind of human activity that can be related to landscape. It includes the contrived and sometimes pre-eminent expressions of culture, like art or literature, in which the landscape maybe depicted or described, as well as the prosaic and commonplace expressions, like the choice of building materials, which were perhaps not intended to create something valuable or special".*

14.6.2 Temporal scope

14.6.2.1 The META project is to allow for temporary testing of marine renewable energy devices and components within the META three project sites for the project lifetime, which is up to 15 years. The resulting temporary effects are considered to be fully reversible and these effects are considered for all phases (installation/decommissioning phase and operation and maintenance phase) for all three sites (Warrior Way (site 6), Dale Roads (site 7) and East Pickard Bay (site 8) in Section 14.11 Assessment of Significance.

14.6.3 Desktop study

14.6.3.1 Information on the META project study area was collected through a detailed desktop review of existing studies and datasets including the assessment of 1:25,000 scale Ordnance Survey maps together with aerial photography to establish the general context of the META landscape seascape visual study area. This was followed by an analysis of relevant documentation (reports, development plans, assessments, government guidance etc.) to clarify the landscape and planning context. These are summarised at Table 14-3 below.

Table 14-3: Summary of key desktop reports.

Title	Source	Year
Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3)	Landscape Institute and the Institute of Environmental Management and Assessment	2013
GLVIA3 Statement of Clarification 1/13	Landscape Institute and the Institute of Environmental Management and Assessment	2014
National Park Management Plan 2015 - 2019	Pembrokeshire National Park Authority	2014
An Approach to Landscape Character Assessment	Natural England	2013
Local Development Plan	Pembroke County Council	2013
Local Development Plan	Pembrokeshire National Park Authority	2010
LANDMAP Methodology "Visual and Sensory"	NRW	2016
Pembrokeshire Coast National Park Coast Seascape Character Assessment	NRW	2013
Marine Character Areas	Natural England, Scottish Natural Heritage and Countryside Council for Wales	2012
An approach to Seascape Character Assessment	Natural England, Scottish Natural Heritage and Countryside Council for Wales	2012

14.6.4 Identification of landscape designations

14.6.4.1 All landscape designations within the META landscape seascape visual study area (see Figure 14-2 and Figure 14-3) that could be affected by the installation, operation and maintenance, and decommissioning of the META project were identified using the two-step process described below:

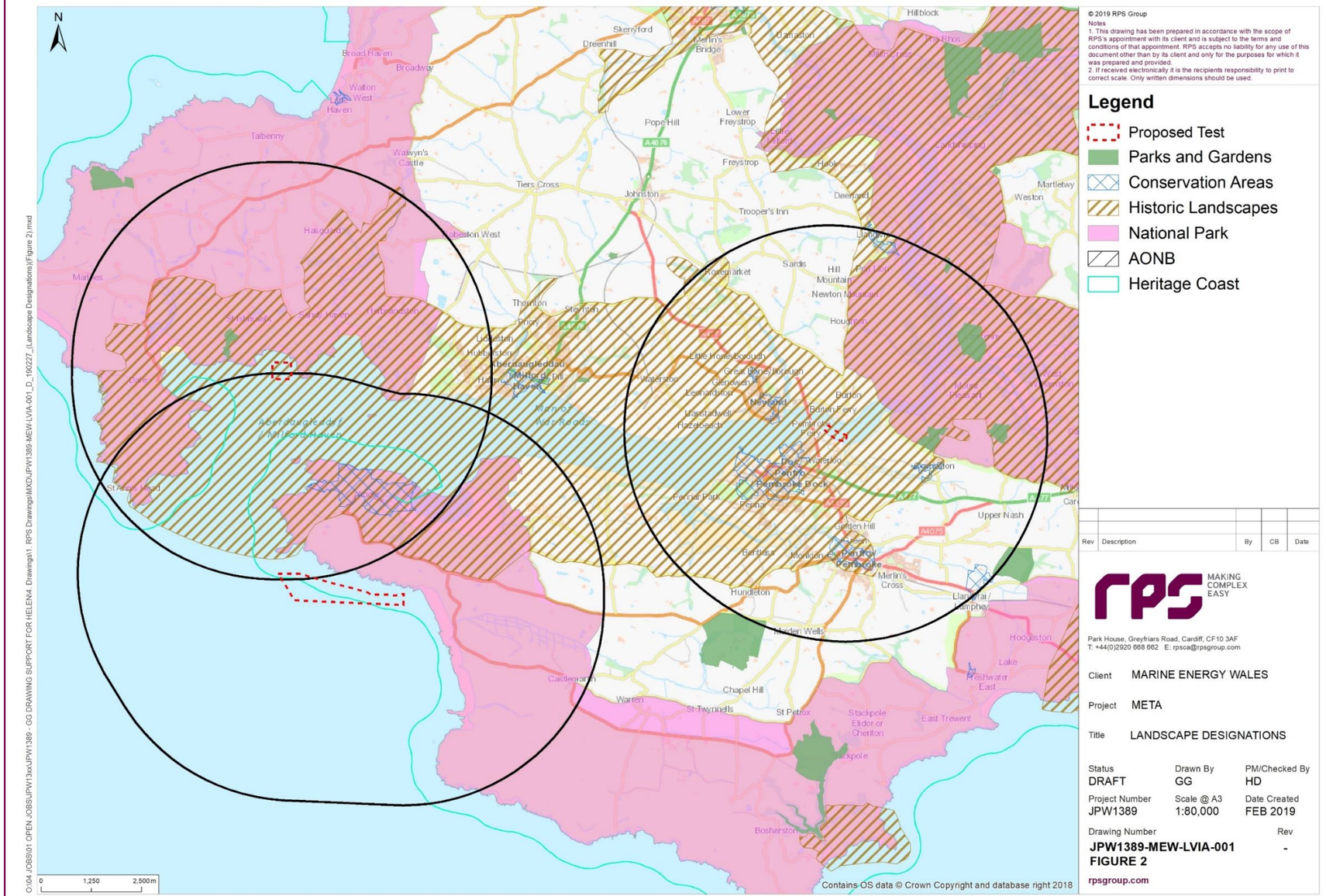

Figure 14-2: Landscape Designations.

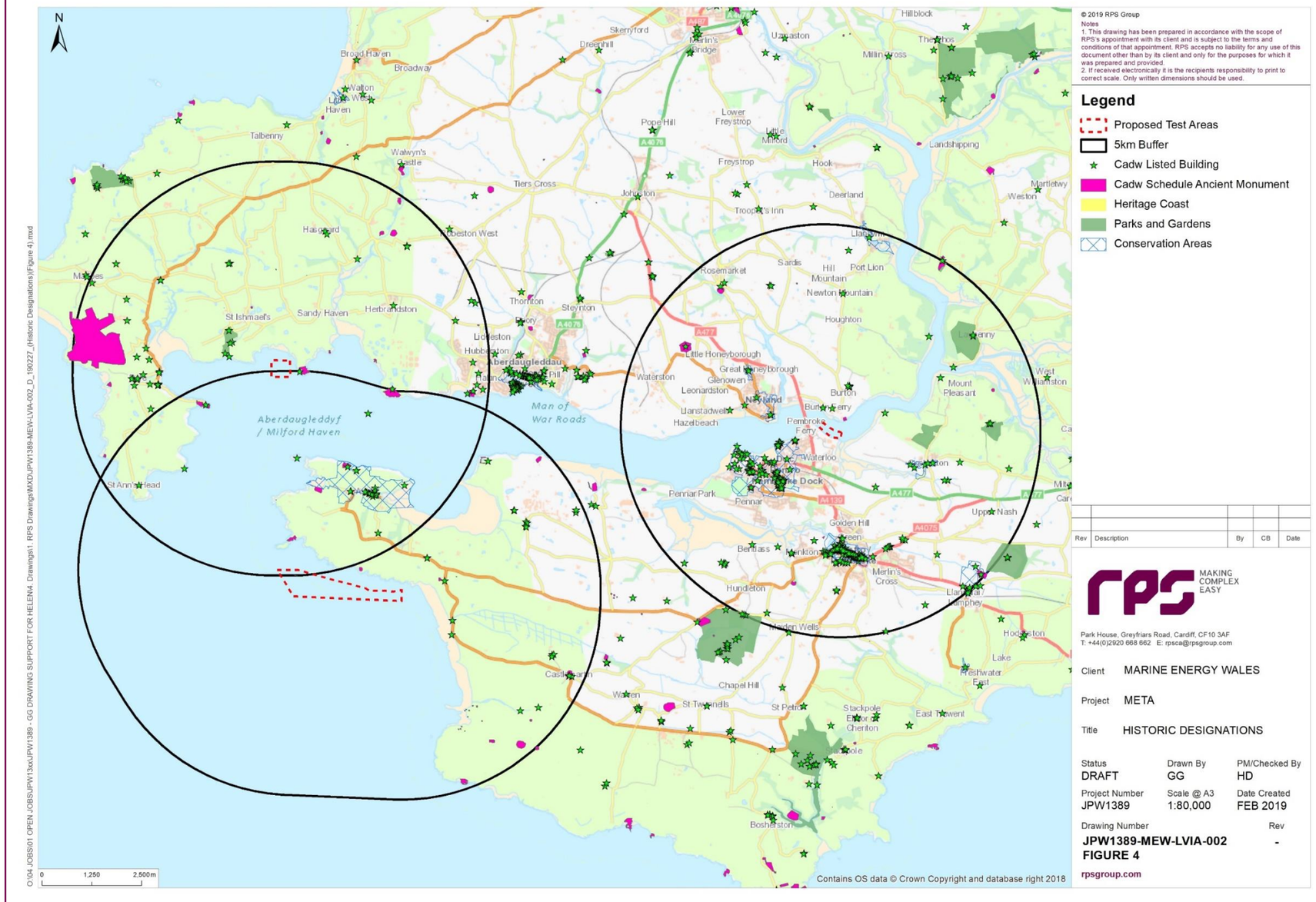

Figure 14-3: Historic Designations.

- Step 1: All designated sites of international, national and local importance within the META landscape seascape and visual study area were identified using a number of sources. These included National Resources Wales LANDMAP database, Natural Resources Wales National Character Areas, Natural Resources Wales, National Seascape Assessment for Wales, Pembrokeshire Coast National Park Seascape Character Assessment (SCA 31, 32 and 34), Pembrokeshire Coast Landscape Character Assessment, Pembroke County Council Local Development Plan, and
- Step 2: Using the above information and expert judgement, sites were included for further consideration if
  - e.g. A designated site directly overlaps with the META project; and
  - e.g. Sites and associated features were located within the potential Zone of Impact (ZoI) for impacts associated with the META project.

14.6.5 Site specific surveys

14.6.5.1 To inform the EIA, a site specific survey was undertaken within the environs of each of the three sites within the META project study area to record the character and identify key landscape features and visual analysis as per the methodology in GLVIA3. A summary of the surveys undertaken to inform the landscape, seascape and visual assessment is outlined in Table 14-4 below.

Table 14-4: Summary of site-specific survey data.

Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference to further information
META project landscape and visual survey	Milford Haven Waterway (henceforth the Waterway) adjacent to Warrior Way (site 6), Dale Road and East Pickard Bay (site 8).	Environs and shore-based survey along the long-range costal path and public right of way known as the Pembrokeshire Coastal Path (PCP) along the shoreline adjacent to each site.	N/A	Oct and Nov 2018	N/A

Table 14-5: Viewpoints.

View Point	View Point Orientation	View Point Description
VP1	Warrior Way (site 6) – 500 m to the west.	View from Pembrokeshire Coastal Path (PCP) as it crosses Cleddau Bridge.
VP2	Warrior Way (site 6) – 260 m to the north.	View from public road along the shore in Burton Ferry.
VP3	Dale Road – 210 m to the east.	View from PCP near Great Castle Head.
VP4	Dale Road – 390 m to the north.	View from PCP near Lindsway Bay.
VP5	Dale Road – 318 m to the west.	View from PCP near Watch House Bay.
VP6	East Pickard – 395 m to the north east.	View from PCP near East Pickard Bay.
VP7	East Pickard – 210 m to the north.	View from PCP near West Pickard Bay.
VP8	East Pickard – 609 m to the north west.	View from PCP near Parsonsquarry Bay.

14.7 Baseline environment

14.7.1.1 The aim of the baseline study is to describe the individual components of the physical landscape which are present on-site and within the landscape seascape visual study area and to provide an understanding of how the landscape and seascape constituent elements including character, spatial variation, geographic extent, condition, the way in which the landscape is experienced, and the value attached to it which may be affected by the META project. The three sites that form the META project study area are known as Warrior Way (site 6), Dale Road (site 7) and East Pickard Bay (site 8). It should be noted that two of the META project test sites are located within the Waterway which is an integral part of Britain's oil and gas industry and one of the busiest ports in the UK. Consequently, the busy waterway is used by large oil tankers, Liquid Natural Gas (LNG) tankers and commercial shipping vessels, the car ferry between Pembroke and southern Ireland, commercial fishing boats as well as large numbers of recreational motor and sailing craft. There are a significant number of commercial navigational lights, marks and buoys along the approaches as well as other marks for recreational navigation. The baseline conditions (viewpoints are listed in Table 14-5 and shown in Figure 14-4 Warrior Way (site 6), Figure 14-5 for Dale Roads (site 7) and Figure 14-6 for East Pickard Bay (site 8)) for each of the three META project test sites within the study area are listed as follows:

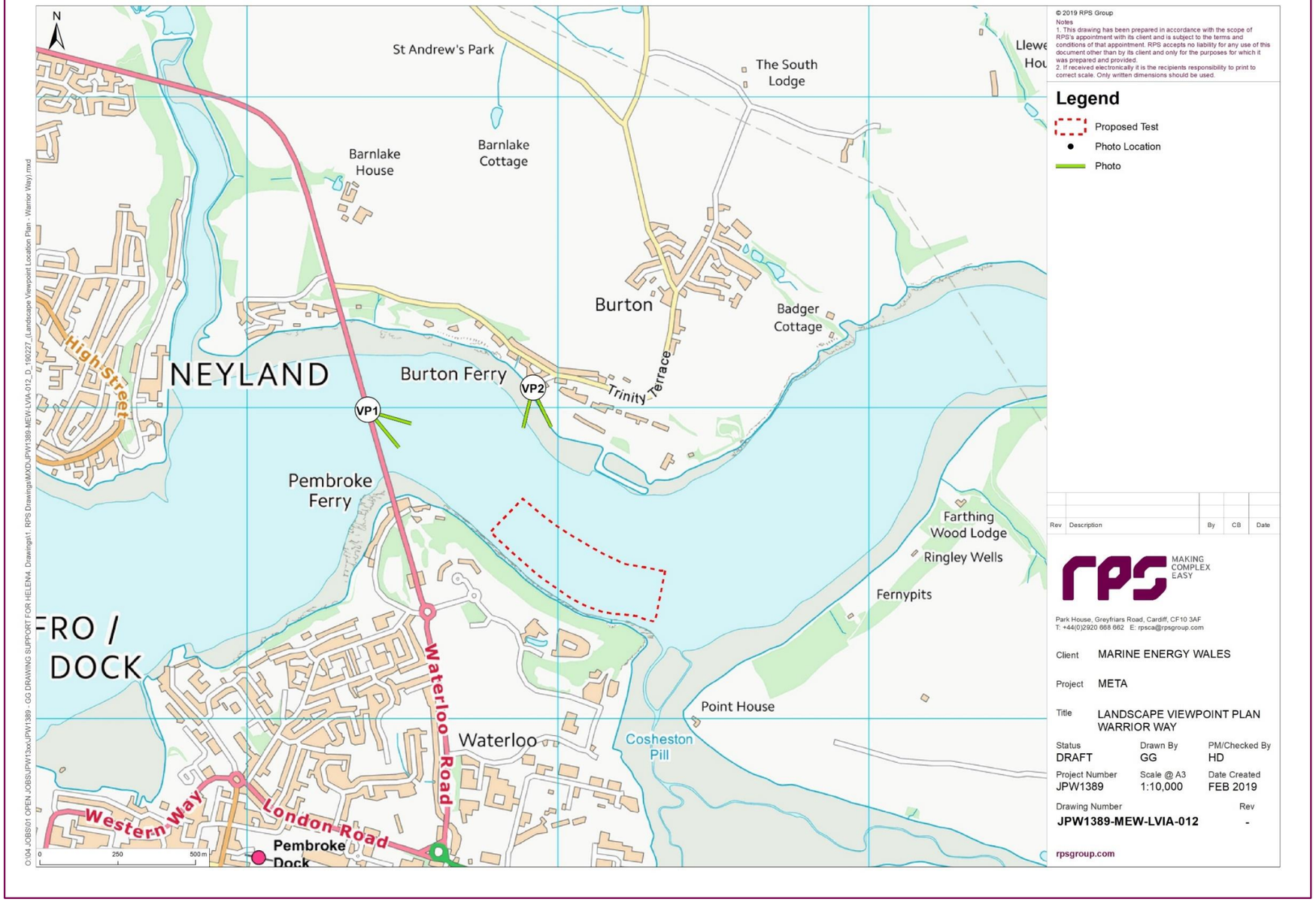

Figure 14-4: Landscape Viewpoint Location Plan – Warrior Way (site 6).

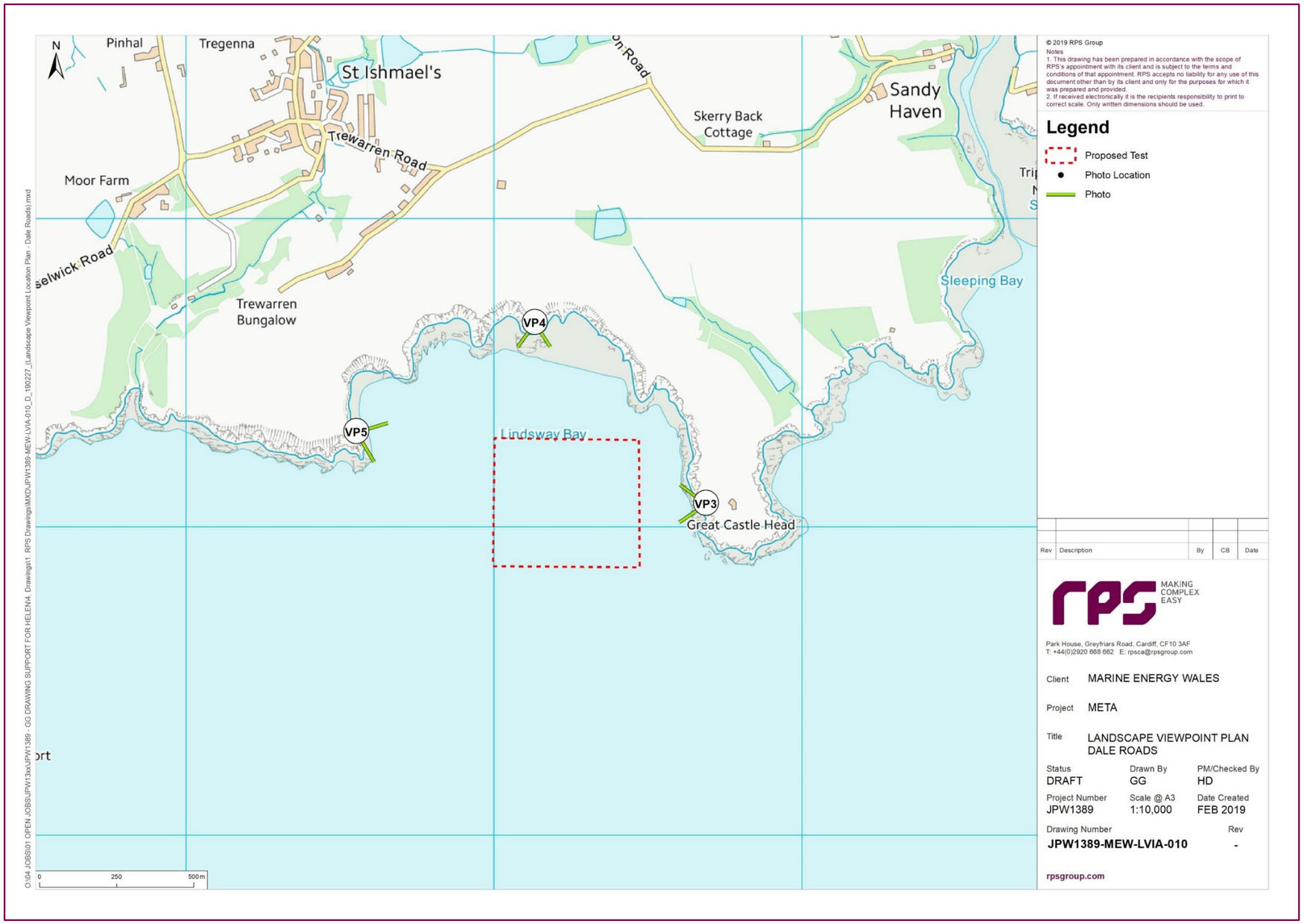

Figure 14-5: Landscape Viewpoint Location Plan – Dale Roads (site 7).

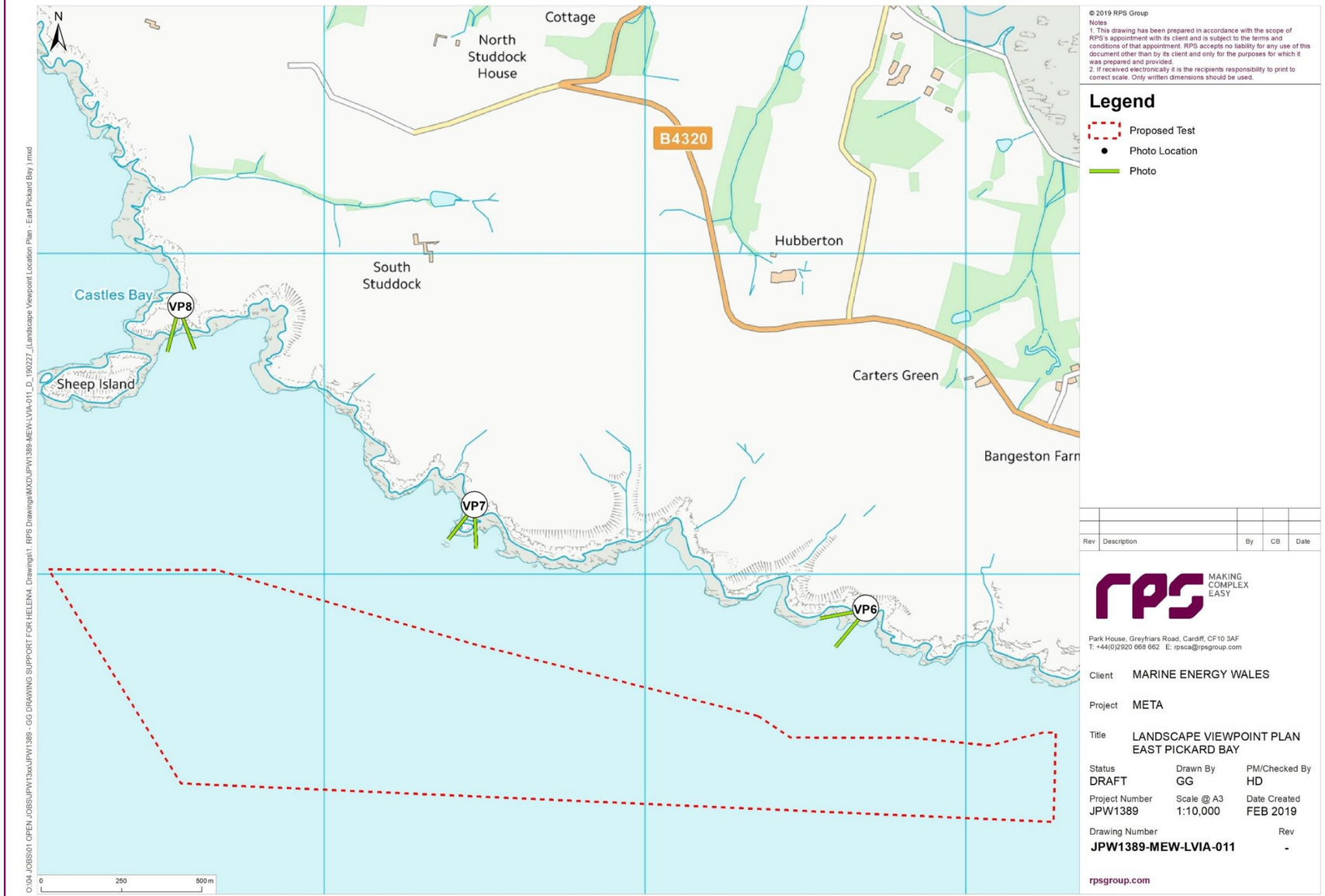

Figure 14-6: Landscape Viewpoint Location Plan – East Pickard Bay (site 8).

Warrior Way (site 6)

14.7.1.2 Warrior Way (site 6). This testing site is located within the inner Waterway (approximately 145 m from the shoreline and 460 m from the coastal Public Right of Way (PRoW) to the east of the town of Pembroke Dock and to the south of the settlement of Burton Ferry. This testing site lies outside the PCNP but lies within the Milford Haven Landscape of Outstanding Historic Interest. It also lies within the Pembrokeshire Marine Special Area of Conservation (SAC) and the estuary edges by the Milford Haven Waterway Site of Special Scientific Interest (SSSI).

14.7.1.3 The Cleddau bridge lies adjacent to the west and is a dominating feature in the local landscape. The landscape and seascape can be described as an intensely used urban waterway littered with recreational floating craft and yachts, maker buoys, commercial shipping. Port operational activities are dominant including the car ferry, tugs, service and pilot vessels. Large jetty and slipway structures are common along the waterway. Views to the west are dominated by the tall oil refinery structures, gas and chemical storage tanks and vertical element of the power stations elevated on the cliffs above the waterway edges.

14.7.1.4 This test site lies within MCA 21: Milford Haven and incorporates the marine components of the Pembrokeshire Coast National Park Seascape Character Areas (PCNPSCA); 31: Outer Milford Haven, 32: Inner Milford Haven and 33: Daugleddau. It identifies the key characteristics of the MCA as follows;

- Drowned ria with steep red sandstone cliffs, sheltered bays and shallow creeks surrounded by rolling and occasionally steep sided hills with distinctive woodland down to the water's edge;
- The sheltered tidal estuary creates an internationally and nationally important natural harbour with mudflats, sandy inlets, marshes, creeks and bays;
- Strong currents and swell at mouth of the estuary becoming more sheltered the further inland travelled where tidal changes take over as the main influence factor on the character;
- The ria forms a unifying theme between the two distinctly contrasting characters of the enclosed unsettled upper stretches in the east and the open developed estuary in the west;
- Major deep-sea port, Pembroke Port and Milford Docks, with extensive industrial facilities, oil refineries, the largest oil/gas/petrochemical storage facilities in the UK and power station;
- Dispersed settlement with single dwellings and some small medieval and traditional villages along the upper stretches of the river systems, with limited transport links;
- Historically important quays at Milford Haven and Pembroke, along with Carew Castle and tidal mill, medieval waterside settlements and many features associated with military defence;
- Popular recreation and sailing destination especially around Dale, although low key recreation including small boat moorings elsewhere. High numbers of walkers use the coastal path which hugs the coastline;
- Busy ports and commercial shipping channels to the west with tanker terminals, ferry terminal and marinas contrasting to the high levels of tranquillity within the sheltered tidal estuary to the east;
- Varied views within the estuary often contained and channelled by the surrounding steep hills of Pembrokeshire Coast National Park, opening up towards the wide estuary mouth; and
- The oil refinery and associated infrastructure dominates views into the MCA, including from the surrounding seas (MCAs 18,19, 22 and 23).

14.7.1.5 This test site lies on the boundary of two seascape character areas: Inner Milford Haven (no. 32) (PCNPSCA 32, 2013), to the west and the Daugleddau (no.33) (PCNPSCA 33, 2013), to the east. The area has many factors that detract from the sensitivity of the area, including the existing towers, wind turbines, tanks and associated industrial features, urban centres close to and visible from the water, main roads detracting from the tranquillity of the area and the presence of established recreational use of the waterway.

14.7.1.6 The key sensitive receptors of the Inner Milford Haven seascape are:

- Popular recreational designation for visitors and recreational boating;
- Designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales;
- Walkers using the Pembrokeshire Coast Path; and
- Viewpoints from the Cleddau Bridge and across the Daugleddau from publicly accessible coastal viewpoints in Burton Ferry.

14.7.1.7 A summary of each LANDMAP Aspect Area and description covering the site are provided in Table 14-6 below and are shown on

14.7.1.8 Figure 14-7 to Figure 14-13.

Table 14-6: LANDMAP Aspects for Warrior Way (site 6). Table 14-7: LANDMAP Aspects for Warrior Way (site 6).

Aspect type	Area ID	Area name	Classification	Evaluation
Geological Landscape	PMBRKGL128	Cleddau	Other	High
Landscape Habitat	PEMBRKLH602	Pembroke Dock	Residential Green Space	Moderate
Visual and Sensory	PMBRKVS067	Pembroke Dock	Urban	Moderate
Historic Landscape	PMBRKHL43875	Pembroke Dock	Planned Settlement	High
Cultural Landscape	PMBRKCL196	Pembroke Dock	Lowlands	High

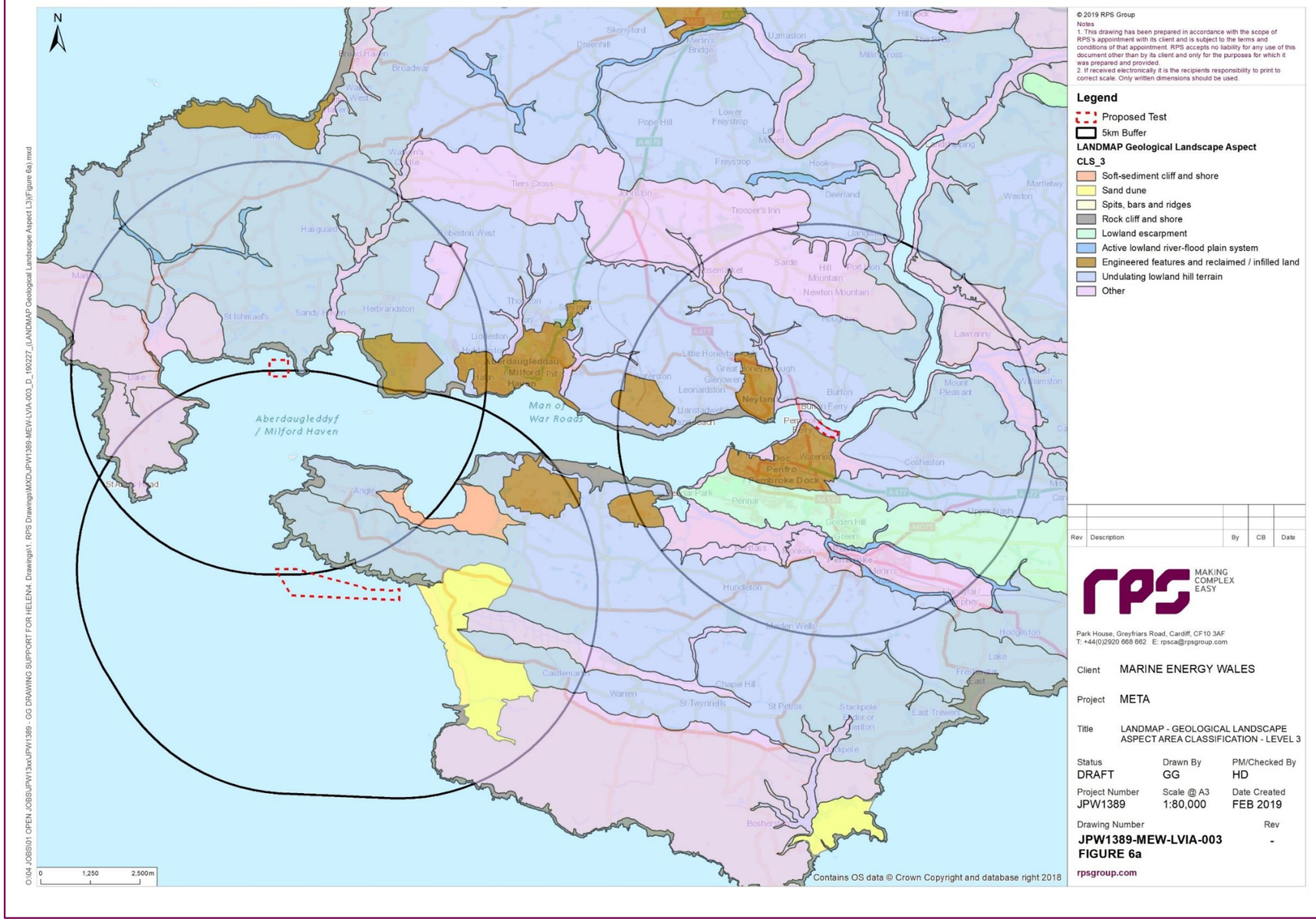

Figure 14-7: LANDMAP Geological Landscape Aspect L3.

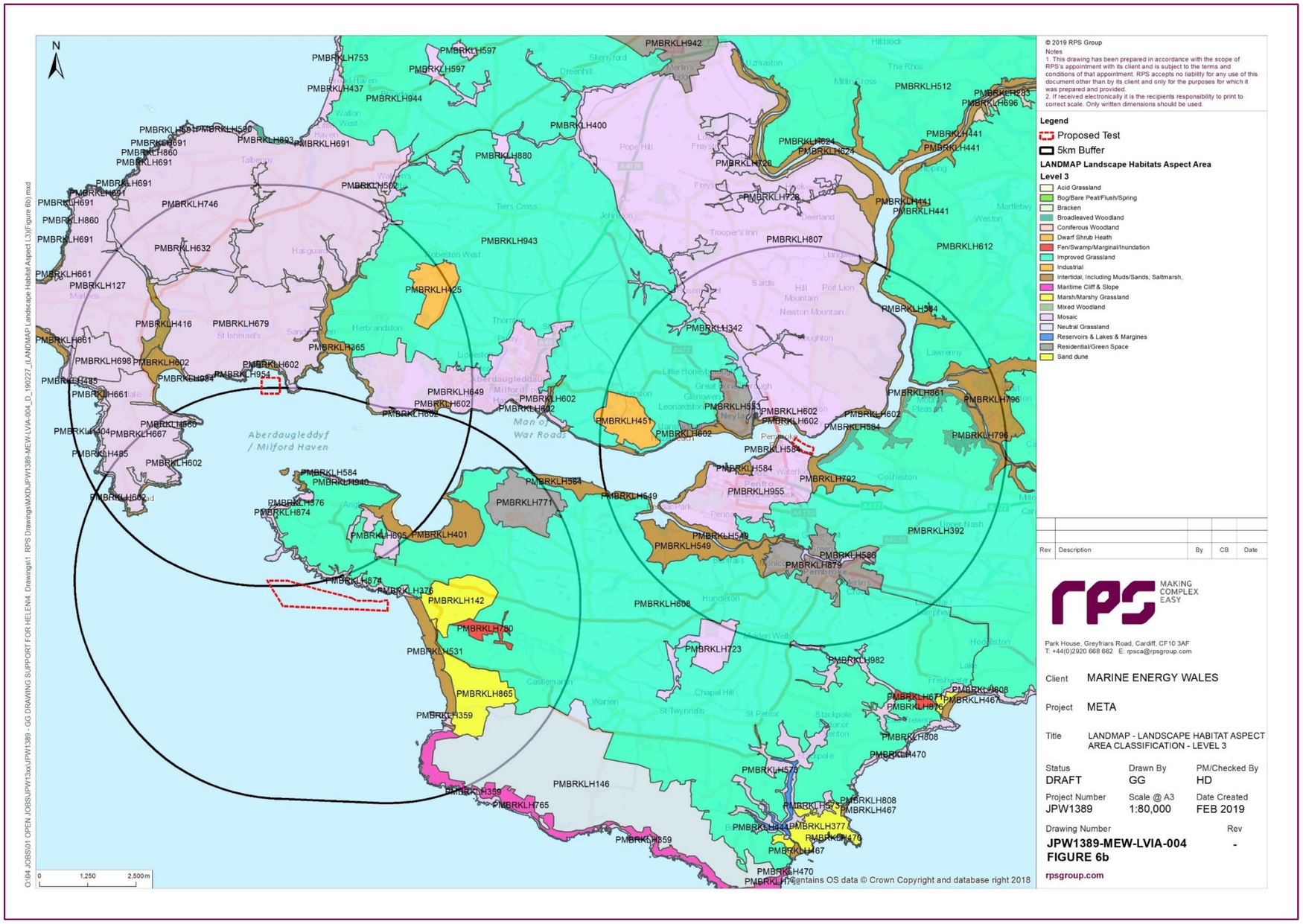

Figure 14-8: LANDMAP Landscape Habitat Aspect L3.

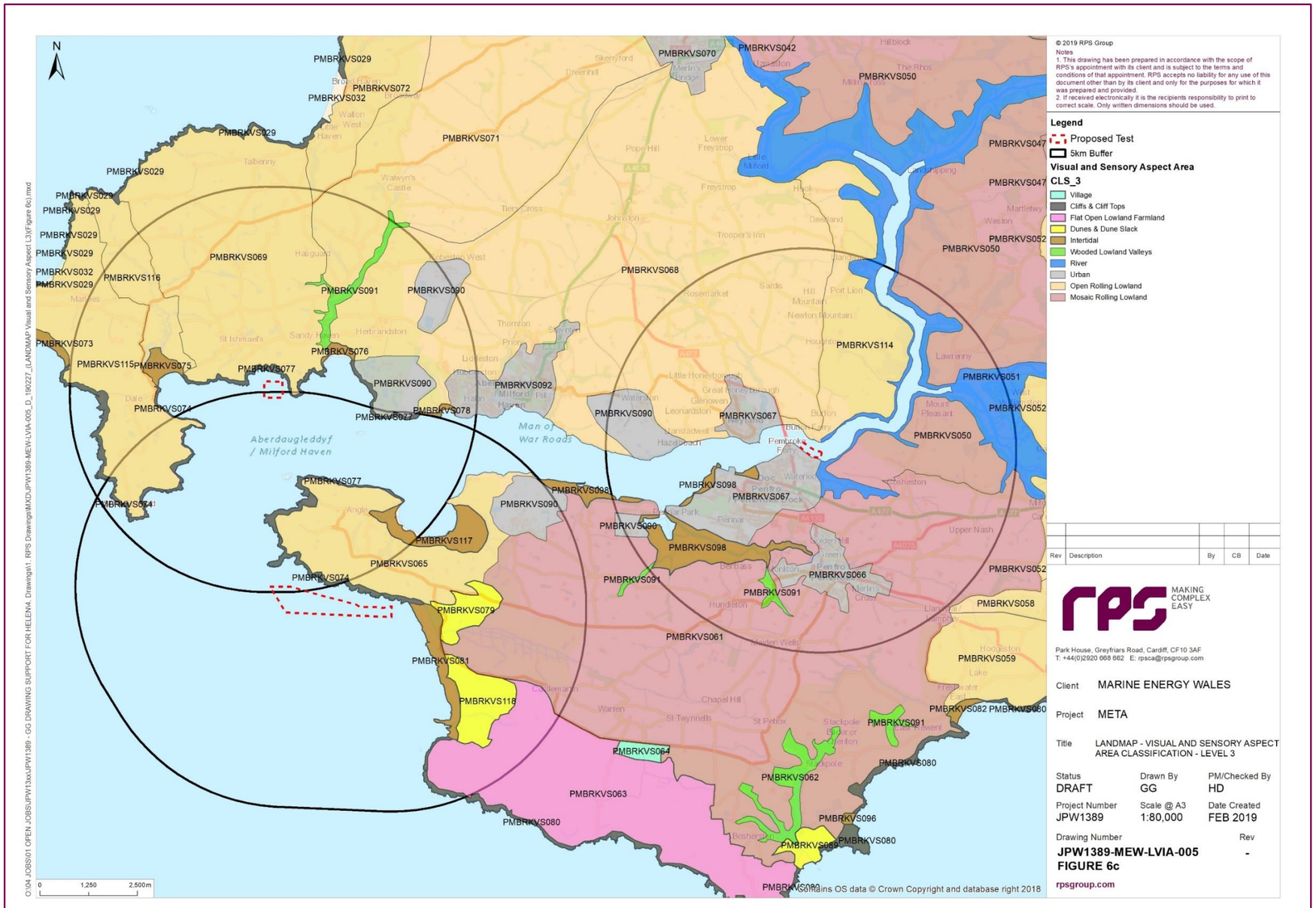

Figure 14-9: LANDMAP Visual and Sensory Aspect L3.

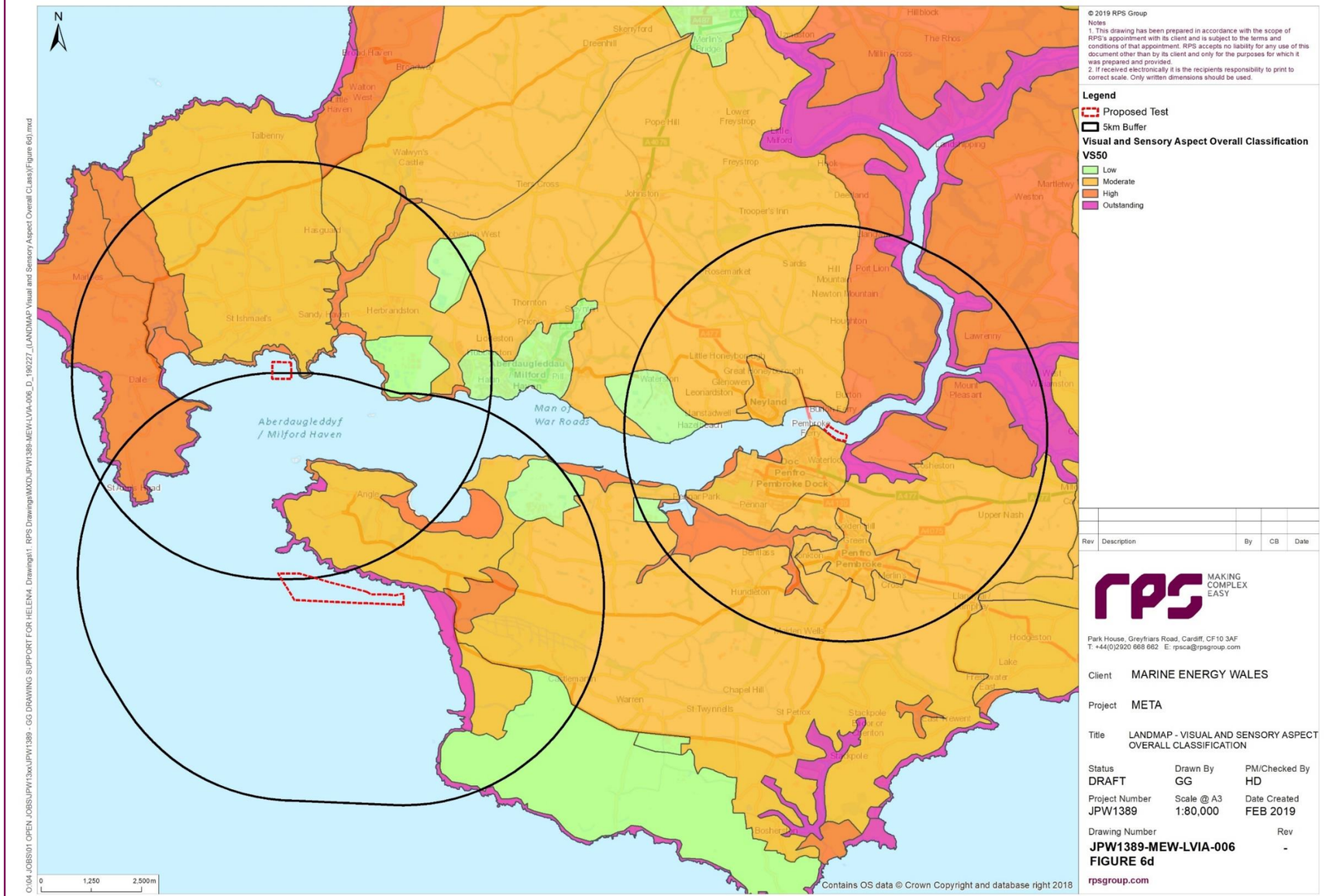

Figure 14-10: LANDMAP Visual and Sensory Aspect Overall Class.

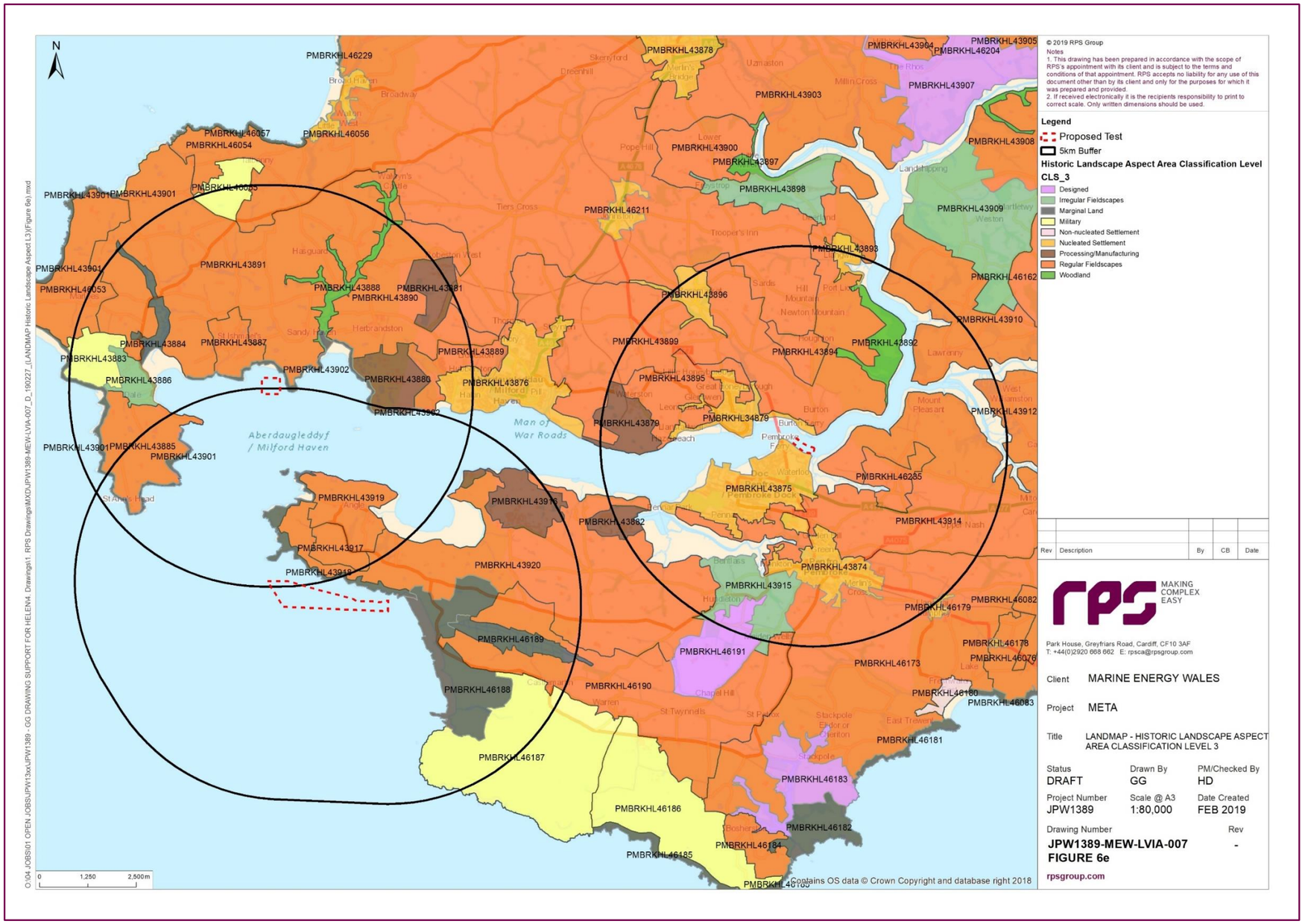

Figure 14-11: LANDMAP Historic Landscape Aspect L3.

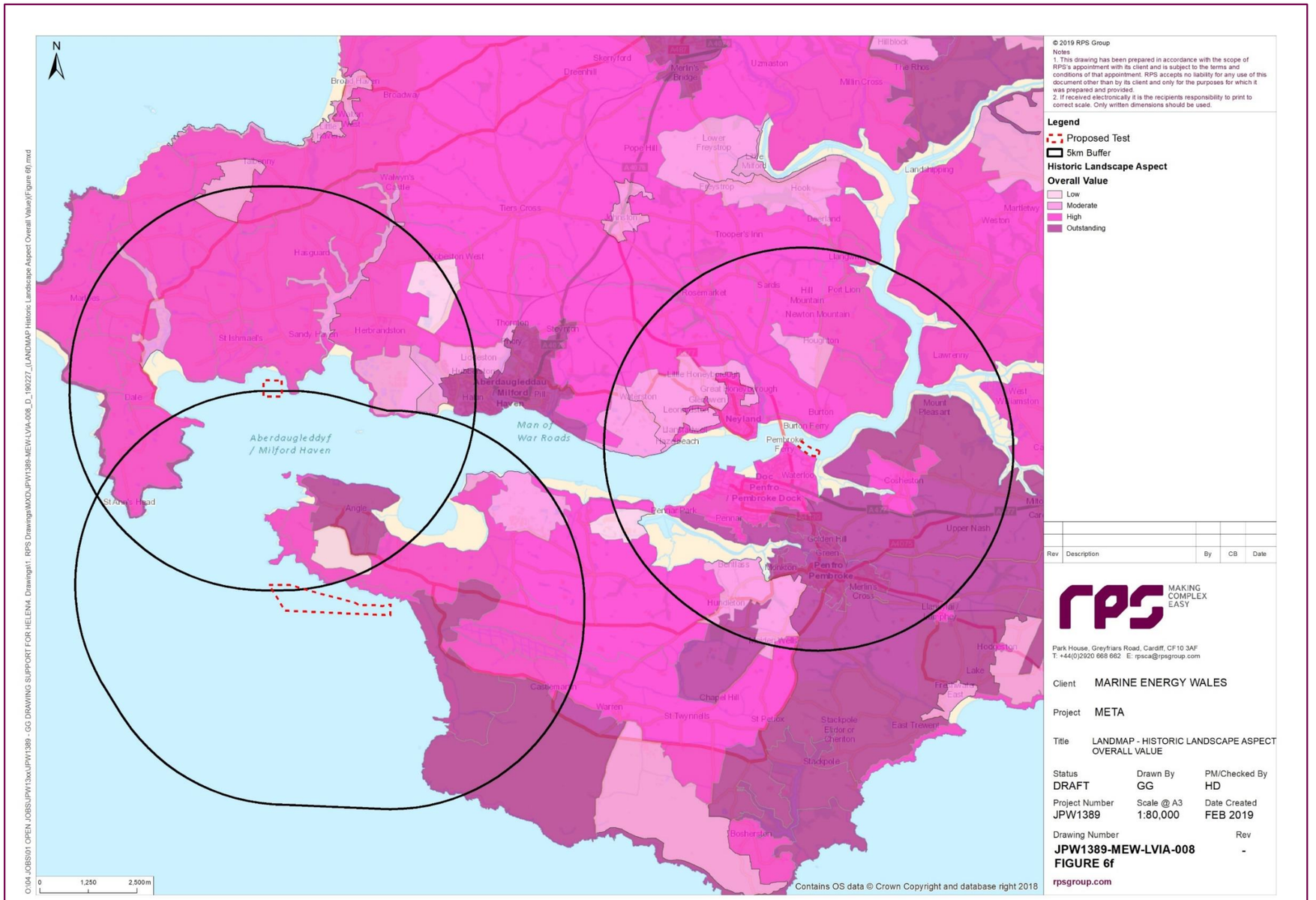

Figure 14-12: LANDMAP Historic Landscape Aspect Overall Value.

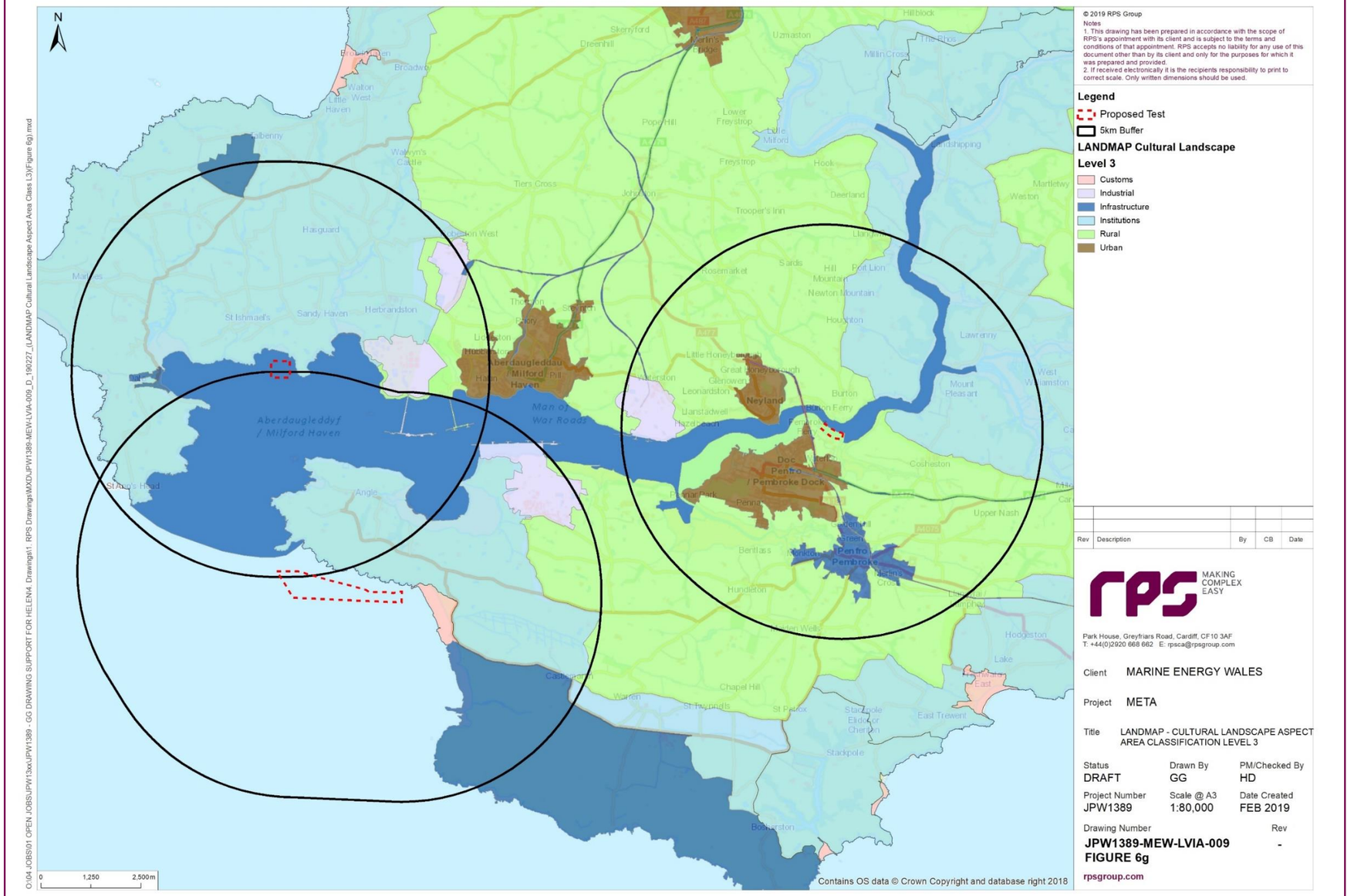

Figure 14-13: LANDMAP Cultural Landscape Aspect Area Class L3.

Dale Roads (site 7)

14.7.1.9 Dale Road (site 7) – This test site lies along the inner water way but close to mouth of Milford Sound between St Ann's Head and Rat Island. It lies approximately 500 m (maximum extent) offshore. The shoreline is located within the PCNP. The test site also lies within the Pembrokeshire Marine SAC, the Milford Haven Waterway SSSI and SCA 34.

14.7.1.10 The landscape and seascape can be described as open sea character with strong currents and swells with red steep sandstone cliffs and sheltered bays. The landscape beyond is open and rolling in contrast to the sheltered bay of Dale. Views towards the mouth of the bay have an open sea character. The oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway edges are visible in the view back towards the inner waterway. This stretch of the inner waterway forms part of the busy harbour mouth with lots of shipping activity. The area is also popular for sailing and other recreational vessels especially around the Dale.

14.7.1.11 This test site lies in the same MCA as Warrior Way (site 6) and shares the same key characteristics as listed in paragraph 14.7.1.4. It lies in the PCNPSCA 31: Outer Milford Haven and forms the outer part of the waterway. The sea area is busy with ferry and commercial shipping, with refinery and other energy and port infrastructure in the background views

14.7.1.12 Due to the industry present in the waterway, such as the commercial shipping, refineries and other industrial uses, the presence of established recreational activity and lighting associated with settlements, shipping and industry can detract from the sensitivity of the area.

14.7.1.13 The key sensitive receptors of the Outer Milford Haven seascape are as follows:

- Red steep sandstone cliffs and sheltered bays;
- Popular recreational designations for visitors and recreational boating;
- Designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales; and
- Walkers using the Pembrokeshire Coast Path.

14.7.1.14 A summary of each LANDMAP Aspect Area and description covering the site are provided in Table 14-8 below and shown in Figure 14-7 to Figure 14-13.

Table 14-8: LANDMAP Aspects for Dale Roads (site 7).

Aspect type	Area ID	Area name	Classification	Evaluation
Geological Landscape	PMBRKGL153	Great Castle Head Coast	Rock Cliff and shore	Outstanding
Landscape Habitat	PEMBRKLH602	North Coast of Daugleddau	Intertidal, Including Muds/Sands, Saltmarsh, Shingle/Gravel and Boulders/Rocks	High
Visual and Sensory	PMBRKVS077	Great Castle Head	Cliffs and Cliff Tops	High
Historic Landscape	PMBRKHL43902	Monk Haven to Gelliswick	Cliff Top	High
Cultural Landscape	PMBRKCL196	Milford Haven Waterway	Communications and Transport	Outstanding

East Pickard Bay (site 8)

14.7.1.15 East Pickard Bay (site 8) – This test site lies on the outer edge of the Waterway to the south of the mouth of Milford Sound between St Ann's Head and Rat Island. It lies approximately 700 m (maximum extent) off shore. The shoreline is located within the PCNP. The test site also lies within the Pembrokeshire Marine SAC and SCA 34. The shoreline lies within the Angle Peninsula Coast SSSI.

14.7.1.16 The landscape and seascape can be described as wild and exposed made up of large, exposed south facing jagged sandstone cliffs with the beach at Freshwater. Close to the shore the seascape is used for occasional leisure boating but limited ship anchorage due to the Castle Martin Ministry of Defence (MOD) firing range. Commercial shipping is a common element and visibly noticeable in the seascape beyond the Angle peninsula. This test site also lies adjacent to a MOD Danger Area.

14.7.1.17 This test area lies in MCA 22: South Pembrokeshire Coastal and Inshore Waters and incorporates the marine components of the Pembrokeshire Coast National Park Seascape Character Areas (PCNPSCA); 31: Outer Milford Haven, 32: Inner Milford Haven and 33: Daugleddau. It identifies the key characteristics of the MCA as follows;

- Diverse, rugged coast forming the southern edge of PCNP, with rocky sections, steep cliffs, arches and stacks interspersed with small coves, scalloped bays and sandy beaches.
- Large area of sea, mainly 30-60 m deep on gravelly sand bed with shallower waters over sand on St Gowan Shoals to east (10-30 m depth);
- Internationally important and diverse coastline with rocky outcrops, deep red sandstone, white limestone cliffs (designated SAC) and wave cut platforms as well as numerous sandy coves and large sand dune systems;
- Includes areas within the Limestone Coast of South West Wales SAC, designated for rare and scare maritime plants and the Pembrokeshire Marine SAC, which recognises the area's varied marine habitats and rich marine life;

- Generally low wave stress except off St Govan's Head which has the potential for steep seas, large waves and strong dangerous currents with a wild character. Shallow sometimes treacherous waters en-route to Milford Haven at Turbot Bank;
- Manorbier Castle is a strong coastal landmark with associated traditional settlement dating from the 12th century, designated as a Conservation Area;
- Other rich archaeological evidence for a long history of human occupation, such as ancient relics preserved beneath Stackpole Warren and coastal promontory forts;
- Several wrecks scattered across the shallow waters offshore from Linney Head and on the approach to Milford Heaven;
- Offshore waters are used by ferries, commercial shipping and fishing boats;
- MOD practice ranges strongly influence the MCA with large areas restricted at Manorbier and Castlemartin, associated with several wartime aircraft losses;
- Milford Haven Harbour limits extend out into the west of the MCA;
- Popular with walkers using the Pembrokeshire Coast Path and network of footpaths with good access to beaches. The area is also popular with climbers and kayakers;
- Wide, unspoilt views out to sea and along the coastline from headlands and cliff tops, as well as from sections of the Pembrokeshire Coast Path, including views to Caldey Island, as well as Lundy Island and the North Devon coast;
- Very tranquil, remote and often wild coastline when the firing ranges are not operating. Long stretches of coastline have little or no settlement; and
- Offshore open sea area with simple, consistent and unified marine character at a vast scale and a significant sense of openness, remoteness and exposure.

14.7.1.18 This test site lies within the seascape character area: Freshwater West (no. 34) (PCNPSCA 34, 2013). This test site can be described as a large, exposed south and west facing coast with a high energy beach. Backed by dunes and enclosed by the limestone cliffs at Linney Head to the south, with low jagged sandstone cliffs backed by semi natural vegetation on the south coast of Angle peninsula. Freshwater West is known for large waves and strong dangerous currents. As a result, there is low key, recreational use of beaches primarily used by tourists and experienced watercraft users. Some leisure boating and ship anchorage but restricted by the use of the sea for the Castle Martin MOD firing range. There are no settlements in the immediate vicinity; there is a disused airfield present. These factors can detract from the sensitivity of the area.

14.7.1.19 The key sensitive receptors of Freshwater West (no. 34) seascape are:

- Remote, unspoilt sweep of beaches and dune systems with craggy cliffs;
- Wide views across bay and to focal points such as St Ann's Head;
- Tranquillity when no firing on ranges;
- Important recreational destination; and
- Walkers using the Pembrokeshire Coast Path.

14.7.1.20 A summary of each LANDMAP Aspect Area and description covering the site are provided below in Table 14-9 and shown in Figure 14-7 to Figure 14-13..

Table 14-9: LANDMAP Aspects for East Pickard Bay (site 8).

Aspect type	Area ID	Area name	Classification	Evaluation
Geological Landscape	PMBRKGL234	Hundleton	Undulating lowland hill	Moderate
Landscape Habitat	PEMBRKLH874	West Angle Bay	Mosaic	High
Visual and Sensory	PMBRKVS065	Angle	Open Rolling Lowland	Moderate
Historic Landscape	PMBRKHL43920	Rhoscrowther	Large Fields	High
Cultural Landscape	Pembrokeshire Coast	Fresh Waterway	Communications and Transport	Outstanding

14.7.2 Designated sites

14.7.2.1 Landscape/seascape designations identified for the META project landscape, seascape and visual assessment are described in Table 14-10 below.

Table 14-10: Designated sites and relevant qualifying interest features for the META project.

Designated Site	Closest Distance to META sites (m)			Relevant Qualifying Interest Feature
	Warrior Way (site 6)	Dale Roads (site 7)	East Pickard Bay (site 8)	
Pembrokeshire Coast National Park	1660	500	700	None
Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales.	Within	Within	4700	None

14.7.3 Future baseline scenario

14.7.3.1 The (Marine Works (EIA) Regulations 2007 (as amended)) requires that *"a description of the relevant aspects of the current state of the environment (baseline scenario), and an outline of the likely evolution thereof without implementation of the project, as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge"* is included within the Environmental Statement.

14.7.3.2 In the event that the META project does not come forward, an assessment of the future baseline conditions has been carried out and is described within this section.

14.7.3.3 Predicting the future baseline landscape involves a degree of speculation and uncertainty, as acknowledged at paragraph 5.33 of GLVIA3. The Pembrokeshire Coast National Park Management Plan 2015 – 2019 reviewed as part of the desk-based assessment for this chapter identifies forces for change in relation to development and retaining the special qualities of the landscape, this includes consideration of renewable energy potential and capacity. It contains a section on '*what the park might look like in 2050'* predicting improvements in sustainable design and renewable energy generation The National Landscape Character Areas (NRW 2016) (published by NRW) has also been reviewed but did not contain text relating to future issues or forces for change.

14.7.3.4 The Pembrokeshire Coast National Park Authority Seascape Character Assessment December 2013 was also reviewed as part of the desk-based assessment and identifies forces for change in relation to natural process and climate change. For Pembroke Dock and the port of Milford, growth in tourism and water based motor leisure boats and sailing activities is predicted from a new marina and increased mooring capacity. Marine commercial activity is predicted to continue to respond to more LNG and other changing requirements for energy.

14.7.3.5 It is recognised that no landscape/seascape is static and that the landscape/seascape across the study area is under different pressures and continually changing. Further to a review of the above, in terms of landscape character, it is considered that the character of the baseline landscape for Warrior Way (site 6) may change more that the sites within the National Park which would not significantly change in the future (up to and including 2050).

14.7.4 Data limitations

14.7.4.1 Detail on the type, colour and appearance of the test equipment to be deployed that will be visible above the surface of the sea for each of the three test areas of the META project is not yet known and depends on the interest from developers using the META project in the future.

14.8 Key parameters for assessment

14.8.1 Maximum and most likely design scenario

14.8.1.1 Both the maximum design and most likely design scenarios identified in Table 14-11 have been selected as those having both the potential to result in the greatest effect and the most likely effect on an identified receptor or receptor group. These scenarios have been selected from the details provided in the project description (chapter 2: Project Description). Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the project description (e.g. different infrastructure layout), to that assessed here be taken forward in the final design scheme.

14.8.2 Impacts scoped out of the assessment

14.8.2.1 On the basis of the baseline environment and the project description outlined in chapter 2: Project Description, a number of impacts are proposed to be scoped out of the assessment for landscape, seascape and visual assessment. These impacts are outlined, together with a justification for scoping them out, in Table 14-12.

Table 14-11: Maximum and most likely design scenarios considered for the assessment of potential impacts on landscape seascape and visual assessment.

Warrior Way (site 6)

Potential impact	Maximum design scenario	Most likely design scenario	Justification
Installation and decommissioning phase			
Impact on the designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales. Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path along the Cleddau Bridge and across the Daugleddau from publicly accessible coastal viewpoints in Burton Ferry (VP1 and VP2). Visual impact for recreational receptors using the waterway for recreational boating.	• Up to five vessels may be utilised for deployment and retrieval operations at any one time with up to 20 deployment and 20 retrieval vessel movements in a 12-month period.	• Up to three vessels maybe utilised for deployment and retrieval operations at any one time, with up to 20 deployment and 20 retrieval vessel movements in a 12-month period.	Maximum design scenario: Maximum vessel traffic movements of up to 40 in a 12-month period will be associated with the greatest increase in visual impact. Most Likely design scenario: The most likely number of vessels transiting to and from port is up to 40 in a 12-month period will result in the most likely visual impact on receptors from local viewpoints.
Operation and maintenance phase			
Impact on the designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales. Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path along the Cleddau Bridge and across the Daugleddau from publicly accessible coastal viewpoints in Burton Ferry (VP1 and VP2). Visual impact for recreational receptors using the waterway for recreational boating.	• Up to four navigational marker buoys, *an ADCP and a test support buoy (standard design).* • Up to five vessels maybe utilised for up to 104 operation and maintenance vessel movements in a 12-month period. • *Maximum* duration of moored/gravity base deployment activity: six months (with the device in the water for 100% of that time). • Up to four device deployment in a 12-month period. • Devices maybe up to 2 m above sea surface. • Up to one device deployment at any one time. • Devices may occupy up to 200 m^2 sea area per deployment.	• Up to four navigational marker buoys, *an ADCP and a test support buoy (standard design).* • Up to three vessels maybe utilised for up to 52 operation and maintenance vessel movements in a 12-month period. • Maximum duration of moored/gravity base deployment activity three months (with the device in the water for 80% of that time). • Up to two device deployments in a 12-month period. • Devices maybe surface piercing. • Only one device at any one time. • Devices maybe visible at the sea-surface but of negligible height above the sea-surface and may occupy up to 100 m^2 sea area per deployment.	Maximum design scenario: Single device visible piercing the sea surface by up to 2 m above sea level across a sea surface area of 200 m^2 will be associated with the greatest visual impact. Maximum vessel traffic movements up to 104 operation and maintenance movements in a 12-month period will be associated with an increase in visual impact. Most Likely design scenario: Single device up to 100 m^2 visible at the sea-surface will be associated with the most likely impact. The most likely number of vessels transiting to and from port is up to 52 operation and maintenance vessel movements in a 12-month period will result in the most likely visual impact on receptors from local viewpoints.

Dale Roads (site 7)

Potential impact	Maximum design scenario	Most likely design scenario	Justification
Installation and decommissioning phase			
Impact on the designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales. Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path (VP3, VP4 and VP5). Visual impact for recreational receptors using the waterway for recreational boating.	• Up to five vessels maybe utilised for deployment and retrieval operations at any one time with up to 20 deployment and 20 retrieval vessel movements in a 12-month period.	• Up to three vessels maybe utilised for deployment and retrieval operations at any one time, with up to 20 deployment and 20 retrieval vessel movements in a 12-month period.	Maximum design scenario: Maximum vessel traffic movements up to 40 deployment and retrieval vessel operations in a 12-month period is associated with the greatest increase in visual impact. Most Likely design scenario: The most likely number of vessels transiting to and from port is up to 40 in a 12-month period which will result in the most likely visual impact on receptors from local viewpoints.

Potential impact	Maximum design scenario	Most likely design scenario	Justification
Operation and maintenance phase			
Impact on the designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales. Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path (VP3, VP4 and VP5). Visual impact of recreational receptors using the waterway for recreational boating. .	• Up to four navigational marker buoys and an ADCP, a wave buoy or other similar technology, and a test support buoy (standard design). • Up to five vessels maybe utilised for up to 104 operation and maintenance vessel movements in a 12-month period. • Maximum duration of moored/gravity base deployment activity: 12 months (with the device in the water for 100% of that time). • Up to two device deployments in a 12-month period. • Devices may be surface piercing up to 2 m above the sea surface. • One device at any one time. • Device maybe up to 30 m x 20 m. • Sea surface footprint 600 m^2.	• Up to four navigational marker buoys and an ADCP, a wave buoy or other similar technology, and a test support buoy (standard design). • Up to three maybe utilised for up to 52 operation and maintenance vessel movements in a 12-month period. • Maximum duration of moored/gravity base deployment activity: 6 months (with the device in the water for 80% of that time). • Up to one device deployments in a 12-month period. • Devices may be surface piercing/visible at the sea-surface but will be of negligible height above the sea-surface. • One device at any one time. • Device maybe up to 15 m x 10 m. • Sea surface footprint up to 150 m^2.	Maximum design scenario: Single device visible piercing the sea surface by up to 2 m above sea level across a sea surface area of 600 m^2 will be associated with the greatest visual impact. Maximum vessel traffic movements up to 104 operation and maintenance movements in a 12-month period will also be associated with an increase in visual impact. Most Likely design scenario: Single device up to 150 m^2 visible at the sea-surface will be associated with the most likely impact. The most likely number of vessels transiting to and from port up 52 operation and maintenance movements in a 12-month period will result in the most likely visual impact on receptors from local viewpoints.

East Pickard Bay (site 8)

Potential impact	Maximum design scenario	Most likely design scenario	Justification
Installation and decommissioning phases			
Impact on remoteness, unspoilt sweep of beaches and dune systems with craggy cliffs and tranquillity when no firing at MOD ranges in the National Park. Impact on wide views across bay and to focal points such as St Ann's Head. Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path (VP6, VP7 and VP8). Visual impact for recreational receptors using the waterway for recreational boating.	• Up to five vessels may be utilised for deployment and retrieval operations at any one time with up to 40 deployment and 40 retrieval vessel movements in a 12-month period.	• Up to three vessels may be utilised for deployment and retrieval operations at any one time with up to 20 deployment and 20 retrieval vessel movements in a 12-month period.	Maximum design scenario: Maximum vessel traffic movements up to 80 deployment and retrieval in a 12-month period will be associated with the greatest increase in visual impact. Most Likely design scenario: The most likely number of vessels transiting to and from port up to 40 in a 12-month period will result in the most likely visual impact on receptors from local viewpoints.
Operation and maintenance phase			
Impact on remoteness, unspoilt sweep of beaches and dune systems with craggy cliffs and tranquillity when no firing at MOD ranges in the National Park. Impact on wide views across bay and to focal points such as St Ann's Head. Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path (VP6, VP7 and VP8).	• Up to four navigational marker buoys deployed per test activity with up to two test activities occurring concurrently. Therefore, up to eight navigational marker buoys at any one time. In addition, an ADCP, a wave buoy or other similar technology will be deployed, and a test support buoy (standard design) per deployment, therefore up to two test support buoys maybe deployed concurrently. • Up to five vessels maybe utilised for up to 150 operation and maintenance vessel movements in a 12-month period.	• Up to four navigational marker buoys and an ADCP, a wave buoy or other similar technology, and a test support buoy (standard design). • Up to three vessels maybe utilised for up to 104 operation and maintenance vessel movements in a 12-month period. • Maximum duration of moored/gravity base deployment activity: 12 months. • Up to one device deployment in a 12-month period.	Maximum design scenario: Two devices visible piercing the sea surface by up to 15[1] m above sea level across a sea-surface area of 33,810 m^2 will be associated with the greatest visual impact. Maximum vessel traffic movements up to 150 operation and maintenance vessel movements in a 12-month period will be associated with the greatest increase in visual impact. Most Likely design scenario: Single device up to 100 m^2 visible at the sea-surface will be associated with the most likely impact. The most likely number of vessels transiting to and from port up to 104 operation and maintenance movements in a

Potential impact	Maximum design scenario	Most likely design scenario	Justification
Visual impact for recreational receptors using the waterway for recreational boating.	• Maximum duration of moored/gravity base deployment activity :18 months. • Up to four device deployments in a 12-month period. • Devices maybe surface piercing by up to 15 m above sea-surface[2]. • Up to 33,810 m^2 of sea-surface maybe utilised for testing.	• Devices maybe surface-piercing but of negligible height above the sea-surface. • Up to 100 m^2 of sea-surface maybe utilised for testing.	12-month period will result in the most likely visual impact on receptors from local viewpoints.

[2] A maximum scenario height of up to 15 m above sea surface will only apply in devices up to a maximum dimension scenario of 60 m length x 60 m width. Where maximum dimensions of a device are over 60 m length x 60 m width, a maximum height of 5 m above sea surface will be applied.

Table 14-12: Impacts scoped out of the assessment for landscape, seascape and visual assessment.

Potential impact	Justification
Installation phase	
Zone of Visibility Assessment	Each testing site is contained by land form and topography for on shore views. The META project is very low key in scale and will not be visible from distance views.
Views from private residences within 2 km from Dale Roads (site 7) and East Pickard Bay (site 8)	There are no private residences with 2 km.
Views from public roads within 2 km of Dale Roads (site 7)	Due to a combination of topography and high roadside hedges along the country lanes, there are no views of Dale Roads (site 7) from public roads.
Views from public roads within 2 km of East Pickard Bay (site 8)	Due to landform there are no views from the B4319 and the B4320 which are the only two public highways associated with test site 8.
Operation and maintenance phase	
Zone of Visibility Assessment	Each testing site is contained by land form and topography for on shore views. The META project based on the most likely design scenario is very low key in scale and will not be visible from distance views.
Views from public roads within 2 km of Dale Roads (site 7)	Due to a combination of topography and high roadside hedges along the country lanes, there are no views of Dale Roads (site 7) from public roads.
Views from private residences within 2 km from Dale Roads (site 7) and East Pickard Bay (site 8)	Due to landform there are no views from the B4319 and the B4320 which are the only two public highways associated with East Pickard Bay (site 8).
Views from public roads within 2 km of East Pickard Bay (site 8)	Due to landform there are no views from the B4319 and the B4320 which are the only two public highways associated with East Pickard Bay (site 8).
Decommissioning phase	
Zone of Visibility Assessment	Each testing site is contained by land form and topography for on shore views. The META project is very low key in scale and will not be visible from distance views.
Views from public roads within 2 km of Dale Roads (site 7)	Due to a combination of topography and high roadside hedges along the country lanes, there are no views of Dale Roads (site 7) from public roads.
Views from private residences within 2 km from Dale Roads (site 7) and East Pickard Bay (site 8)	Due to landform there are no views from the B4319 and the B4320 which are the only two public highways associated with East Pickard Bay (site 8).
Views from public roads within 2 km of East Pickard Bay (site 8)	Due to landform there are no views from the B4319 and the B4320 which are the only two public highways associated with East Pickard Bay (site 8).

14.9 Impact assessment methodology

14.9.1 Impact assessment criteria

14.9.1.1 The assessment of landscape effects is described by the Landscape Institute in GLVIA 3 as follows:

14.9.1.2 The assessment of landscape and seascape effects involves a combination of quantitative and qualitative assessment and the application of professional judgement within a structured assessment framework.

14.9.1.3 The term 'visual effects', as defined in paragraph 2.21 of the GLVIA3 means impacts or effects on 'specific views and on the general visual amenity experienced by people'. In accordance with GLVIA3, the assessment will focus on public views experienced by those groups of people who are likely to be most sensitive to the effects of the proposed development. These include: local communities (where views contribute to the landscape setting enjoyed by residents in the area), road users and people using recreational routes, features and attractions. The landscape, seascape and visual assessment has followed a standard approach:

- establish baseline conditions against which the effects of the Proposed Development are assessed. This includes consideration of the future baseline as described in section 14.7.3;
- determine the nature of the receptor likely to be affected, i.e. its sensitivity (which in turn combines judgements about its susceptibility to change arising from a specific proposal with judgements about the value attached to it);
- predict the nature or magnitude of the effect likely to occur, which combines judgements about the likely size and scale of the change, the extent of the area over which it is likely to occur, whether the effect would be direct or indirect, reversible or irreversible, short, medium or long term in duration and whether it is positive, neutral or negative; and
- consider how any significant visual effects identified could be reduced through design or specific mitigation measures.

14.9.1.4 The visual assessment involves a combination of quantitative and qualitative assessment and the application of professional judgement within a structured assessment framework. GLVIA3 notes:

'*…whilst there is some scope for quantitative measurement of some relatively objective matters, …much of the assessment must rely on qualitative judgement, for example what effect the introduction of a new development or land use change may have on visual amenity, or about the significance of change in the character of the landscape and whether it is positive or negative'* (Paragraph 2.23) and *'In all cases there is a need for judgements that are made to be reasonable and based on clear and transparent methods so that the reasoning applied at different stages can be traced and examined by others' (Paragraph 2.24).*

14.9.1.5 The criteria for determining the significance of effects is a two-stage process that involves defining the sensitivity of the receptors and the magnitude of the impacts. This section describes the criteria applied in this chapter to assign values to the sensitivity of receptors and the magnitude of potential impacts. The terms used to define sensitivity and magnitude are based on those which are described in further detail in chapter 4: Environmental Assessment Methodology.

14.9.1.6 The criteria for defining magnitude in this chapter are outlined in Table 14-13 and the criteria for defining sensitivity in this chapter are outlined in Table 14-14.

Table 14-13: Definition of terms relating to the magnitude of an impact.

Magnitude of impact	Definition
Major	Considerable change to the landscape over a wide area or intensive change over a limited area with dramatic consequences for the elements, character and quality of the baseline landscape. The development will form a dominant landscape element and post development the baseline situation will be fundamentally changed, potentially creating a different landscape character. If designated, affecting the reasons for the designation (Adverse).
	Large scale or major improvement or resource quality; extensive restoration or enhancement; major improvement of attribute quality (Beneficial).
Moderate	Substantial change to the landscape over a wide area of considerable change over a limited area, with consequences for the elements, character and quality of the baseline landscape. The development will form a prominent landscape element and post development the baseline situation will be substantially changed designated affecting the reasons for the designation (Adverse).
	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial).
Minor	Inconspicuous change to the landscape over a wide area or slight change over a limited area, with very limited consequences for elements, character and quality of the baseline landscape. The development will be just perceptible and post development, the baseline landscape will appear largely unchanged. If designated, not affecting the designation (Adverse).
	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial).
Negligible	Almost indiscernible change to the landscape, with no consequences for elements, character and quality of the baseline landscape. The development will be barely perceptible and post development, the baseline landscape will appear unchanged. If designated, not affecting the reasons for the designation (Adverse).
	Very minor benefit to, or positive addition of one or more characteristics, features or elements (Beneficial).
No change	The assessment also identifies areas where no landscape change is anticipated. In these instances, 'no change' is inserted into the appropriate magnitude of effect column and the resulting effect is identified as 'no effect'.

Table 14-14: Definition of terms relating to the sensitivity of the receptor.

Sensitivity	Definition
Very High	Very high importance and rarity, international scale and very limited potential for substitution.
High	High importance and rarity, national scale and limited potential for substitution.
Medium	High or medium importance and rarity, regional scale, limited potential for substitution.
Low (or lower)	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

14.9.1.7 The significance of the effect upon landscape seascape and visual receptors is determined by correlating the magnitude of the impact and the sensitivity of the receptor. The particular method employed for this assessment is presented in Table 14-15. Where a range of significance of effect is presented in Table 14-15, the final assessment for each effect is based upon expert judgement.

14.9.1.8 For the purposes of this assessment, any effects with a significance level of minor or less have been concluded to be not significant in terms of the EIA Regulations.

Table 14-15: Matrix used for the assessment of the significance of the effect.

Sensitivity of receptor	Magnitude of impact: No change	Negligible	Minor	Moderate	Major
Negligible	Negligible	Negligible	Negligible or minor	Negligible or minor	Minor
Low	Negligible	Negligible or minor	Negligible or minor	Minor	Minor or moderate
Medium	Negligible	Negligible or minor	Minor	Moderate	Moderate or major
High	Negligible	Minor	Minor or moderate	Moderate or major	Major or substantial

	Very high	Negligible	Minor	Moderate or major	Major or substantial	Substantial

14.10 Measures adopted as part of the META Project

14.10.1.1 There are no adopted measures associated with the META project of relevance to landscape seascape visual receptors.

14.11 Assessment of significance

14.11.1 Installation and deployment, and decommissioning phase

14.11.1.1 The main impacts associated with the META project will be the operation and maintenance phase and a full assessment of these impacts is undertaken in paragraph 14.11.2 *et seq*. The impacts of the installation and deployment, and decommissioning phases of the META project will be limited to short term changes in the visual baseline. The environmental impacts arising from these phases of the META project are listed in Table 14-11 along with the maximum and most likely design scenario.

14.11.1.2 This phase of the META project will be similar for each of the three META sites and will involve only short term changes and no permanent changes. The activities associated with this phase for Warrior Way (site 6) and Dale Roads (site 7) will be up to five vessels utilised for deployment and retrieval operations at any one time with up to 20 deployment and 20 retrieval vessel operations in a 12-month period. This will create shipping movements equivalent of two vessels per week in a 12-month period in the seascape for each of these sites where this is already a common visible element. For East Pickard Bay (site 8), up to 40 deployments and 40 retrievals vessel operations will be required in a 12-month period.

14.11.1.3 Consequently, the conclusion of significance of impact has been given for each of the three META sites (Warrior Way (site 6), Dale Roads (site 7) and East Pickard Bay (site 8) against the maximum design scenario below.

Warrior Way (site 6) - Impact on the Designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales.

14.11.1.4 Pembroke Dock historic landscape character area comprises the 19th century naval dockyards and the 19th century grid-pattern planned town. Included in this area are many 19th century worker and town houses, with 20th century housing, light industrial development on its outskirts. The large-scale LNG refinery and gas/oil storage tanks, the power station and other energy related development including the wind turbines form elevated and visually prominent permanent elements in the local landscape beyond the port towards the open sea. This busy waterway and port is littered with evidence of commercial shipping and recreational boating including marker buoys, slipways and moorings and a variety of floating vessels ranging from small craft, yachts, tug boats, ferry ships and oil tankers.

Magnitude of impact

14.11.1.5 The magnitude of the impact of the visible elements of the maximum design scenario for this META site is five vessels utilised for deployment and retrieval operations at any one time with up to 20 deployment and 20 retrieval vessels operations in a 12- month period. This will create shipping movements equivalent of two vessels per week in a 12-month period in the seascape for this site where this is already a common visible element, specifically:

- The impact is considered to be indirect;
- The impact is considered to be long term as up to 15 years (the lifetime of the project);
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be negligible.

14.11.1.6 The impact is predicted to be of local spatial, long term but intermittent duration and fully reversible. It is predicted that the impact will affect the receptor indirectly. The magnitude is therefore, considered to be negligible.

Sensitivity of the receptor

14.11.1.7 LANDMAP identifies the context as being of medium sensitivity. Due to the function of this part of the waterway as a port and for recreational boating concurrent with a number of dominant built structures adjacent (Cleddau Bridge and port buildings) concurrent with oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway looking seawards, there are a number of factors that detract from sensitivity.

14.11.1.8 Consequently, the receptor is deemed to be of low vulnerability with full recoverability. The sensitivity of the receptor is therefore considered to be of medium value.

Significance of the effect

14.11.1.9 Overall, the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of the maximum design scenario is deemed to be negligible. The effect will, therefore, be of **negligible significance**, which is not significant in EIA terms.

Warrior Way (site 6) – Visual Impact from viewpoints for receptors using the Pembrokeshire Coast Path along the Cleddau Bridge and across the Daugleddau from Publicly accessible coastal viewpoints in Burton Ferry (VP1 and VP2).

14.11.1.10 This busy waterway and port is littered with evidence of commercial shipping and recreational boating including markers buoys, slipways and moorings and a variety of floating vessels ranging from small craft, yachts, tug boats, ferry ships and oil tankers. The oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway edges are visible in the view back towards the inner waterway.

Magnitude of impact

14.11.1.11 The magnitude of the impact of the visible elements of the maximum design scenario for this META site is five vessels utilised for deployment and retrieval operations at any one time with up to 20 deployment and 20 retrieval vessels operations in a 12-month period. This will create shipping movements equivalent of two vessels per week in a 12-month period in the seascape for this site where this is already a common visible element, specifically:

- The impact is considered to be indirect;
- The impact is considered to be long term as up to 15 years (the lifetime of the project);
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be negligible.

14.11.1.12 The impact is predicted to be of local spatial, long term but intermittent duration and fully reversible. It is predicted that the impact will affect the receptor indirectly. The magnitude is therefore, considered to be negligible.

Sensitivity of the receptor

14.11.1.13 Receptors using the PCP along the Cleddau Bridge and the public road in Burton will generally be moving as walkers (slow moving) and within vehicles (fast moving). Due to the function of this part of the waterway as a port and for recreational boating concurrent with a number of dominant built structures adjacent (Cleddau Bridge and port buildings) concurrent with oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway looking seawards, there are a number of factors that detract from sensitivity.

14.11.1.14 Consequently, the receptor is deemed to be of low vulnerability with full recoverability. The sensitivity of the receptor is therefore considered to be of medium value.

Significance of the effect

14.11.1.15 Overall, the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of maximum design scenario is deemed to be negligible. The effect will, therefore, be of **negligible significance**, which is not significant in EIA terms.

Warrior Way (site 6) – Visual impact for recreational receptors using the waterway for recreational boating.

14.11.1.16 This busy waterway and port is littered with evidence of commercial shipping and recreational boating including markers buoys, slipways and moorings and a variety of floating vessels ranging from small craft, yachts, tug boats, ferry ships and oil tankers. The oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway edges are visible in the view back towards the inner waterway.

Magnitude of impact

14.11.1.17 The magnitude of the impact of the visible elements of the maximum design scenario for this META site is five vessels utilised for deployment and retrieval operations at any one time with up to 20 deployment and 20 retrieval vessels operations in a 12-month period. This will create shipping movements equivalent of two vessels per week in a 12-month period in the seascape for this site where this is already a common visible element, specifically:

- The impact is considered to be indirect;
- The impact is considered to be long term as up to 15 years (the lifetime of the project);
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be negligible.

14.11.1.18 The impact is predicted to be of local spatial, long term but intermittent duration and fully reversible. It is predicted that the impact will affect the receptor indirectly. The magnitude is therefore, considered to be negligible.

Sensitivity of the receptor

14.11.1.19 LANDMAP identifies the context as being of medium sensitivity. Receptors using the waterway will generally be moving (slow and fast moving) within boats. Due to the function of this part of the waterway as a port and for recreational boating concurrent with a number of dominant built structures adjacent (Cleddau Bridge and port buildings) concurrent with oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway looking seawards, there are a number of factors that detract from sensitivity.

14.11.1.20 Consequently, the receptor is deemed to be of low vulnerability with full recoverability. The sensitivity of the receptor is therefore considered to be of medium value.

Significance of the effect

14.11.1.21 Overall, the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of maximum design scenario is deemed to be negligible. The effect will, therefore, be of **negligible significance**, which is not significant in EIA terms.

Dale Road (site 7) - Impact on the designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales.

14.11.1.22 This busy waterway and port is littered with evidence of commercial shipping and recreational boating including markers buoys and a variety of floating vessels ranging from small craft, yachts, tug boats, ferry ships and oil tankers. The oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway edges are visible in the view towards the inner waterway.

Magnitude of impact

14.11.1.23 The magnitude of the impact of the visible elements of the maximum design scenario for this META site is five vessels utilised for deployment and retrieval operations at any one time with up to 20 deployment and 20 retrieval vessels operations in a 12- month period. This will create shipping movements equivalent of two vessels per week in a 12-month period in the seascape for this site where this is already a common visible element, specifically:

- The impact is considered to be indirect;
- The impact is considered to be long term as up to 15 years (the lifetime of the project);
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be negligible.

14.11.1.24 The impact is predicted to be of local spatial, long term but intermittent duration and fully reversible. It is predicted that the impact will affect the receptor indirectly. The magnitude is therefore, considered to be negligible.

Sensitivity of the receptor

14.11.1.25 LANDMAP identifies the context as being of moderate sensitivity. Receptors using the waterway will generally be moving (slow and fast moving) within boats. Due to the function of this part of the waterway as a port and for recreational boating concurrent with a number of dominant built and industrial structures in an elevated position adjacent there are a number of factors that detract from sensitivity.

14.11.1.26 Consequently, the receptor is deemed to be of low vulnerability with full recoverability. The sensitivity of the receptor is therefore considered to be of medium value.

Significance of the effect

14.11.1.27 Overall, the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of maximum design scenario is deemed to be negligible. The effect will, therefore, be of **negligible significance**, which is not significant in EIA terms.

Dale Road (site 7) – Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path (VP3, VP4 and VP5).

14.11.1.28 This busy waterway and port is littered with evidence of commercial shipping and recreational boating including markers buoys and a variety of floating vessels ranging from small craft, yachts, tug boats, ferry ships and oil tankers. The oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway edges are visible in the view towards the inner waterway.

Magnitude of impact

14.11.1.29 The magnitude of the impact of the visible elements of the maximum design scenario for this META site is five vessels utilised for deployment and retrieval operations at any one time with up to 20 deployment and 20 retrieval vessels operations in a 12-month period. This will create shipping movements equivalent of two vessels per week in a 12-month period in the seascape for this site where this is already a common visible element, specifically:

- The impact is considered to be indirect;
- The impact is considered to be long term as up to 15 years (the lifetime of the project);
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be negligible.

14.11.1.30 The impact is predicted to be of local spatial, long term but intermittent duration and fully reversible. It is predicted that the impact will affect the receptor indirectly. The magnitude is therefore, considered to be negligible.

Sensitivity of the receptor

14.11.1.31 Receptors using the PCP will generally be moving as walkers (slow moving). Due to the function of this part of the waterway as a commercial shipping route to the port and for recreational boating concurrent with a number of dominant built and industrial structures in an elevated position forming the backdrop there are a number of factors that detract from sensitivity.

14.11.1.32 As a well-used PRoW located in the PCNP, the receptors are deemed to be of high vulnerability. The sensitivity of the receptor is therefore considered to be of high value.

Significance of the effect

14.11.1.33 Overall, the sensitivity of the receptor is considered to be of high value and the magnitude of the impact of maximum design scenario is deemed to be negligible. The effect will, therefore, be of **minor significance**, which is not significant in EIA terms.

Dale Road (site 7) – Visual impact for recreational receptors using the waterway for recreational boating.

14.11.1.34 This busy waterway and port is littered with evidence of commercial shipping and recreational boating including markers buoys and a variety of floating vessels ranging from small craft, yachts, tug boats, ferry ships and oil tankers. The oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway edges are visible in the view towards the inner waterway.

Magnitude of impact

14.11.1.35 The magnitude of the impact of the visible elements of the maximum design scenario for this META site is five vessels utilised for deployment and retrieval operations at any one time with up to 20 deployment and 20 retrieval vessels operations in a 12-month period. This will create shipping movements equivalent of two vessels per week in a 12-month period in the seascape for this site where this is already a common visible element, specifically:

- The impact is considered to be indirect;
- The impact is considered to be long term as up to 15 years (the lifetime of the project);
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be negligible.

14.11.1.36 The impact is predicted to be of local spatial, long term but intermittent duration and fully reversible. It is predicted that the impact will affect the receptor indirectly. The magnitude is therefore, considered to be negligible.

Sensitivity of the receptor

14.11.1.37 LANDMAP identifies the context as being of medium sensitivity. Receptors using the waterway will generally be moving (slow and fast moving) within boats. Due to the function of this part of the waterway as a busy route to the port for commercial shipping and for recreational boating concurrent with a number of dominant buildings and industrial structures in an elevated position forming the backdrop in the distance, there are a number of factors that detract from sensitivity.

14.11.1.38 Consequently, the receptor is deemed to be of low vulnerability with full recoverability. The sensitivity of the receptor is therefore considered to be of medium value.

Significance of the effect

14.11.1.39 Overall, the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of maximum design scenario is deemed to be negligible. The effect will, therefore, be of **negligible significance**, which is not significant in EIA terms.

East Pickard Bay (site 8) - Impact on remoteness, unspoilt sweep of beaches and dune systems with craggy cliffs and tranquillity when no firing at MOD ranges in the National Park.

14.11.1.40 This landscape and seascape is open and rugged with evidence of recreational boating including markers buoys. The commercial shipping route to the port lies in the seascape to the west with large ships visible in the background. The shoreline and cliffs are rugged and undeveloped.

Magnitude of impact

14.11.1.41 The magnitude of the impact of the visible elements of the maximum design scenario for this META site is up to 40 deployments and 40 retrievals vessel operations within a 12-month period, specifically:

- The impact is considered to be direct;
- The impact is considered to be long term as up to 15 years;
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be negligible.

14.11.1.42 The impact is predicted to be of local spatial, long term but intermittent duration and fully reversible. It is predicted that the impact will affect the receptor indirectly. The magnitude is therefore, considered to be negligible.

Sensitivity of the receptor

14.11.1.43 Due to the function of this part of the seascape for recreational boating and the presence of commercial shipping in the background on route to the port for commercial shipping, mooring of occasional ships and the MOD firing range, there are some factors that detract from sensitivity. However, the coastline is rural and undeveloped.

14.11.1.44 Consequently, the receptor is deemed to be of low vulnerability with full recoverability. The sensitivity of the receptor is therefore considered to be of very high value.

Significance of the effect

14.11.1.45 Overall, the sensitivity of the receptor is considered to be of very high value and the magnitude of the impact of maximum design scenario is deemed to be negligible. The effect will, therefore, be of **minor significance**, which is not significant in EIA terms.

East Pickard Bay (site 8) - Impact on wide views across bay and to focal points such as St Ann's Head.

14.11.1.46 This landscape and seascape is open and rugged with evidence of recreational boating including markers buoys. The commercial shipping route to the port lies in the seascape to west with large ships visible in the background. The shoreline and cliffs are rugged and undeveloped.

Magnitude of impact

14.11.1.47 The magnitude of the impact of the visible elements of the maximum design scenario for this META site is 40 deployments and 40 retrievals vessel operations within a 12-month period, specifically:

- The impact is considered to be direct;
- The impact is considered to be long term as up to 15 years;
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be negligible.

14.11.1.48 The impact is predicted to be of local spatial, long term but intermittent duration and fully reversible. It is predicted that the impact will affect the receptor indirectly. The magnitude is therefore, considered to be negligible.

Sensitivity of the receptor

14.11.1.49 LANDMAP identifies the coastline as being of outstanding value. Due to the function of this part of the seascape for recreational boating and the presence of commercial shipping in the background on route to the port for commercial shipping, mooring of occasional ships and the MOD firing range, there are some factors that detract from sensitivity. However, the coastline is rural and undeveloped.

14.11.1.50 Consequently, the receptor is deemed to be of low vulnerability with full recoverability. The sensitivity of the receptor is therefore considered to be of high value.

Significance of the effect

14.11.1.51 Overall, the sensitivity of the receptor is considered to be of high value and the magnitude of the impact of maximum design scenario is deemed to be negligible. The effect will, therefore, be of **minor significance**, which is not significant in EIA terms.

East Pickard Bay (site 8) – Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path (VP6, VP7 and VP8).

14.11.1.52 This landscape and seascape is open and rugged with evidence of recreational boating including markers buoys. The commercial shipping route to the port lies in the seascape to west with large ships visible in the background. The shoreline and cliffs are rugged and undeveloped.

Magnitude of impact

14.11.1.53 The magnitude of the impact of the visible elements of the maximum design scenario for this META site is 40 deployments and 40 retrievals vessel operations within a 12-month period, specifically:

- The impact is considered to be direct;
- The impact is considered to be long term as up to 15 years;
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be negligible.

14.11.1.54 The impact is predicted to be of local spatial, long term but intermittent duration and fully reversible. It is predicted that the impact will affect the receptor indirectly. The magnitude is therefore, considered to be negligible.

Sensitivity of the receptor

14.11.1.55 Receptors using the PCP will generally be moving as walkers (slow moving). The shoreline and cliffs are rugged and undeveloped. Recreational boating and commercial shipping in the wider seascape to the west means there are some factors that detract from sensitivity.

14.11.1.56 As a well-used PRoW located in the PCNP, the receptors are deemed to be of high vulnerability. The sensitivity of the receptor is therefore considered to be very high value.

Significance of the effect

14.11.1.57 Overall, the sensitivity of the receptor is considered to be of very high value and the magnitude of the impact of maximum design scenario is deemed to be negligible. The effect will, therefore, be of **minor significance**, which is not significant in EIA terms.

East Pickard Bay (site 8) – Visual impact for recreational receptors using the waterway for recreational boating.

14.11.1.58 This landscape and seascape is open and rugged with evidence of recreational boating including markers buoys. The commercial shipping route to the port lies in the seascape to west with large ships visible in the background. The shoreline and cliffs are rugged and undeveloped.

Magnitude of impact

14.11.1.59 The magnitude of the impact of the visible elements of the maximum design scenario for this META site is up to 40 deployments and 40 retrievals vessel operations within a 12-month period specifically:

- The impact is considered to be direct;
- The impact is considered to be long term as up to 15 years;
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be negligible.

14.11.1.60 The impact is predicted to be of local spatial, long term but intermittent duration and fully reversible. It is predicted that the impact will affect the receptor indirectly. The magnitude is therefore, considered to be negligible.

Sensitivity of the receptor

14.11.1.61 LANDMAP identifies the coastline as being of outstanding value. Receptors using the seascape will generally be moving (slow and fast moving) within boats. Due to the function of this part of the seascape for recreational boating and the presence of commercial shipping in the background on route to the port for commercial shipping, mooring of occasional ships and the MOD firing range, there are some factors that detract from sensitivity. However, the coastline is rural and undeveloped.

14.11.1.62 Consequently, the receptor is deemed to be of low vulnerability with full recoverability. The sensitivity of the receptor is therefore considered to be of very high value.

Significance of the effect

14.11.1.63 Overall, the sensitivity of the receptor is considered to be of very high value and the magnitude of the impact of maximum design scenario is deemed to be negligible. The effect will, therefore, be of **minor significance**, which is not significant in EIA terms.

14.11.2 Operation and maintenance phase

14.11.2.1 The impacts of the operation and maintenance phase of the META project have been evaluated on landscape seascape and visual assessment. This phase has potentially the greatest impacts arising from the META project. The impacts of the operation and maintenance phase of the META project are listed in Table 14-11 against which impacts on each landscape seascape visual receptor has been assessed in this section. A conclusion of significance of impact has been given for each of the three META site (Warrior Way (site 6), Dale Roads (site 7) and East Pickard Bay (site 8) below.

14.11.2.2 The viewpoints associated with each test site are listed and assessed in **Table 14-16** below. A description of the potential effect on landscape seascape visual receptors caused by each identified impact for the maximum design scenario is given below.

Warrior Way (site 6) - Impact on the Designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales.

14.11.2.3 Pembroke Dock historic landscape character area comprises the 19th century naval dockyards and the 19th century grid-pattern planned town. Included in this area are many 19th century worker and town houses, with 20th century housing, light industrial development on its outskirts. The large scale LNG refinery and gas/oil storage tanks, the power station and other energy related development including the wind turbines form elevated and visually prominent permanent elements in the local landscape beyond the port towards the open sea. This busy waterway and port is littered with evidence of commercial shipping and recreational boating including markers buoys, slipways and moorings and a variety of floating vessels ranging from small craft, yachts, tug boats, ferry ships and oil tankers.

Magnitude of impact

14.11.2.4 The magnitude of the impact of the visible elements of the maximum design scenario for this META project which is for a single device projecting 2 m over an area of up to 200 m², up to four navigational marker buoys, an ADCP, a test support buoy and increased vessel activity, which will form common elements within the wider landscape, specifically:

- The impact is considered to be indirect;
- The impact is considered to be long term as up to 15 years (the lifetime of the project);
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be minor.

14.11.2.5 The impact is predicted to be of local spatial, long term but intermittent duration and fully reversible. It is predicted that the impact will affect the receptor indirectly, however the devices may be projecting up to 2 m over an area of up to 200 m² which is considered to have a moderate impact. The magnitude is therefore, considered to be minor.

Sensitivity of the receptor

14.11.2.6 LANDMAP identifies the context as being of medium sensitivity. Due to the function of this part of the waterway as a port and for recreational boating concurrent with a number of dominant built structures adjacent (Cleddau Bridge and port buildings) concurrent with oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway looking seawards, there are a number of factors that detract from sensitivity.

14.11.2.7 Consequently, the receptor is deemed to be of low vulnerability with full recoverability. The sensitivity of the receptor is therefore considered to be of medium value.

Significance of the effect

14.11.2.8 Overall, the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of maximum design scenario is deemed to be minor. The effect will, therefore, be of **minor significance**, which is not significant in EIA terms.

14.11.2.9 It should be noted that for the likely design scenario (a single device surface piercing over an area of up to 100 m²) the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of most likely design scenario is deemed to be negligible. The effect will, therefore, be of **negligible or minor significance**, which is not significant in EIA terms.

Warrior Way (site 6) – Visual Impact from viewpoints for receptors using the Pembrokeshire Coast Path along the Cleddau Bridge and across the Daugleddau from Publicly accessible coastal viewpoints in Burton Ferry (VP1 and VP2).

14.11.2.10 This busy waterway and port is littered with evidence of commercial shipping and recreational boating including markers buoys, slipways and moorings and a variety of floating vessels ranging from small craft, yachts, tug boats, ferry ships and oil tankers. The oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway edges are visible in the view back towards the inner waterway.

Magnitude of impact

14.11.2.11 The magnitude of the impact of the visible elements of the maximum design scenario for this META project which is for a single device projecting up to 2 m over an area of up to 200 m², up to four navigational marker buoys, an ADCP, a test support buoy and increased vessel activity, which will form common elements within the wider landscape, specifically:

- The impact is considered to be indirect;
- The impact is considered to be long term as up to 15 years;
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be minor.

Sensitivity of the receptor

14.11.2.12 Receptors using the PCP along the Cleddau Bridge and the public road in Burton will generally be moving as walkers (slow moving) and within vehicles (fast moving). Due to the function of this part of the waterway as a port and for recreational boating concurrent with a number of dominant built structures adjacent (Cleddau Bridge and port buildings) concurrent with oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway looking seawards, there are a number of factors that detract from sensitivity.

14.11.2.13 Consequently, the receptor is deemed to be of low vulnerability as the change in the baseline view will be minor. The sensitivity of the receptor is therefore considered to be medium value as the PCP is located along an engineered structure.

Significance of the effect

14.11.2.14 Overall, the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of maximum design scenario is deemed to be minor. The effect will, therefore, be of **minor significance**, which is not significant in EIA terms.

14.11.2.15 It should be noted that for the likely design scenario (a single device surface piercing over an area of up to 100 m²) the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of most likely design scenario is deemed to be negligible. The effect will, therefore, be of **negligible or minor significance**, which is not significant in EIA terms.

Warrior Way (site 6) – Visual impact for recreational receptors using the waterway for recreational boating.

14.11.2.16 This busy waterway and port is littered strewn with evidence of commercial shipping and recreational boating including markers buoys, slipways and moorings and a variety of floating vessels ranging from small craft, yachts, tug boats, ferry ships and oil tankers. The oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway edges are visible in the view back towards the inner waterway.

Magnitude of impact

14.11.2.17 The magnitude of the impact of the visible elements of the maximum design scenario for this META project which is for a single device projecting up to 2 m over an area of up to 200 m², up to four navigational marker buoys, an ADCP, a test support buoy and increased vessel activity, which will form common elements within the wider landscape, specifically:

- The impact is considered to be indirect;
- The impact is considered to be long term as up to 15 years;
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be minor.

14.11.2.18 Due to the function of this part of the waterway as a busy route to the port for commercial shipping and for recreational boating concurrent with a number of dominant buildings in an elevated forming the backdrop in the distance, there are a number of factors that detract from sensitivity.

14.11.2.19 Consequently, the receptor is deemed to be of medium vulnerability with full recoverability. The magnitude of impact is therefore considered to be minor.

Sensitivity of the receptor

14.11.2.20 LANDMAP identifies the context as being of medium sensitivity. Receptors using the waterway will generally be moving (slow and fast moving) within boats. Due to the function of this part of the waterway as a port and for recreational boating concurrent with a number of dominant built structures adjacent (Cleddau Bridge and port buildings) concurrent with oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway looking seawards, there are a number of factors that detract from sensitivity.

14.11.2.21 Consequently, the receptor is deemed to be of low vulnerability as the change in the baseline view will be minor. The sensitivity of the receptor is therefore considered to be medium value.

Significance of the effect

14.11.2.22 Overall, the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of maximum design scenario is deemed to be minor. The effect will, therefore, be of **minor significance**, which is not significant in EIA terms.

14.11.2.23 It should be noted that for the likely design scenario (a single device surface piercing over an area of up to 100 m²) the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of most likely design scenario is deemed to be negligible. The effect will, therefore, be of **negligible or minor significance**, which is not significant in EIA terms.

Dale Road (site 7) - Impact on the designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales.

14.11.2.24 This busy waterway and port is littered with evidence of commercial shipping and recreational boating including markers buoys and a variety of floating vessels ranging from small craft, yachts, tug boats, ferry ships and oil tankers. The oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway edges are visible in the view towards the inner waterway.

Magnitude of impact

14.11.2.25 The magnitude of the impact of the visible elements of the maximum design scenario for this META project will comprise a single device that will be surface piercing up to 2 m above the sea surface that maybe up to 600 m^2 forming a new element within the wider landscape and up to four navigational marker buoys, an ADCP, a test support buoy and increased vessel activity forming common elements, specifically:

- The impact is considered to be direct;
- The impact is considered to be long term as up to 15 years;
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be moderate.

Sensitivity of the receptor

14.11.2.26 LANDMAP identifies the context as being of moderate sensitivity. Receptors using the waterway will generally be moving (slow and fast moving) within boats. Due to the function of this part of the waterway as a port and for recreational boating concurrent with a number of dominant built and industrial structures in an elevated position adjacent there are a number of factors that detract from sensitivity.

14.11.2.27 Consequently, the receptor is deemed to be of medium vulnerability as the change in the baseline view will be moderate. The sensitivity of the receptor is therefore considered to be medium value.

Significance of the effect

14.11.2.28 Overall, the sensitivity of the receptor is considered to be medium value and the magnitude of the impact of the maximum design scenario is deemed to be moderate. The effect will, therefore, be of **moderate significance**, which is significant in EIA terms.

14.11.2.29 It should be noted that for the likely design scenario (a single device surface piercing over an area of up to 150 m²) the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of most likely design scenario is deemed to be negligible. The effect will, therefore, be of **negligible or minor significance**, which is not significant in EIA terms.

Dale Road (site 7) – Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path (VP3, VP4 and VP5).

14.11.2.30 This busy waterway and port is littered with evidence of commercial shipping and recreational boating including markers buoys, slipways and moorings and a variety of floating vessels ranging from small craft, yachts, tug boats, ferry ships and oil tankers. The oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway edges are visible in the view back towards the inner waterway.

Magnitude of impact

14.11.2.31 The magnitude of the impact of the visible elements of the maximum design scenario for this META project will comprise devices that will be a single surface piercing device up to 2 m above the sea surface that maybe up to 600 m^2 forming a new element within the wider landscape and up to four navigational marker buoys, an ADCP, a test support buoy and increased vessel activity forming common elements, specifically:

- The impact is considered to be direct;
- The impact is considered to be long term as up to 15 years;
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be moderate.

Sensitivity of the receptor

14.11.2.32 Receptors using the PCP will generally be moving as walkers (slow moving). Due to the function of this part of the waterway as a commercial shipping route to the port and for recreational boating concurrent with a number of dominant built and industrial structures in an elevated position forming the backdrop there are a number of factors that detract from sensitivity.

14.11.2.33 As a well-used PRoW located in the national park, the receptors using the PCP are deemed to be of high vulnerability even though the change in the baseline view will be moderate. The sensitivity of the receptor is therefore considered to be high value.

Significance of the effect

14.11.2.34 Overall, the sensitivity of the receptors is considered to be high value and the magnitude of the impact of the maximum design scenario is deemed to be moderate. The effect will, therefore, be of **moderate significance**, which is significant in EIA terms.

14.11.2.35 It should be noted that for the most likely design scenario (a single device surface piercing over an area of up to 150 m²) the visual impact is much less and is considered to have a low impact. The sensitivity is therefore considered to be high value and the magnitude of the impact of the most likely scenario is deemed to be negligible. The effect will, therefore, be of **minor significance**, which is not significant in EIA terms.

Dale Road (site 7) – Visual impact for recreational receptors using the waterway for recreational boating.

14.11.2.36 This busy waterway and route to the port is littered with evidence of commercial shipping and recreational boating including markers buoys and a variety of floating vessels ranging from small craft, yachts, tug boats, ferry ships and oil tankers. The oil refinery structures and vertical elements of the power stations and wind turbines are elevated on the cliffs above the waterway forming a visible backdrop.

Magnitude of impact

14.11.2.37 The magnitude of the impact of the visible elements of the maximum design scenario for this META project will comprise devices that will be a single surface piercing up to 2 m above the sea surface that maybe up to 600 m^2 forming a new element within the wider landscape and up to four navigational marker buoys, an ADCP, a test support buoy and increased vessel activity forming common elements, specifically:

- The impact is considered to be direct;
- The impact is considered to be long term as up to 15 years;
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be moderate.

Sensitivity of the receptor

14.11.2.38 LANDMAP identifies the context as being of medium sensitivity. Receptors using the waterway will generally be moving (slow and fast moving) within boats. Due to the function of this part of the waterway as a busy route to the port for commercial shipping and for recreational boating concurrent with a number of dominant buildings and industrial structures in an elevated position forming the backdrop in the distance, there are a number of factors that detract from sensitivity.

14.11.2.39 Consequently, the receptors are deemed to be of medium vulnerability with full recoverability. The sensitivity of the receptor is therefore considered to be of medium value.

Significance of the effect

14.11.2.40 Overall, the sensitivity of the receptor is considered to be medium value and the magnitude of the impact of the likely design scenario is deemed to be moderate. The effect will, therefore, be of **moderate significance**, which is significant in EIA terms.

14.11.2.41 It should be noted that for the likely design scenario (single devices surface piercing over an area of up to 150 m²) the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of most likely design scenario is deemed to be negligible. The effect will, therefore, be of **negligible or minor significance**, which is not significant in EIA terms.

East Pickard Bay (site 8) - Impact on remoteness, unspoilt sweep of beaches and dune systems with craggy cliffs and tranquillity when no firing at MOD ranges in the National Park.

14.11.2.42 This landscape and seascape is open and rugged with evidence of recreational boating including markers buoys. The commercial shipping route to the port lies in the seascape to west with large ships visible in the background. The shoreline and cliffs are rugged and undeveloped.

Magnitude of impact

14.11.2.43 The magnitude of the impact of the visible elements of the maximum design scenario for the META project will form new large scale elements within the wider landscape/seascape, with up to two devices occurring concurrently, projecting up to 5 m over a maximum area of 33,810 m², or up to 15 m over a maximum area of 3,600 m², up to eight navigational marker buoys, an ADCP, up to two test support buoys and increased vessel activity forming common elements, specifically:

- The impact is considered to be direct;
- The impact is considered to be long term as up to 15 years;
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be major.

Sensitivity of the receptor

14.11.2.44 Due to the function of this part of the seascape for recreational boating and the presence of commercial shipping in the background on route to the port for commercial shipping, mooring of occasional ships and the MOD firing range, there are some factors that detract from sensitivity. However, the coastline is rural and undeveloped.

14.11.2.45 Consequently, the receptor is deemed to be of high vulnerability with full recoverability. The sensitivity of the receptor is therefore considered to be of very high value.

Significance of the effect

14.11.2.46 Overall, for the maximum design scenario, the sensitivity of the receptor is considered to be of very high value and the magnitude of the impact is deemed to be major. The effect will, therefore, be of **substantial significance**, which is significant in EIA terms. However, it should be noted that the device dictating the parameters for the maximum design scenario at East Pickard Bay (site 8) is an order of magnitude larger than the next likely device size in the potential test deployments, and all other devices which featured in the technical requirements are significantly smaller (most likely scenario is a device of 1,360 m²)

14.11.2.47 It should be noted that for the likely design scenario (a single device surface piercing over an area of up to 100 m²) the sensitivity of the receptors is considered to be of very high value and the magnitude of the impact is deemed to be negligible. The effect will, therefore, be of **minor significance**, which is not significant in EIA terms.

East Pickard Bay (site 8) - Impact on wide views across bay and to focal points such as St Ann's Head.

14.11.2.48 This landscape and seascape is open and rugged with evidence of recreational boating including markers buoys. The commercial shipping route to the port lies in the seascape to west with large ships visible in the background. The shoreline and cliffs are rugged and undeveloped.

Magnitude of impact

14.11.2.49 The magnitude of the impact of the visible elements of the maximum design scenario for this META project will form new large scale elements within the wider landscape/seascape, with up to two devices occurring concurrently, projecting up to 5 m over an area of up to 33,810 m² or up to 15 m over a maximum area of 3,600 m², up to eight navigational marker buoys, an ADCP, up to two test support buoys and increased vessel activity forming common elements, specifically:

- The impact is considered to be direct;
- The impact is considered to be long term as up to 15 years;

- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be major.

Sensitivity of the receptor

14.11.2.50 LANDMAP identifies the coastline as being of outstanding value. Due to the function of this part of the seascape for recreational boating and the presence of commercial shipping in the background on route to the port for commercial shipping, mooring of occasional ships and the MOD firing range, there are some factors that detract from sensitivity. However, the coastline is rural and undeveloped.

14.11.2.51 Consequently, the receptor is deemed to be of high vulnerability with full recoverability. The sensitivity of the receptor is therefore considered to be of very high value.

Significance of the effect

14.11.2.52 Overall, for the maximum design scenario the sensitivity of the receptors is considered to be of very high value and the magnitude of the impact is deemed to be major. The effect will, therefore, be of **substantial significance**, which is significant in EIA terms.

14.11.2.53 It should be noted that for the most likely design scenario (a single device surface piercing over an area of up to 100 m²) the sensitivity of the receptors is considered to be of very high value and the magnitude of the impact is deemed to be negligible. The effect will, therefore, be of **minor significance**, which is not significant in EIA terms.

East Pickard Bay (site 8) – Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path (VP6, VP7 and VP8).

14.11.2.54 This landscape and seascape is open and rugged and with evidence of recreational boating including markers buoys. The commercial shipping route to the port lies in the seascape to west with large ships visible in the background. The shoreline and cliffs are rugged and undeveloped.

Magnitude of impact

14.11.2.55 The magnitude of the impact of the visible elements of the maximum design scenario for META phase 2 will form new large scale elements within the wider landscape/seascape, with up to two devices occurring concurrently, projecting 5 m over an area of up to 33,810 m² or up to 15 m over a maximum area of 3,600 m², up to eight navigational marker buoys, an ADCP, up to two test support buoys and increased vessel activity forming common elements, specifically:

- The impact is considered to be direct;
- The impact is considered to be long term as up to 15 years;
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be major.

Sensitivity of the receptor

14.11.2.56 Receptors using the PCP will generally be moving as walkers (slow moving). The shoreline and cliffs are rugged and undeveloped. Recreational boating and commercial shipping in the wider seascape to the west means there are some factors that detract from sensitivity.

14.11.2.57 As a well-used PRoW located in the PCNP, the receptors are deemed to be of high vulnerability. The sensitivity of the receptor is therefore considered to be very high value.

Significance of the effect

14.11.2.58 Overall, for the maximum design scenario the sensitivity of the receptors is considered to be of very high value and the magnitude of the impact is deemed to be major. The effect will, therefore, be of **substantial significance**, which is significant in EIA terms.

14.11.2.59 It should be noted that for the likely design scenario (a single device surface piercing over an area of up to 100 m²) the sensitivity of the receptors is considered to be of very high value and the magnitude of the impact is deemed to be negligible. The effect will, therefore, be of **minor significance**, which is not significant in EIA terms.

East Pickard Bay (site 8) – Visual impact for recreational receptors using the waterway for recreational boating.

14.11.2.60 LANDMAP identifies the coastline as being of outstanding value. This landscape and seascape is open and rugged and with evidence of recreational boating including markers buoys. The commercial shipping route to the port lies in the seascape to west with large ships visible in the background. The shoreline and cliffs are rugged and undeveloped.

Magnitude of impact

14.11.2.61 The magnitude of the impact of the visible elements of the maximum design scenario for this META project will form new large scale elements within the wider landscape/seascape, with up to two devices projecting up to 5 m over an area of up to 33,810 m² or up to 15 m over a maximum area of 3,600 m², up to eight navigational marker buoys, an ADCP, up to two test support buoys and increased vessel activity forming common elements, specifically:

- The impact is considered to be direct;
- The impact is considered to be long term as up to 15 years;
- The impact is considered to be intermittent;

- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be major.

14.11.2.62 The shoreline and cliffs are rugged and undeveloped. Recreational boating and commercial shipping in the wider seascape to the west means there are some factors that detract from sensitivity.

14.11.2.63 Consequently, the receptors are deemed to be of high vulnerability with full recoverability. The magnitude of the impact on the receptor is therefore considered to be major.

Sensitivity of the receptor

14.11.2.64 LANDMAP identifies the coastline as being of outstanding value. Receptors using the seascape will generally be moving (slow and fast moving) within boats. Due to the function of this part of the seascape for recreational boating and the presence of commercial shipping in the background on route to the port for commercial shipping, mooring of occasional ships and the MOD firing range, there are some factors that detract from sensitivity. However, the coastline is rural and undeveloped.

14.11.2.65 Consequently, the receptor is deemed to be of high vulnerability with full recoverability. The sensitivity of the receptor is therefore considered to be of very high value.

Significance of the effect

14.11.2.66 Overall, for the maximum design scenario the sensitivity of the receptors is considered to be of very high value and the magnitude of the impact is deemed to be major. The effect will, therefore, be of **substantial significance**, which is significant in EIA terms.

14.11.2.67 It should be noted that for the likely design scenario (a single device surface piercing over an area of up to 100 m²) the sensitivity of the receptors is considered to be of very high value and the magnitude of the impact is deemed to be negligible. The effect will, therefore, be of **minor significance**, which is not significant in EIA terms.

Table 14-16: Viewpoints and Visual Impact Assessment.

Viewpoint Number	Type of Receptor and Significance	Change in Baseline View and Magnitude of Effect – Maximum Design Scenario in the operation and maintenance phase Only	Significance of Effect		
			Installation and deployment, and decommissioning phase	Year 1 Operational Phase	Year 15 Operational Phase
VP1 from Cleddau Bridge towards Warrior Way (site 6)	Receptors are slow moving walkers using the Pembrokeshire Coast Path as it crosses the Cleddau Bridge and fast moving drivers and passengers within vehicles. The viewpoint is elevated and approximately 500 m to the west of the test site at Warrior Way (site 6). These receptors, (specifically the walkers) using the PRoW are considered to be of HIGH value and sensitivity.	The maximum change in this medium range distance view will be during the operation and maintenance phase and will be limited to the presence of up to four navigational marker buoys, an ADCP and a test support buoy of a standard design. Up to five vessels maybe utilised for up to 104 operation and maintenance vessel movements in a 12-month period. Maximum duration of moored/gravity base deployment activity six months (with the device in the water for 100% of that time) with up to four test device deployments in a 12-month period. Only one device at any one time. Devices maybe up to 2 m above sea surface and may occupy up to 200 m^2 sea area per deployment. The magnitude of effect is considered to be minor.	Negligible adverse	Minor adverse	Minor adverse
VP2 from Burton Ferry towards Warrior Way (site 6)	Receptors are slow moving walkers using the public highway and fast-moving drivers and passengers within vehicles. The viewpoint is located approximately 260 m to the north of the test site at Warrior Way (site 6) in Burton Ferry. These receptors are considered to be of MEDIUM value and sensitivity.	The maximum change in this medium range distance view will be during the operation and maintenance phase and will be limited to the presence of up to four navigational marker buoys, an ADCP and a test support buoy of a standard design. Up to five vessels maybe utilised for up to 104 operation and maintenance vessel movements in a 12-month period. Maximum duration of moored/gravity base deployment activity 6 months (with the device in the water for 100% of that time) with up to four test device deployments in a 12-month period. Only one device at any one time. Devices maybe up to 2 m above sea surface and may occupy up to 200 m^2 sea area per deployment. The magnitude of effect is considered to be minor.	Negligible adverse	Minor adverse	Minor adverse
Private views from Burton Ferry towards Warrior Way (site 6)	There are a number of private views from private dwellings along the shoreline in Burton Ferry. These receptors are considered to be of HIGH value and sensitivity.	The maximum change in this medium range distance view will be during the operation and maintenance phase and will be limited to the presence of up to four navigational marker buoys, an ADCP and a test support buoy of a standard design. Up to five vessels maybe utilised for up to 104 operation and maintenance vessel movements in a 12-month period. Maximum duration of moored/gravity base deployment activity six months (with the device in the water for 100% of that time) with up to four test device deployments in a 12-month period. Only one device at any one time. Devices maybe up to 2 m above sea surface and may occupy up to 200 m^2 sea area per deployment. The magnitude of effect is considered to be minor.	Negligible adverse	Minor adverse	Minor adverse
VP3 from Great Castle Head towards Dale Road	Receptors are slow moving walkers using the Pembrokeshire Coast Path along the shoreline on Great Castle Head. The viewpoint is elevated and approximately 210 m to the east of the test site at Dale Road. These receptors using the PRoW are considered to be of HIGH value and sensitivity.	The maximum change in this medium range distance view will be during the operation and maintenance phase and will be up to four navigational marker buoys and an ADCP, a wave buoy or other similar technology, and a test support buoy of a standard design. Up to five vessels maybe utilised for up to 104 operation and maintenance vessel movements in a 12-month period. Maximum duration of moored/gravity base deployment activity 12 months (with the device in the water for 100% of that time) with up to four test device deployments in a 12-month period. Only one device at any one time. Device maybe up to 600 m^2. The magnitude of effect is considered to be moderate.	Negligible adverse	Minor adverse	Minor adverse
VP4 from Lindsway Bay towards Dale Road	Receptors are slow moving walkers using the Pembrokeshire Coast Path along the shoreline by Lindsway Bay The viewpoint is elevated and approximately 390 m to the west of the test site at Dale Road. These receptors using the PRoW are considered to be of HIGH value and sensitivity.	The maximum change in this medium range distance view will be during the operation and maintenance phase and up to four navigational marker buoys and an ADCP, a wave buoy or other similar technology, and a test support buoy of standard design. Up to five vessels maybe utilised for up to 104 operation and maintenance vessel movements in a 12-month period. Maximum duration of moored/gravity base deployment activity12 months (with the device in the water for 100% of that time) with up to four test device deployments in a 12-month period. Devices maybe surface piercing up to 2 m above the sea surface. Only one device at any one time. Device maybe up to 600 m^2. Some elements associated with the development are already common in the existing baseline view. The magnitude of effect is considered to be moderate.	Minor adverse	Moderate adverse	Moderate adverse

Viewpoint Number	Type of Receptor and Significance	Change in Baseline View and Magnitude of Effect – Maximum Design Scenario in the operation and maintenance phase Only	Significance of Effect		
			Installation and deployment, and decommissioning phase	Year 1 Operational Phase	Year 15 Operational Phase
VP5 from Watch House Bay towards Dale Road	Receptors are slow moving walkers using the Pembrokeshire Coast Path along the shoreline by Watch House Bay. The viewpoint is elevated and approximately 318m to the north of the test site at Dale Road. These receptors using the PRoW are considered to be of VERY HIGH value and sensitivity.	The maximum change in this medium range distance view will be during the operation and maintenance phase and will be up to four navigational marker buoys and an ADCP, a wave buoy or other similar technology, and a test support buoy of a standard design). Up to five vessels maybe utilised for up to 104 operation and maintenance vessel movements in a 12-month period. Maximum duration of moored/gravity base deployment activity 12 months (with the device in the water for 100% of that time) with up to 4 test device deployments in a 12-month period. Only one device at any one time. Device maybe up to 600 m^2. The magnitude of effect is considered to be moderate.	Negligible adverse	Moderate adverse	Moderate adverse
VP6 from East Pickard Bay towards East Pickard Bay	Receptors are slow moving walkers using the Pembrokeshire Coast Path along the shoreline by East Pickard Bay. The viewpoint is elevated and approximately 395 m to the north east of the test site at East Pickard Bay. These receptors using the PRoW are considered to be of VERY HIGH value and sensitivity.	The maximum change in this distance view will be during the operation and maintenance phase and will be up to four navigational marker buoys deployed per test activity with up to two test activities occurring concurrently. Therefore, up to eight navigational marker buoys at any one time. In addition, an ADCP, a wave buoy or other similar technology will be deployed, and a test support buoy (standard design) per deployment, therefore up to two test support buoys maybe deployed concurrently. Up to five vessels maybe utilised for up to 150 operation and maintenance vessel movements in a 12-month period. Minimum duration of moored/gravity base deployment activity is 18 months. As up to two devices maybe tested at any one time, this equates to up to four devices in a 12-month period. Devices maybe surface piercing by up to 15 m above sea-surface (A maximum scenario height of up to 15 m above sea surface will only apply in devices up to a maximum dimension scenario of 60 m length x 60 m width. Where maximum dimensions of a device are over 60 m length x 60 m width, a maximum height of 5 m above sea surface will be applied). Up to 33,810 m^2 of sea-surface maybe utilised for testing. The magnitude of effect is considered to be substantial.	Negligible adverse	Substantial adverse	Substantial adverse
VP7 from West Pickard Bay towards East Pickard Bay	Receptors are slow moving walkers using the Pembrokeshire Coast Path along the shoreline by West Pickard Bay. The viewpoint is elevated and approximately 210 m to the north of the test site at East Pickard Bay. These receptors using the PRoW are considered to be of VERY HIGH value and sensitivity.	The maximum change in this medium range distance view will be during the operation and maintenance phase and will be up to four navigational marker buoys deployed per test activity with up to two test activities occurring concurrently. Therefore, up to eight navigational marker buoys at any one time. In addition, an ADCP, a wave buoy or other similar technology will be deployed, and a test support buoy (standard design) per deployment, therefore up to two test support buoys maybe deployed concurrently. Up to five vessels maybe utilised for up to 150 operation and maintenance vessel movements in a 12-month period. Minimum duration of moored/gravity base deployment activity is 18 months. As up to two devices maybe tested at any one time, this equates to up to four devices in a 12-month period. Devices maybe surface piercing by up to 15 m above sea-surface (A maximum scenario height of up to 15 m above sea surface will only apply in devices up to a maximum dimension scenario of 60 m length x 60 m width. Where maximum dimensions of a device are over 60 m length x 60 m width, a maximum height of 5 m above sea surface will be applied). Up to 33,810 m^2 of sea-surface maybe utilised for testing. The magnitude of effect is considered to be substantial.	Negligible adverse	Substantial adverse	Substantial adverse
VP8 from West Pickard Bay towards East Pickard Bay	Receptors are slow moving walkers using the Pembrokeshire Coast Path along the shoreline by West Pickard Bay. The viewpoint is elevated and approximately 609 m to the north west of the test site at Parsonsquarry Bay. These receptors using the PRoW are considered to be of VERY HIGH value and sensitivity.	The maximum change in this medium range distance view will be during the operation and maintenance phase and will be up to four navigational marker buoys deployed per test activity with up to two test activities occurring concurrently. Therefore, up to eight navigational marker buoys at any one time. In addition, an ADCP, a wave buoy or other similar technology will be deployed, and a test support buoy (standard design) per deployment, therefore up to two test support buoys maybe deployed concurrently. Up to five vessels maybe utilised for up to 150 operation and maintenance vessel movements in a 12-month period. Minimum duration of moored/gravity base deployment activity is 18 months. As up to two devices maybe tested at any one time, this equates to up to four devices in a 12-month period. Devices maybe surface piercing by up to 15 m above sea-surface (A maximum scenario height of up to 15 m above sea surface will only apply in devices up to a	Negligible adverse	Substantial adverse	Substantial adverse

Viewpoint Number	Type of Receptor and Significance	Change in Baseline View and Magnitude of Effect – Maximum Design Scenario in the operation and maintenance phase Only	Significance of Effect		
			Installation and deployment, and decommissioning phase	Year 1 Operational Phase	Year 15 Operational Phase
		maximum dimension scenario of 60 m length x 60 m width. Where maximum dimensions of a device are over 60 m length x 60 m width, a maximum height of 5 m above sea surface will be applied). Up to 33,810 m^2 of sea-surface maybe utilised for testing. The magnitude of effect is considered to be substantial.			

14.11.3 Future monitoring

14.11.3.1 No landscape seascape visual assessment monitoring to test the predictions made within the installation phase impact assessment is considered necessary.

14.12 Cumulative Impact Assessment

14.12.1 Methodology

14.12.1.1 The Cumulative Impact Assessment (CIA) takes into account the impact associated with the META project together with other projects and plans. The projects and plans selected as relevant to the CIA presented within this chapter are based upon the results of a screening exercise. Each project has been considered on a case by case basis for scoping in or out of this chapter's assessment based upon data confidence, effect-receptor pathways and the spatial/temporal scales involved.

14.12.1.2 In undertaking the CIA for the META project, it is important to bear in mind that other projects and plans under consideration will have differing potential for proceeding to an operational stage and hence a differing potential to ultimately contribute to a cumulative impact alongside the META project. For example, relevant projects and plans that are already under construction are likely to contribute to cumulative impact with the META project (providing effect or spatial pathways exist), whereas projects and plans not yet approved or not yet submitted are less certain to contribute to such an impact, as some may not achieve approval or may not ultimately be built due to other factors.

Table 14-17: List of other projects and plans considered within the CIA.

Phase	Developer - Reference	Distance from Warrior Way (km)	Distance from Dale Roads (km)	Distance from East Pickard Bay (km)	Spatial/ temporal overlap with the META project	Details	Date of Installation/operation	Further Consideration in technical chapters required?	Justification
Dredging sites									
Installation/ operation and maintenance	Neyland Yacht Haven ltd. - DML1743	1.1	12.3	10.5	No spatial overlap with consented areas. Potential for temporal overlap.	Dredge and disposal from Neyland Marina - annual volume 5500 m^3.	13/12/2017-12/12/2020	Yes	Given the distances to META (Phase 2) sites and the potential for temporal overlap, these projects cannot be excluded from further consideration in the CIA.
Installation/ operation and maintenance	Milford Haven Port Authority - DML1646	1.3	1.5	2.5	No spatial overlap with consented areas Temporal overlap with all sites.	Maintenance dredging throughout the Milford Haven. Annual volume 362500 m^3.	09/03/2017-08/03/2022	Yes	
Dredge disposal sites									
Installation/ operation and maintenance	Neyland dredge disposal site - LU190	0.5	12.4	10.5	No spatial overlap with any of the consented areas. Temporal overlap	Location: South of Neyland within the central channel of the Milford Haven, 0.22 nm diameter x 5 m depth. Status: Open	Not applicable	Yes	Given the distances to META (Phase 2) sites and the potential for temporal overlap, this projects cannot be excluded from further consideration in the CIA.
Installation/ operation and maintenance	Milford Haven dredge disposal site - LU170	15.9	5.2	2	No spatial overlap with any of the consented areas. No temporal overlap as site is closed	Location: South of St Ann's Head at the mouth of the Milford Haven estuary, unknown diameter x 30 m depth. Status: Closed	Not applicable	No	Dredge disposal site is not in use therefore no further consideration required.
Installation/ operation and maintenance	St Ann's Head dredge disposal site - LU180	16.6	5.7	2.4	No spatial overlap with any of the consented areas. No temporal overlap as site is closed	Location: Within the Milford Haven dredge disposal site, unknown diameter x 30 m depth. Status: Closed	Not applicable	No	Dredge disposal site is not in use therefore no further consideration required.
Installation/ operation and maintenance	Milford Haven Two dredge disposal site - LU169	26.7	20	15	No spatial overlap with any of the consented areas. No temporal overlap.	Location: To the south of Milford Haven dredge disposal grounds, unknown diameter x 50 m depth. Status: Open	Not applicable	No	Dredge disposal site is located at its closest 15 km from the META project, it is therefore highly unlikely to have any impact overlap.
Installation/ operation and maintenance	Milford Haven Three dredge disposal site - LU169	48.9	36	34.7	No spatial overlap with any of the consented areas.	Location: To the west of Milford Haven dredge disposal grounds, 1 nm diameter x unknown depth. Status: Open	Not applicable	No	Dredge disposal site is located at its closest 34.7 km from the META project, it is therefore highly unlikely to have any impact overlap.

Phase	Developer - Reference	Distance from Warrior Way (km)	Distance from Dale Roads (km)	Distance from East Pickard Bay (km)	Spatial/ temporal overlap with the META project	Details	Date of Installation/operation	Further Consideration in technical chapters required?	Justification
				No temporal overlap.					
Research									
Installation	Greenlink Interconnector Ltd. - RML1827	10.4	6	0	Spatial overlap with East Pickard Bay (site 8). Temporal overlap with East Pickard Bay (site 8).	Ground investigations	07-2018 - no end date given	Yes	Research operations are likely to have vessels present, with equipment for undertaking ground truthing surveys therefore this project cannot be excluded from further consideration in the CIA.
Installation	University College of Swansea - DEML1861	~4-5	~8-9	~6-7	Location is assumed to be by the Pembroke Power station. No spatial overlap with any of the consented areas. Temporal overlap.	Pembroke Power bubble barrier experiment Investigation into the effectiveness of bubble curtains in sediment management	Band 2 licence issued 12/12/2018 - three-year study	Yes	Given the distances to the META (Phase 2) sites and the potential for temporal overlap, these projects cannot be excluded from further consideration in the CIA.
Installation	University College of Swansea - DEML1845	12.7	5.4	0	Spatial overlap with East Pickard Bay (site 8). Temporal overlap with East Pickard Bay (site 8).	Deposition and subsequent removal of marker buoys with environmental monitoring and mid-water settlement plates.	30/08/2018-29/08/2019	Yes	Vessels and equipment will be required for the placement of marker buoys. It is highly likely to have temporal or spatial overlap with META activities, therefore this projects cannot be excluded from further consideration in the CIA.
Infrastructure									
Installation/ operation and maintenance	Neyland Yacht Haven Ltd - CML1658	1.1	12.3	10.5	No spatial overlap with consented areas Temporal overlap with Warrior Way (site 6)	Pile replacement in Neyland Marina.	21/11/2016-20/11/2019	Yes	Pile replacement is currently ongoing until 2019, which does not overlap with the installation and operational phases of the META project. Operational phases of this project may overlap with operation and installation phases of META therefore this project cannot be excluded from further consideration in the CIA.
Installation/ operation and maintenance	Mixed use developments - Local Planning Authority Reference: 14/0158/PA	7.3	5.3	5.6	No spatial overlap with any consented areas. Temporal overlap remains unknown due to insufficient	Undetermined planning application. Demolition of several existing buildings and the mixed-use redevelopment of Milford Waterfront comprising up to 26,266 m^2 of commercial, hotel, leisure, retail and fishery related floorspace. Up to 190 residential properties, up to 70 additional marina berths, replacement boat yards, landscaping, public realm enhancements, access and	EIA screening decision was returned on the 30/04/2018 - no further information has been provided	Yes	Given the distance from the project and likely impact pathways, there is potential for cumulative impacts.

Phase	Developer - Reference	Distance from Warrior Way (km)	Distance from Dale Roads (km)	Distance from East Pickard Bay (km)	Spatial/ temporal overlap with the META project	Details	Date of Installation/operation	Further Consideration in technical chapters required?	Justification
					information on start and end dates.	ancillary works. A decision on this application is yet to be made by the local planning authority.			
Installation/ operation and maintenance / decommissioning	Greenlink Interconnector Ltd. - Government reference: qA1296053	10.4	6	0	Spatial overlap with East Pickard Bay (site 8). Temporal overlap will occur throughout the duration of the META project	The Project is a 500 MW subsea electricity interconnector linking the power markets in Ireland and Great Britain and is planned for commissioning in 2023. As an EU Project of Common Interest, it is one of Europe's most important energy infrastructure projects. The interconnector is planned to make Landfall at Fresh Water West beach to the south of the mouth of the Waterway.	07/2018 - ongoing	Yes	Given potential for temporal and spatial overlap with META (Phase 2) sites this project cannot be excluded from further consideration in the CIA.
Installation/ operation and maintenance / decommissioning	Valereo - Welsh Government reference: qA1312073	-	-	-	No overlap with the META project as project is assumed to have no marine components.	Development of a cogeneration facility to supplement electrical power and steam demands of the refinery all within the refinery boundaries on land	07/12/2017 - Nationally significant project (ongoing)	No	Project is assumed to have no marine elements to the project, therefore there will be no impact overlap.
Installation/ operation and maintenance / decommissioning	Bombora Wave Energy	11.6	5.0	0	Spatial overlap with East Pickard Bay (site 8) within META test area. Potential for temporal overlap	Bombora on- and off-shore infrastructure and deployment of Bombora mWave device at East Pickard Bay. This is to include device deployment (mWave device), installation of temporary communications cable between mWave device and temporary onshore control station to be located above East Pickard Bay, and installation and operation of temporary control station onshore. Laying of marine cable to shore and through intertidal area at East Pickard Bay to involve up to 3 days cable laying below MHWS using cable lay vessel and up to four vessels, including guard boat. Cable to be laid on seabed and kept in place in sandy sediment by using six, three tonne rock bags covering an area of 4.5 m^2 per rock bag. Where the marine cable traverses potential reefy habitat, it will follow natural rock channel. In the intertidal area, the cable will be laid through a natural gully, or up the vertical gully side and attached to the semi-vertical rock face with rock bolts using hand held tools. JCB will pull the cable through the intertidal area from a location above MHWS.	Q1 2020	Yes	There is the potential for spatial overlap in the META East Pickard Bay test area (site 8) and temporal overlap with all META project sites installation and operation and maintenance phases, therefore this project cannot be excluded from further consideration in the CIA.
Ministry of Defence sites									
	Ministry of Defence	8.1	5.5	0.0	Temporal overlap	The Castlemartin Range is located immediately south of the entrance to the Waterway and extends for up to 12 NM from the coast between Little Furznip (at the southern extent of Freshwater West) and St Govan's Head (Milford Haven Port Authority 2019). The southern boundary of the East Pickard Bay (site 8) site is located adjacent to the northern boundary of the Castlemartin Military Practice Area D113A. The range at Castlemartin supports the training of military personnel (Army) in the firing of a range of munitions at land-based targets. The seaward danger area provides a safety zone for overfire and shrapnel which may result from the striking of targets (RPS, 2010). The Castlemartin Range is used every day of the week and on some weekends (RPS, 2010).	N/A	Yes	There is a high level of uncertainty as to timing of MOD activities at the MOD site, however on-going activity is likely therefore there is the potential for cumulative impacts with the META project.
Aquaculture projects									

Phase	Developer - Reference	Distance from Warrior Way (km)	Distance from Dale Roads (km)		Distance from East Pickard Bay (km)	Spatial/ temporal overlap with the META project	Details	Date of Installation/operation	Further Consideration in technical chapters required?	Justification
Installation/ operation and maintenance	Tehthys Oysters	8.9	5.1	2.6	Temporal overlap	The oyster farm is located on the eastern side of Angle Bay, whereby oysters are grown in baskets on metal supports. The farm will be serviced from the shore by foot.		Oct 2017 – Oct 2020 (possible renewal of licence)	Yes	There is potential for temporal overlap with the META project and as such will be included for assessment.
Installation/ operation and maintenance	Pembrokeshire Scallops	15.3	1.8	3.9	Temporal overlap	The scallop farm is located within Castlebeach Bay, whereby a system of weighted ropes will be deployed for growing scallops and mix species of native algae. The farm will be serviced by vessels and divers.		Jan 2019 – Q4 2020 (possible renewal of licence)	Yes	There is potential for temporal overlap with Dale Roads (site 7) and as such will be taken forward for assessment.
Pembroke Dock Marine Projects										
Installation/ operation and maintenance	Milford Haven Port Authority - SC1810: Pembroke Dock Infrastructure	2	11.3	8.8	No spatial overlap with consented sites. Potential for temporal overlap.	Pembroke Dock redevelopment Scoping Report submitted.	The intention of the Project is to create a flexible and efficient port-related office, industrial, warehousing and distribution, and ancillary operations infrastructure. This will involve the redevelopment of its existing space to incorporate increased deep-water access, internal and external heavy fabrication areas, construction of MEECE and Education/Skills Facility and the construction of a heavy lift facility.	Oct-18	Yes	Port activity as a result of Pembroke Dock Port operations could cause an increase in underwater noise emissions, increased potential for suspended sediments, and impacts on shipping and navigation. There is therefore the potential for cumulative effects with activities associated the META project.
Installation/ operation and maintenance / decommissioning	Marine Energy Wales - DEML1875	1.7	11.7	9.4	No spatial overlap with any of the consented areas. Potential for temporal overlap	Marine Energy Test Area - Phase 1 Band 2 application submitted.	The Project aims to create pre-consented test areas within the Pembroke Dock area. The test areas will have licensable activities to suit testing of initial stage marine renewable devices. These include testing of non-operating components and subassemblies. No full-scale testing is to be support within the test areas	21/04/2019-21/04/2029	Yes	Vessel use, and some testing activities have the potential for temporal overlap with the META project, therefore this project cannot be excluded from further consideration in the CIA.
Installation/ operation and maintenance / decommissioning	Wave Hub Ltd. - SC1082	31.4	31.1	25.8	No spatial overlap with any consented areas. Potential for temporal overlap as the projects are linked.	Demonstration zone Scoping Report submitted.	The Project entails the development of 90 km^2 of seabed with water depths of approximately 50 m and a wave resource of approximately 19 kW/m; to support the demonstration of wave arrays with a generating capacity of up to 30 MW for each project. Consent for this Project could be achieved in 2022, infrastructure could be built by 2024 and the first technology could be installed in 2025.	Jul-18	Yes	There is the potential for temporal overlap with the META project therefore this project cannot be excluded from further consideration in the CIA.

14.12.1.3 The majority of the projects listed above are located within the Waterway with the main impact associated with increases in vessel movements within this already busy waterway where shipping is a common visible element. This overall landscape seascape visual assessment has identified that the highest levels of impact associated with the META project will be at the East Pickard Bay testing site (site 8). Consequently, only projects/plans associated with this site and their potential cumulative impacts are identified and assessed as part of this landscape seascape CIA. Increases in the number of vessel movements in the seascape surrounding the East Pickard Bay site (site 8) have been identified as a result of the Greenlink Interconnector Cable Project, the proposed Bombora Wave Energy project and the MOD Project. Consequently, a CIA has been undertaken as follows:

East Pickard Bay (site 8) – Cumulative Impact of Greenlink Interconnector Cable Project, proposed Bombora Wave Energy project and the MOD Project on remoteness, views across bay, VPs 6,7 and 8 and recreational receptors.

14.12.1.4 This landscape and seascape is open and rugged and with evidence of recreational boating including markers buoys. The commercial shipping route to the port lies in the seascape to west with large ships visible in the background. The shoreline and cliffs are rugged and undeveloped.

Magnitude of impact

14.12.1.5 The magnitude of the impact of the visible elements of the projects will result in increased vessel movements, specifically:

- The impact is considered to be indirect;
- The impact is considered to be short term;
- The impact is considered to be intermittent;
- The impact is considered to be fully reversible; and
- Consequently, the overall magnitude of the impact is considered to be minor.

Sensitivity of the receptors

14.12.1.6 LANDMAP identifies the coastline as being of outstanding value. Due to the function of this part of the seascape for recreational boating and the presence of commercial shipping in the background on route to the port for commercial shipping, mooring of occasional ships and the MOD firing range, there are some factors that detract from sensitivity. However, the coastline is rural and undeveloped.

14.12.1.7 Consequently, the receptor is deemed to be of high vulnerability with full recoverability. The sensitivity of the receptor is therefore considered to be of very high value.

Significance of the effect

14.12.1.8 Overall, for the maximum design scenario for the META, the effect has been identified to be of substantial significance, which is significant in EIA terms. The cumulative effect of the Greenlink Interconnector Cable Project and the MOD Project will add more vessel movements, so the impact will remain of **substantial significance**, which is significant in EIA terms.

14.13 Transboundary effect

14.13.1.1 A screening of transboundary impacts has been carried out and has identified that there was no potential for significant transboundary effects with regard to landscape seascape visual impacts from the META project upon the interests of other European Economic Areas (EEA) States.

14.14 Inter-related effects

14.14.1.1 Inter-relationships are considered to be the impacts and associated effects of different aspects of the proposal on the same receptor. These are considered to be:

- Project lifetime effects: Assessment of the scope for effects that occur throughout more than one phase of the project (installation, operation and maintenance, and decommissioning), to interact to potentially create a more significant effect on a receptor than if just assessed in isolation in these three key project stages (e.g. subsea noise effects, operational turbines, vessels and decommissioning); and
- Receptor led effects: Assessment of the scope for all effects to interact, spatially and temporally, to create inter-related effects on a receptor. As an example, all effects on [chapter topic], such as [direct habitat loss or disturbance, sediment plumes, scour, jack-up vessel use etc.], may interact to produce a different, or greater effect on this receptor than when the effects are considered in isolation. Receptor-led effects might be short term, temporary or transient effects, or incorporate longer term effects.

14.14.1.2 There will be no landscape or seascape inter-related effects arising from the META project.

14.15 Conclusion and summary

14.15.1.1 The landscape seascape visual assessment has considered effects of the proposed development during the installation and deployment, operation and maintenance, and commissioning on each of the three test sites associated with the META project. A summary of the effects on all of the receptors is provided in Table 14-18 below.

14.15.1.2 The assessment has identified that the proposed development maximum design scenario during the operation and maintenance phase will increase the environmental impact for all three sites from the current baseline conditions. For Warrior Way (site 6) the META project would result in impacts of **minor significance**, which is not significant in EIA terms.

14.15.1.3 For Dale Road the impacts of the maximum design scenario would be of **moderate significance**, which is significant in EIA terms. For East Pickard Bay (site 8) the maximum design scenario would result in impacts of **substantial significance** which is significant in EIA terms.

Table 14-18: Summary of potential environment effects, mitigation and monitoring at the META project for maximum design scenario.

Description of impact	Measures adopted as part of the project	Magnitude of impact	Sensitivity of receptor	Significance of effect	Additional measures	Residual effect	Proposed monitoring
Warrior Way (site 6) installation phase/ decommissioning Phase							
Impact on the designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales.	None	Negligible	Medium	Negligible (not significant in EIA terms)	None	n/a	None
Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path along the Cleddau Bridge and across the Daugleddau from publicly accessible coastal viewpoints in Burton Ferry (VP1 and VP2).	None	Negligible	Medium	Negligible (not significant in EIA terms)	None	n/a	None
Visual impacts for recreational receptors using the waterway for recreational boating.	None	Negligible	Medium	Negligible (not significant in EIA terms)	None	n/a	None
Warrior Way (site 6) Operation and maintenance phase							
Impact on the designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales.	None	Minor	Medium	Minor (not significant in EIA terms)	None	n/a	None
Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path along the Cleddau Bridge and across the Daugleddau from publicly accessible coastal viewpoints in Burton Ferry (VP1 and VP2).	None	Minor	Medium	Minor (not significant in EIA terms)	None	n/a	None
Visual impact for recreational receptors using the waterway for recreational boating.	None	Minor	Medium	Minor (not significant in EIA terms)	None	n/a	None
Dale Roads (site 7) Installation phase/ decommissioning Phase							
Impact on the designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales.	None	Negligible	Medium	Negligible (not significant in EIA terms)	None	n/a	None

Description of impact	Measures adopted as part of the project	Magnitude of impact	Sensitivity of receptor	Significance of effect	Additional measures	Residual effect	Proposed monitoring
Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path (VP3, VP4 and VP5).	None	Negligible	High	Minor (not significant in EIA terms)	None	n/a	None
Visual impact for recreational receptors using the waterway for recreational boating.	None	Negligible	Medium	Negligible (not significant in EIA terms)	None	n/a	None
Dale Road Operation and maintenance phase							
Impact on the designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales.	None	Moderate	Medium	Moderate (significant in EIA terms)	None	n/a	None
Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path (VP3, VP4 and VP5).	None	Moderate	High	Moderate (significant in EIA terms)	None	n/a	None
Visual impact for recreational receptors using the waterway for recreational boating.	None	Moderate	Medium	Moderate (significant in EIA terms)	None	n/a	None
East Pickard Road Installation phase/ Decommissioning phase							
Impact on remoteness, unspoilt sweep of beaches and dune systems with craggy cliffs and tranquillity when no firing at MOD ranges in the National Park.	None	egligible	Very High	Minor (not significant in EIA terms)	None	n/a	None
Impact on wide views across bay and to focal points such as St Ann's Head.	None	egligible	Very High	Minor (not significant in EIA terms)	None	n/a	None
Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path (VP6, VP7 and VP8).	None	Negligible	Very High	Minor (not significant in EIA terms)	None	n/a	None
Visual impact for recreational receptors using the waterway for recreational boating.	None	Negligible	Very High	Minor (not significant in EIA terms)	None	n/a	None

Description of impact	Measures adopted as part of the project	Magnitude of impact	Sensitivity of receptor	Significance of effect	Additional measures	Residual effect	Proposed monitoring
East Pickard Bay (site 8) Operation and maintenance phase							
Impact on remoteness, unspoilt sweep of beaches and dune systems with craggy cliffs and tranquillity when no firing at MOD ranges in the National Park.	None	Major	Very High	Substantial (significant in EIA terms)	None	n/a	None
Impact on wide views across bay and to focal points such as St Ann's Head.	None	Major	Very High	Substantial (significant in EIA terms)	None	n/a	None
Visual impact from viewpoints for receptors using the Pembrokeshire Coast Path (VP6, VP7 and VP8).	None	Major	Very High	Substantial (significant in EIA terms)	None	n/a	None
Visual impact for recreational receptors using the waterway for recreational boating.	None	Major	Very High	Substantial (significant in EIA terms)	None	n/a	None

14.16 References

Guidelines for Landscape and Visual Impact Assessment, second edition, Landscape Institute and Institute of Environmental Assessment.

GLVIA3 (2013). Guidelines for Landscape and Visual Impact Assessment, Third Edition Landscape Institute and the Institute of Environmental Management and Assessment.

GLVIA3 Statement of Clarification 1/13.

Natural England (2012). Seascape Characterisation around the English Coast (Marine Plan Areas 3 and 4 and Part of Area 6 Pilot Study) (NECR106).

Natural England (2014). An Approach to Landscape Character Assessment.

Natural Resources Wales (2015). National Seascape Assessment for Wales.

Natural Resources Wales (2016). LANDMAP Methodology "Visual and Sensory".

Natural Resources Wales (2017). National Landscape Character Areas

Natural England, Scottish Natural Heritage and the Countryside Council for Wales (2011). Landscape Character Assessment, Guidance for England, Scotland and Wales (consultation draft). Natural England, Scottish Natural Heritage and Countryside Council for Wales

Natural England, Scottish Natural Heritage and the Countryside Council for Wales (2012). An approach to Seascape Character Assessment. Natural England, Scottish Natural Heritage and Countryside Council for Wales

Overarching National Policy Statement for Energy (EN-1) (2011) Department of Energy and Climate Change. Presented to Parliament pursuant to Section 5(9) of the Planning Act 2008. July 2011. Accessed: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf 21 December 2018.GLVIA3 (2002).

Pembroke Coast National Park Authority (2013). Pembrokeshire Coast National Park Coast Seascape Character Assessment.

Pembroke County Council (2013). Local Development Plan.

Pembroke County Council (2017). Pembroke Dock Conservation Area Character Appraisal and Management Plan.

Pembrokeshire Coast National Park (2014). Management Plan 2015 – 2019

Turley Heritage (2016). Heritage Assessment.

UK Marine Policy Statement (2011). HM Government; Northern Ireland Executive; Scottish Government; Welsh Assembly Government. March 2011. Accessed: https://www.gov.uk/government/publications/uk-marine-policy-statement 21 December 2018.

Welsh Government (2018) draft Welsh National Marine Plan. WG25663. ISBN: 978-1-4734-5357-9.