



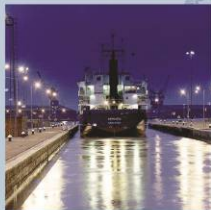
Associated British Ports

Proposed Solar Project at the Port of Barry: Environmental Screening Report

Report R.2244

May 2014

Creating sustainable solutions for the marine environment



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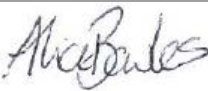

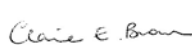
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Summary

Associated British Ports (ABP) are proposing to submit a planning application for a ground mounted solar Photovoltaic (PV) system project in ABP Barry, South Wales with an output of up to 12MW, over an area of up to 75 acres. The proposed development is considered to fall under Part 3(a) of Schedule 2 of The Town & Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (hereon known as the EIA Regulations). ABP have commissioned ABP Marine Environmental Research Ltd (ABPmer) to provide the Vale of Glamorgan Council with information on the proposed development, in order that a Screening Opinion can be adopted in accordance with Regulation 5 of the EIA Regulations.

The proposed development will be a temporary use of underutilised land within an operational port. Having examined the potential key issues associated with the proposed development in accordance with the EIA Regulations, it is concluded that the development proposals size, characteristics and location fall below the relevant thresholds for EIA and an EIA is therefore not required due to the following key reasons:

- The proposed sites are not located within or impacting upon a sensitive area as defined by the EIA Regulations; and
- The proposed development is no more than of local importance and will not result in significant adverse environmental impacts.

It is proposed that the following supporting information will be submitted with the planning application so that the Vale of Glamorgan Council has sufficient information on which to determine consent:

- Detailed description of the proposed development;
- Flood consequences assessment;
- Phase 1 and Phase 2 ecological assessment;
- Landscape and visual assessment;
- Contaminated land report;
- Heritage and archaeology desk study; and
- A design and access statement.

Abbreviations

ABP	Associated British Ports
ABPmer	ABP Marine Environmental Research Ltd
EIA	Environmental Impact Assessment
FCA	Flood Consequence Assessment
LNR	Local Nature Reserve
NRW	Natural Resources Wales
PV	Photovoltaic
Ramsar	Wetland sites of international importance designated under the Ramsar Convention
RBMP	River Basin Management Plan
SSSI	Site of Special Scientific Interest
TAN	Technical Advice Note?

Cardinal points/directions are used unless otherwise stated.

SI units are used unless otherwise stated.

Proposed Solar Project at the Port of Barry: Environmental Screening Report

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1. Introduction

Associated British Ports (ABP) are proposing to submit a planning application for a ground mounted solar Photovoltaic (PV) system project in ABP Barry, South Wales with an output of approximately 12MW, over an area of approximately 75 acres. The life of the proposed PV system will be at least 20 years. The proposed development is considered to fall under Part 3(a) of Schedule 2 of The Town & Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (hereon known as the EIA Regulations).

Schedule 2 development requires an Environmental Impact Assessment (EIA) to be undertaken and an Environmental Statement to be submitted with the planning application, if the proposed development is 'likely to have significant effects on the environment by virtue of factors such as its nature, size or location'.

ABP have commissioned ABP Marine Environmental Research Ltd (ABPmer) to provide the Vale of Glamorgan Council with information on the proposed development, in order that a Screening Opinion can be adopted in accordance with Regulation 5 of the EIA Regulations. Regulation 5 requires the following information to be submitted which is included within this report:

- A plan sufficient to identify the land;
- A brief description of the nature and purpose of the development and of its possible effects on the environment; and
- Such other information or representations as the person making the request may wish to provide or make.

It is intended that the information provided in this screening report will enable the Vale of Glamorgan Council to adopt a 'negative' Screening Opinion for this proposed development and that a full EIA is therefore not required.

This report is structured as follows:

- Section 1:** Introduction (this section) including site location and project description;
- Section 2:** Environmental considerations;
- Section 3:** Relocation of existing businesses; and
- Section 4:** Conclusions.

1.1 Site Location

The Port of Barry is located in South Wales, nine miles west of Cardiff on the northern shore of the Bristol Channel. In total, the port covers 644 acres and contains three docks (No 1, 2 and 3). The proposed development consists of two adjacent sites, both located on brownfield land within land wholly owned by ABP. The location of the two sites proposed for development are shown in Figure 1.

The two sites are to the east of Dock No 2 and north of Dock No 3. Site 1 comprises an area of approximately 51 acres and currently contains an inert waste recycling operation (See Section 2.4), a stone mason, an unoccupied coal yard and some area of predominantly scrub vegetation. The southwest boundary of Site 1 backs onto the entrance channel and east breakwater of the outer harbour of the Port of Barry. In addition, the south east boundary of Site 1 is adjacent to the Bristol Channel and the Hayes Point to Bendrick Rock Site of Special Scientific Interest (SSSI) (see Section 2.2 for more information). Site 2 is smaller in area than Site 1, at approximately 24 acres and consists of underutilised and derelict land and scrub vegetation. Current tenants on Site 2 include an end of life vehicle processing operation and various light industrial and storage uses. The Cadoxton River runs alongside the eastern boundary of Site 2 where it then flows into the Bristol Channel.

1.2 Project Description and Purpose

ABP are proposing to install PV panels across Sites 1 and 2. The panels would be installed in arrays, approximately 6m apart and angled southwards to maximise power generation. Fixed solar panels are proposed that can be installed within a few months and removed from the sites with minimal effects on the environment. It is anticipated the panels will be up to 3m in height and ground mounted to a shallow depth dependant on ground conditions. Details of the proposed development are to be defined as the project progresses however the proposed development is likely to include the construction of a security fence, access roads and associated infrastructure. The proposed works may also include a substation and connection to the distribution network. As part of the proposed development some levelling of the land is likely to be required and several buildings, the majority of which are derelict, will also be demolished (approximately 10,100sqm).

Solar PV Panels are considered to be at the leading edge of zero emission renewable energy generation and the proposed development will contribute towards the increasing role solar panels are playing in reducing the UK's reliance on carbon emitting energy generation methods and foreign supplies of fossil fuels. The proposed development will be a medium term use of underutilised and derelict land within an operational port and is also considered to have the potential to enhance Sites 1 and 2.

2. Environmental Considerations

There is potential for minor environmental effects to occur during the construction, operation and eventual decommissioning stages of the development. Considering the medium term life of the proposed development and the ability to remove solar panels relatively easily, effects due to decommissioning are discounted. The environmental effects are considered below.

2.1 Water Quality and Flood Risk

A small part of the proposed site is identified by Natural Resource Wales (NRW) as lying within flood Zone 2 (where land is assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1–0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of

sea flooding (0.5–0.1%) in any year) or a flood zone 3 (where land is assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year). The proposed development will raise levels on the site where required to meet Technical Advice Note (TAN) 15 (Development and Flooding Risk).

The Cadoxton River flows adjacent to the eastern boundary of Site 2. NRW collects water samples at regular intervals along rivers and canals to analyse chemical, biological, nitrate and phosphate properties, with the last published data reported for the river from 2009. For the Cadoxton River, chemistry and biology were reported 'B' grade (measured A-F; very good to bad) and nitrate and phosphate were reported '3' and '4' (measured 1 to 6; very low to very high levels), respectively. Water quality in the area surrounding the Port of Barry is also discussed in NRW's Western Wales River Basin Management Plan (RBMP). With specific regard to the Cadoxton River, current chemical status is good and it is thought this will also be achieved in 2015. However, ecological status is currently moderate and unlikely to achieve good status by 2015, due to the biological element 'Fish' and supporting element 'Quantity and Dynamics of Flow'. The justification for not achieving good ecological status by 2015 is related to natural conditions and disproportionate costs, respectively. A revised objective is to achieve good ecological status by 2027.

The Western Wales RBMP also assesses groundwater quality, suggesting that the 'Thaw and Cadoxton Jurassic Lias' waterbody has good chemical status and poor (low confidence) quantitative status. 'Impact on Surface Waters' is highlighted as the cause of not currently achieving good quantitative status, and disproportionate costs justify why this groundwater is not predicted to achieve good status by 2015. The 'Bristol Channel Inner North' coastal waterbody is considered to have currently good ecological and chemical status, which is also predicted to be the case in 2015. The nearest groundwater source protection zone is an Inner Zone (Zone 1) approximately 800m to the north of Site 2 and due to the distance from the proposed works will not be effected.

During operation, it is considered that rainfall falling onto the PV panels will directly run off into the ground beneath the panels as it does in the existing site. Therefore considering the nature of solar farms including the general non-intrusive nature and the small size of area overlapping with flood zones, no potential effects on flood risk or water quality are anticipated. Nevertheless, in support of a planning consent it is proposed that a Flood Consequence Assessment (FCA) is undertaken.

2.2 Nature Conservation and Ecology

As shown on Figure 2, the following designated sites are located within 5km of the proposed development:

- Severn Estuary Ramsar;
- Severn Estuary Special Area of Conservation;
- Severn Estuary Special Protection Area;
- Barry Island SSSI;
- Barry Woodlands SSSI;

- Cliff Woods-Goldern Stairs SSSI and Local Nature Reserve (LNR);
- Cog Moors SSSI;
- Cosmeston lakes SSSI;
- Cwm Talwg Woodlands LNR;
- Hayes Point to Bendrick Rock SSSI;
- Penarth Coast SSSI;
- Severn Estuary SSSI; and
- Sully Island SSSI.

The closest designated site to the proposed works is Hayes Point to Bendrick Point SSSI which is adjacent to Site 1. Designated in 1986, the SSSI is approximately 29.5 hectares in area and located over a 1.8 km stretch of coastline to the south east of Barry on the northern shore of the Bristol Channel. The two key features of the SSSI are of geological significance, specifically rock exposures and "dinosaur" footprints/tracks. Considering the nature of the significant features of this site and the distance from the proposed developments, no effects on this or any other designated site are anticipated, however consideration will be given to this sensitive area where necessary including as part of the FCA (Section 2.1).

The current land use of the site consists of underutilised, derelict land. A Phase 1 ecology survey was undertaken on the 11/12 April 2014 and the results and subsequent report will be submitted with a planning application. Initial results suggest there is some potential for common nesting bird species within the vegetation. Following the draft Desk Study and Extended Phase 1 Habitat Survey, it was recommended that any necessary site clearance of trees and shrubs be undertaken outside of the bird breeding season. A Phase 2 survey is due to be carried out in May 2014 to check for the presence of common reptile species. A local Biological Records Centre data search request has been logged and the results will also be incorporated within these surveys. The site is considered to have the potential for the proposed development to provide ecological enhancements and no significant adverse effects on ecological features are anticipated.

2.3 Wider Landscape and Visual Effects

The proposed development is not located within any landscape designations. The nearest sensitive receptors are residential areas approximately 300m from Site 1 and 100m from Site 2. There are no formal public rights of way crossing the Port of Barry. A public right of way / National Trail passes around the Port of Barry (i.e. away from the coast). In addition one public right of way follows the coast from Hayes Point to Bendrick Rock, which then leads to a bridge across the Cadoxton River, immediately to the east of the proposed sites. The planning application will be supported by a Landscape and Visual Impact Assessment which will provide an evaluation of the environmental effects of the proposed development on the character, quality of the landscape and key public views and visual amenity. Measures will be taken to minimise effects where necessary such as appropriate landscaping and the treating of panels to minimise glare. Considering the low level nature of the proposed development, and the locational context, the proposed development is considered to have the potential to improve the character of the underutilised, derelict land and it is considered unlikely to result in any significant adverse impacts on the surrounding landscape character.

2.4 Contaminated Land and Waste

There are records of historic landfill across both Sites 1 and 2. Site 1 is located within 'Barry Docks Area A and B' historic landfill due to the operation of the site by BP Chemicals Limited between 1945 and 1994. The northern part of Site 2 is located within the 'Atlantic Trading Estate' historic landfill and the 'Barry Dock No.1' historic landfill (Environment Agency, 2014). In addition, the site includes two currently licenced waste management facilities for end of life vehicles.

Following discussions with solar panel supply and installation contractors, ground disturbance is expected to be minimal due to the non-intrusive nature of these works. However, due to the known previous use of the land a contaminated land report is to be produced to consider any potential effects of the project works. Given the general non-intrusive nature of solar farms the potential for affecting any underlying contaminated land is considered to be minimal and no significant adverse effects are anticipated.

2.5 Heritage and Archaeology

No listed buildings are located in close proximity to either Site. A scheduled ancient monument has been identified in the north of Site 1 and it is referred to as 'Round Barrow 612m N of Bendrick Rock' (Figure 3). Round barrows are hemispherical mounds of earth which were built up and used as burial sites. The last detailed survey of the round barrow located within ABP Barry was conducted in 1982 where it measured 10m in diameter and 0.4m in height. A hole 2.5m in diameter and 0.2m deep had been dug into the barrow to the north-west of the centre point. No surrounding ditch was apparent, as is common in many other examples, nor was there any trace of a stone-lined passage; nonetheless, the survey concluded that it did indeed appear to be a barrow (Cadw, 2014). Considering the importance of the scheduled monument on site it is proposed that this area and a suitable buffer zone are excluded from the footprint of the development.

In addition to the scheduled ancient monument, reference is made to a possible early Christian cemetery (Inhumation) site to the east of Site 2 (within the Cadoxton River) (Cadw, 2014). Numerous items have also been found at an intertidal site east of Site 1 (near Bendrick Rock) including National Archaeological Collections from various periods. For example, items dated from the Prehistoric (226 items), Early Medieval (73 items), Iron Age (60 items), Medieval (59 items), Post-Medieval (52 items) and Mesolithic (34 items) have been reported, comprising pottery, flint, chert, bone and other human remains (Cadw, 2014).

The solar panels will be a ground mounted ballasted foundation installation and will not require intrusive foundations and therefore no significant effects, above or below ground are anticipated on heritage interests. Where necessary a heritage and archaeology desk study will be submitted with the planning application.

2.6 Noise and Air Quality

There is likely to be a small increase in noise and dust associated with the construction phase of the proposed development. This will be short term and unlikely to affect nearby sensitive receptors or exceed existing levels associated with normal port operations. Effects from noise and dust will be managed following best practice measures. Therefore no significant effects are anticipated.

2.7 Access

The proposed development will generate a small increase in traffic movements during construction including Heavy Goods Vehicles, however the existing road network already accommodates such movements associated with normal port operations. Site 1 and 2 are considered to have good access through roads within the Port of Barry. No new access is proposed to the public highway. It is envisaged that some infrastructure will be shipped to the port directly and any increases in traffic will be confined to the Port of Barry. Therefore no significant effects are anticipated.

3. Relocation of Existing Businesses

A number of small businesses are located within the Site 2 Area. Where these are likely to be affected by the proposed Solar project, which is likely to be developed in a phased manner, viable businesses will be relocated as far as possible within the adjacent areas of the Port. This will be examined in more detail within the planning application.

4. Conclusions

The proposed development will be a medium term use of underutilised and derelict land within an operational port and is considered to have the potential to enhance the Sites. Having examined the potential key issues associated with the proposed development in accordance with the EIA Regulations, it is concluded that the development proposals size, characteristics and location fall below the relevant thresholds for EIA and an EIA is therefore not required due to the following key reasons:

- The proposed sites are not located within or impacting upon a sensitive area as defined by the EIA Regulations; and
- The proposed development is no more than of local importance and will not result in significant adverse environmental impacts.

It is proposed that the following supporting information will be submitted with the planning application so that the Vale of Glamorgan Council has sufficient information on which to determine consent:

- Phase 1 and Phase 2 ecological assessment;
- Landscape and visual assessment;
- Contaminated land report;
- Heritage desk study; and
- A design and access statement.

Assuming the Council reaches the same conclusion that the proposed development does not require an EIA, ABP would welcome the Council's thoughts on the studies required to support a planning application of this nature.

5. References

Cadw 2014. Website Accessed April 2014: <http://cadw.wales.gov.uk/?lang=en>

Environment Agency, 2014: Website Accessed April 2014: <http://apps.environment-agency.gov.uk/wiyby/default.aspx>

Figures





- Port Boundary
- Site 1
- Site 2

Date	By	Size	Version
May 14	NMW	A4	1
Coordinate System		British National Grid	
Projection		Transverse Mercator	
Scale		1:20,000	
QA		DLW	
4233 Fig_1_Location.mxd			
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Location of Site 1 and 2 within the Port of Barry

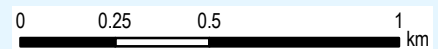
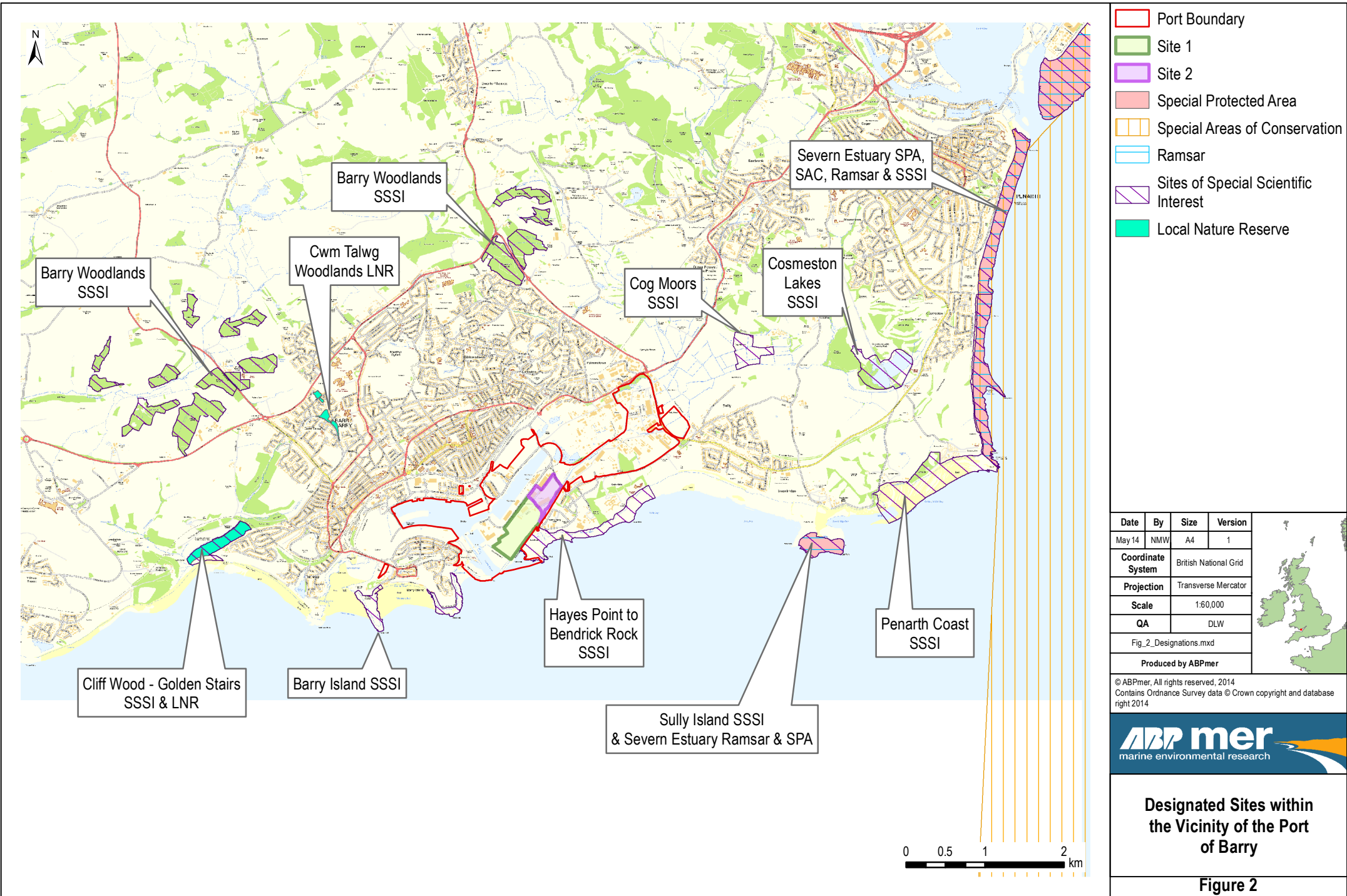


Figure 1





- Site 1
- Site 2
- Scheduled Ancient Monuments

Date	By	Size	Version
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Coordinate System		British National Grid	
Projection		Transverse Mercator	
Scale		1:6,500	
QA		DLW	
4233 Fig_3_Archaeology.mxd			
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Location of Scheduled Ancient Monument

Figure 3



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