



Caernarfon Harbour Pontoons

Habitats Regulations Assessment (HRA)

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List of Abbreviations

AA	Appropriate Assessment
AIES	Assessment of Implications on European Sites
cSAC	Candidate Special Area of Conservation
EMS	European Marine Site
ES	Environmental Statement
FCS	Favourable conservation status
HRA	Habitats Regulations Assessment
IEEM	Institute of Ecology and Environmental Management
IROPI	Imperative Reasons of Over-riding Public Interest
JNCC	Joint Nature Conservation Committee
LSE	Likely Significant Effect
OMS	Offshore Marine Site
PEU	Plainly Established and Uncontroversial
PPG	Pollution Prevention Guideline
pRamsar	Possible Ramsar Site
pSAC	Possible Special Area of Conservation
pSPA	Potential Special Protection Area
SAC	Special Area of Conservation
SPA	Special Protection Area

Executive Summary

This report comprises a Habitats Regulations Assessment (HRA) for proposals to install pontoons along with a scrub deck adjacent to the quay wall at the Cei Llechi area of Caernarfon. The proposals involve the installation of floating pontoons along a section of approximately 360m of the quay wall, secured off driven piles which are to be placed on the foreshore adjacent to the quay wall. The proposals also include the installation of a 15m x 6m scrub deck adjacent to the harbour wall on the western side of the pontoons.

This report comprises a HRA which is an assessment of impacts on European protected sites of importance for nature conservation.

Following a Screening assessment, the first stage of the HRA identified that there would be 'Likely Significant Effects' for the Menai Strait and Conwy Bay SAC, Afon Gwyrfaï and Llyn Cwellyn SAC, North Anglesey Marine SAC, Pen Llŷn a'r Sarnau SAC or West Wales Marine SAC. Therefore, the assessment progressed to Stage 2 'Appropriate Assessment' stage, which considered the potential for the works to have an adverse effect on the integrity of the sites, taking proposed mitigation measures into account. It should be noted that the information included in this report relating to Stage 2 forms a Statement to inform an Appropriate Assessment (SIAA), as the Appropriate Assessment itself will be made by the Competent Authority.

The assessment found that although the proposed works could result in potential construction derived pollution, potential increased risk of introducing INNS, and potential disturbance of mobile species, the risk of a likely significant effect was fairly low due to the size and dispersal of the SAC's and their qualifying features. Furthermore, with the application of mitigation measures, the risk could be reduced to an extent that there would be no adverse effect on the integrity of the Menai Strait and Conwy Bay SAC, Afon Gwyrfaï and Llyn Cwellyn SAC, North Anglesey Marine SAC, Pen Llŷn a'r Sarnau SAC or West Wales Marine SAC with no residual effects.

1.0 INTRODUCTION

YGC have been commissioned to undertake a Habitats Regulations Assessment (HRA) for proposals to install pontoons adjacent to the quay wall at the Cei Llechi area of Caernarfon Harbour, Gwynedd. (Grid Ref: SH 47829 62596) (see Figure 1 below). This report comprises a HRA which is an assessment of impacts on European protected sites of importance for nature conservation.

Caernarfon Harbour Trust are developing proposals to install pontoons along the Cei Llechi (Slate Quay) area of the harbour in Caernarfon, Gwynedd. The proposals involve the installation of floating pontoons along a section of approximately 360m of the quay wall, secured off driven piles which are to be placed on the foreshore adjacent to the quay wall. The proposals also include the installation of a 15m x 6m scrub deck adjacent to the harbour wall on the western side of the pontoons.

The proposals are located on the Afon Seiont, at its estuary with Menai Strait. The harbour at Cei Llechi, Caernarfon is a historic, well established working harbour which provides facilities for commercial and leisure vessels. The proposals aim to improve the facilities available to harbour users.

The proposals will involve the following sequence of works:

- Set up temporary site compound and exclusion zones for piling and crane platform in car park.
- Foundation preparation on foreshore for scrub deck.
- Siting of piling rig on quay and installation of piles along the foreshore
- Concrete deck construction of scrub deck.
- Siting of crane on quay and lifting of pontoon sections into water.
- Positioning and fixing of pontoons onto piles.
- Installation of gangway and securing on to quay/car park.
- Removal of crane, equipment and site compound and re-instatement of car park.

Outline drawings and method statements are included in the Appendices

The purpose of this HRA screening is to assess the impact of the works on sites of international importance for biodiversity.

1.2 Authors

This HRA has been prepared by:

- Rhys Meilyr Thomas, PGDip, PIEMA, with 7 years of ecological consultancy experience, including HRA and Environmental Impact Assessment (EIA) of large projects; and
- David Harries MSc, CEnv, MCIEEM with over 18 years of ecological consultancy experience, including HRA and Ecological Impact Assessment (EcIA) of large projects.

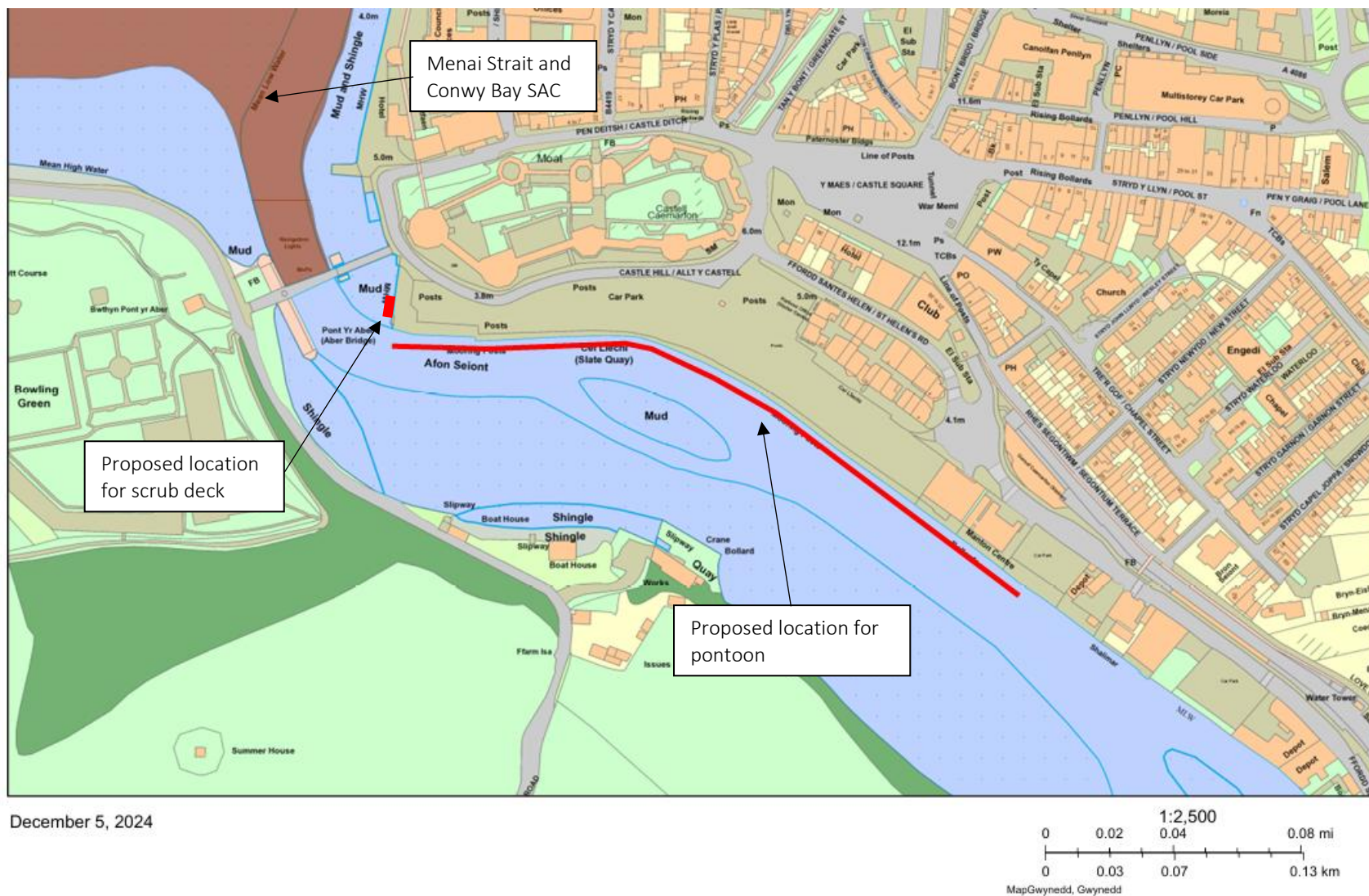


Figure 1: Location of proposed works in Caernarfon Harbour (red line). SAC location shown in brown shading.

1.3 European Sites and Ramsars

The EU Habitats Directive requires competent authorities to assess the impacts of plans and projects on the Natura 2000 network of protected sites, including Special Protection Areas (SPAs) and Special Areas of Conservation (SACs). In England and Wales, the Directive is implemented by the Conservation of Habitats and Species and Planning (Various Amendments) (England and Wales) Regulations 2017 (the 'Habitats Regulations'). These set out the requirement for a Habitats Regulations Assessment (HRA) where necessary, comprising a series of mandatory tests.

According to Government policy and advice, 'Wetlands of International Importance' or Ramsar sites, although not subject to the Habitats Regulations, should be treated within the planning system in the same way as SACs and SPAs (or 'European sites'). The same level of protection is also given to potential or proposed sites (i.e. pSPA, pSAC and pRamsar), which have not yet been formally designated.

1.4 The HRA of Projects

HRA asks specific, mandatory questions of development projects. Firstly a pre-screening process establishes whether a project can be exempted, excluded or eliminated, either because it is directly connected with the conservation management of the protected site, or it doesn't qualify as a 'project' (within the meaning and scope of the Habitats Directive), or because it couldn't conceivably affect any protected sites. If it cannot be discounted for these reasons, it has to undergo a process involving the four stages outlined in Table 1 and Figure 3 below.

The first stage is to screen the project to identify if it may result in a likely significant effect, whether alone or in-combination with other plans or projects. Provided that these significant effects can be ruled out, then no further assessment is needed. Following recent case law (People over Wind, 2017), mitigation cannot be taken into consideration at this stage.

If likely significant effects cannot be ruled out, then the project will proceed to the 'Appropriate Assessment' stage which explores the impacts in terms of the sites conservation objectives. This is to identify whether it can be ascertained that *it will not adversely affect the integrity of the European site*. It is only at this stage that mitigation measures can be considered or imposed (such as changes to design or timing of works). If the Appropriate Assessment can rule out any adverse effects on the integrity of the European site (with or without mitigation), the project may then be consented.

If adverse effects cannot be ruled out, then the assessment progresses to stages three and four and specific derogations may be sought. These determine whether alternative solutions exist and if not, whether imperative reasons of overriding public interest apply and if so, whether compensation is feasible. It should be noted that use of the derogations is regarded as a last resort and should be considered only in exceptional circumstances. The majority of projects are resolved during stages 1 and 2 of the HRA process, as few would manage to pass the strict tests of stages 3 and 4.

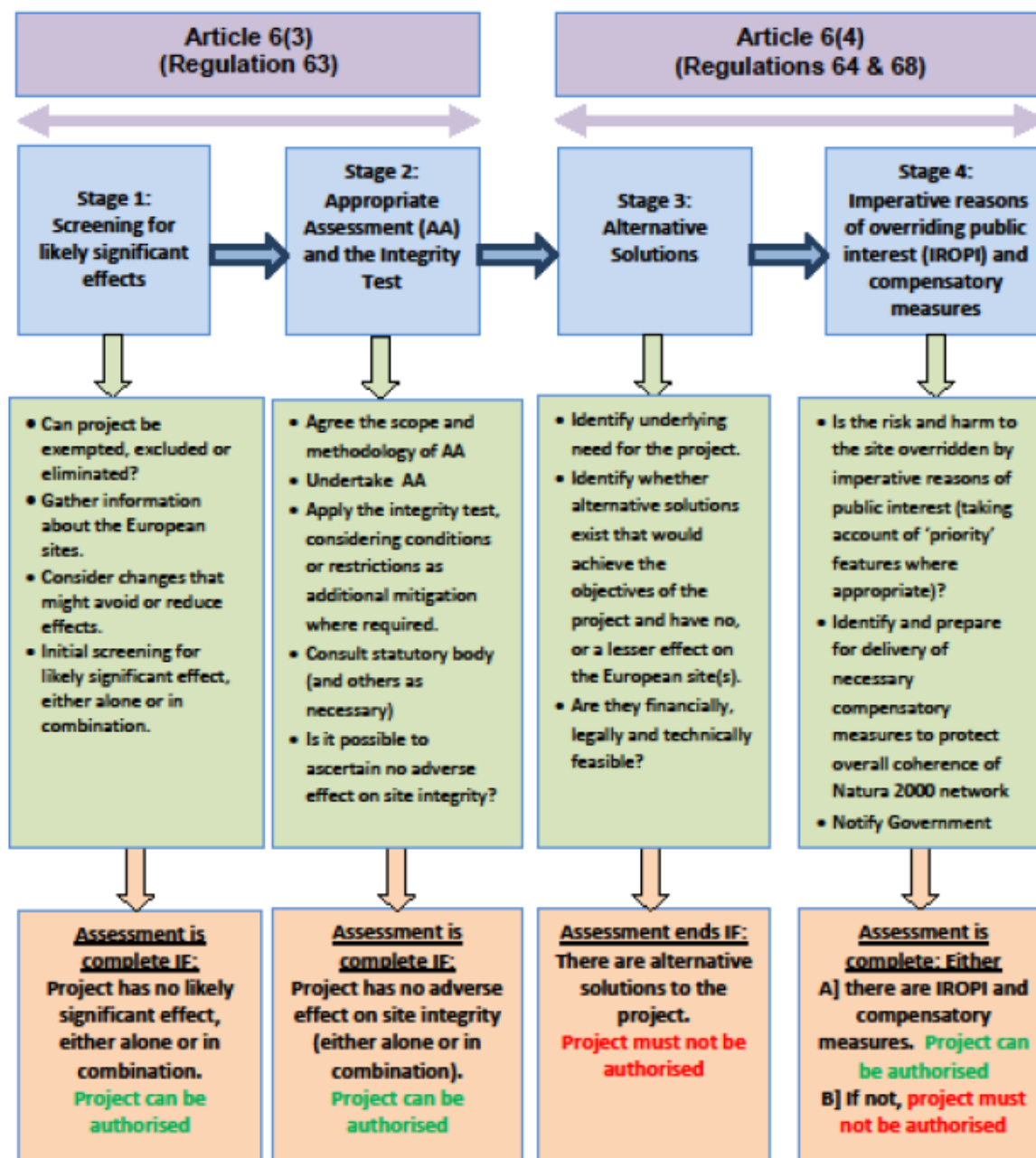
Table 1: Summary of the four-stage HRA process

Stage	Test	Task
1	Screening	If the project cannot be excluded from the process (pre-screening), this stage determines if the project will lead to a 'likely significant effect' on a European site alone or in combination with other plans or projects. This stage uses a very precautionary approach, without consideration of mitigation measures. This stage involves gathering information about the protected sites but is not a detailed analysis of the impacts.
2	Appropriate Assessment and Integrity Test	If 'likely significant effects' cannot be ruled out, a more thorough 'appropriate assessment' must be carried out to assess whether it is possible to ascertain whether the project will have an 'adverse effect on the integrity of the site' (AEIOI) or not. Mitigation can be considered at this stage but not before.
3	Alternative Solutions	If 'AEIOI' cannot be ruled out, the HRA must explore whether less damaging 'alternative solutions' could deliver the overall objective of the project.
4	Imperative Reasons of Over-riding Public Interest (IROPI) and Compensation	If no alternative solutions exist, the project can only proceed if 'IROPI' apply and 'compensatory measures' must be delivered before consent can be granted.

This HRA uses guidance provided by the Habitats Regulations Assessment Handbook (DTA, 2013, February 2019 edition), which draws on best practice and case law from the UK and across the EU to inform best practice. The definitions of HRA terminology used in the assessment can be found in the HRA Handbook.

This document contains information for Stage 1 (Screening) - Test of Likely Significant Effects and information to inform Stage 2: Appropriate Assessment – the consideration of the impact of the project on the integrity of the internationally protected sites, either alone or in combination with other projects or plans.

Extent of knowledge, use of professional judgement and the precautionary principal of professional judgment has been used in the gathering of data and in the interpretation of results gained in relation to the potential impacts, mitigation and significance of any residual impacts, and consideration against conservation objectives. If information is unknown about a potential impact on a species, then the precautionary principal has been used.



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Figure 3: Outline of the four-stage approach to the Habitats Regulations Assessment of projects.

1.5 Definitions, Evidence and Case Law

Stage One – Screening

In the context of a likely significant effect, 'likely' means a possible (or the risk of a) significant effect whose occurrence cannot be excluded on the basis of objective information. 'Significant' means if it is likely to undermine the conservation objectives of a European / internationally important site. 'Objective information' can be defined as a clear verifiable fact rather than a subjective opinion and when carrying out a screening assessment, it is not that significant

effects are probable, it is that a risk is 'sufficient'. However, there must be credible evidence that there is a 'real', rather than a 'hypothetical' risk.

An 'in-combination' assessment is only required when an impact is identified as having an insignificant effect on its own (residual effect) but may have significant effects when taken into consideration with other plans or projects. This type of assessment is only required during the screening stage, although it can be difficult to distinguish between likely significant effects when considered alone or in-combination. Additionally, the rather coarse nature of the screening stage can sometimes preclude or compromise the necessary analysis and an incorrect choice can sometimes prompt extensive and unnecessary work, which is a limitation of this process. Therefore, unless the issues at the screening stage are clear, this HRA assumes that all likely significant effects apply alone with no residual effects. This will ensure all possible effects are considered and assessed for more thorough analysis in the appropriate assessment if required.

Stage Two – Appropriate Assessment and the Integrity Test

Regulation 63 states that where a plan is 'likely to have a significant effect', it can only be consented if the competent authority can ascertain that it 'will not adversely affect the integrity of the European site.' An Appropriate Assessment is defined as "the consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts".

The 'integrity' of a European site is defined as:

'the coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified or listed.'

The European Commission defined it more recently as follows:

'The integrity of the site involves its constitutive characteristics and ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the habitats and species for which the site has been designated and the site's conservation objectives.'

As the HRA process is an iterative process, further scrutiny during the Appropriate Assessment will inevitably confirm or challenge the outcomes of the screening exercise. As a result, this may result in changes such as the identification of new or removal of existing effects, or the need for an in-combination screening assessment.

In accordance with the principles of the mitigation hierarchy, if mitigation measures are able to remove an adverse effect, the measure should be adopted regardless of the cost or difficulty.

Favourable Conservation Status

The aim of the Habitats Directive is to maintain or restore the habitats and species (or qualifying features) listed in Annex I and Annex II respectively, to favourable conservation status (FCS) to ensure their long-term survival is secured across their natural range within the EU. This is described in Articles 1(e) and 1 (i) of the Directive as follows:

The conservation status of a natural habitat will be taken as favourable when:

- *Its natural range and areas it covers within that range are stable or increasing;*
- *The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and*
- *The conservation status of its typical species is favourable as defined in (i);*

[and]

The conservation status of a species will be taken as favourable when:

- *Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;*
- *The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and*
- *There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.*

These targets may apply across several member states but are delivered by site-based conservation objectives. Site-based conservation objectives can be defined as ‘*a set of specified objectives to be met in a site in order to make sure that the site contributes in the best possible way to achieving FCS at the appropriate level (taking into account the natural range of the respective species or habitat types)*’.

Priority features

Some of the qualifying features of the Natura 2000 European sites are listed as ‘Priority features’. These are treated in the same way as the other features during Stages 1 and 2 of an HRA, but at Stage 4, Imperative reasons for overriding public interest (IROPI) are restricted to those relating to human health, public safety or beneficial effects on the environment if priority features would or could be adversely affected by a plan or project. In other words, IROPI of a social or economic nature alone cannot be considered sufficient reasons for impacts on ‘priority features’ when assessing the derogations (Stages 3 and 4 of HRA).

Mitigation and case law

The ‘People Over Wind’ case provided a new interpretation of when and how mitigation measures should be considered in an HRA. In 2017, the European Court of Justice departed from previous decisions, clearly identifying that measures specifically designed to avoid or reduce likely significant effects should not be evaluated at the screening stage, and should be reserved for the Appropriate Assessment stage.

Role of the competent authority

It is the competent authority’s responsibility to decide whether or not to adopt this assessment as part of their duty under the Habitats Regulations.

2.0 THE NEED FOR ASSESSMENT AND IDENTIFYING EUROPEAN SITES AT RISK

2.1 Exclusion, Elimination and Exemption from the Need for Assessment

Prior to the identification of vulnerable European sites, Stage 1 of the HRA process encourages a brief 'pre-screening' exercise to determine whether there is actually a need for an HRA. It decides whether a proposed development can be:

- **Exempted** from the HRA because it is '... directly connected with or necessary for the management of the ... European site';
- **Excluded** from the HRA because 'it is not a project within the meaning and scope of the Habitats Directive'; or
- **Eliminated** from the HRA because it can easily be shown that although 'it is a project ... it could not have any conceivable effect on any European site'.

Following this pre-screening exercise, it is evident that the proposed development does in fact represent a project within the meaning and scope of the Habitats Directive with the potential to cause harm to European sites. As a result, it can neither be excluded nor eliminated from the HRA. Additionally the purpose of the project is not directly connected with or necessary to the management of European sites, and so it cannot be made exempt from the HRA process. Therefore, the first steps of the Stage 1 assessment will need to commence by identifying which European sites (and associated features) may be at risk. The identification of these sites is outlined in the section below.

2.2 Identification of European sites at risk

This HRA has adopted a 2km radius from the proposed works to search for European protected sites at risk. This distance is considered to be the maximum extent that a project of this nature and scale could reasonably be expected to generate measurable effects. Using the data from 'Map Ecoleg' (a version of MapGwynedd, the Gwynedd Council GIS database), the sites within this area are listed in Table 2 below and shown in Figure 1 above.

Table 2. European sites within 2km of the proposed works

European site	Distance
Menai Strait and Conwy Bay SAC	Approximately 30m to the north west (see Figure 1 above).
Afon Gwyrfaï and Llyn Cwellyn SAC	2.5km South of the proposals at its closest point
Pen Llŷn a'r Sarnau SAC	25km south of the proposals at its closest point
The North Anglesey Marine SAC	25km north west of the proposals at its closest point.
West of Wales Marine SAC	29km south west of the proposals at its closest point.

The only internationally designated site within 2km of the proposals is Menai Strait SAC. In some instances, sites require a larger search radius of up to 30km if they support highly mobile qualifying species such as lesser horseshoe bats or otters that could be affected by the proposed works. It is not considered likely that there would be significant effects on the

conservation status of local populations of lesser horseshoe bats, due to the nature and location of the proposals and the minimal impacts anticipated on these species. As such consideration of sites with lesser horseshoe bats as qualifying features have been scoped out. However, sites within 25km which include otter as a qualifying mobile species are included, due to the location of the proposals. These sites include Afon Gwyrfai and Llyn Cwellyn SAC, located 2.5km south of the proposals at its nearest point, and Pen Llyn a'r Sarnau SAC, located 25km south of the proposals at its nearest point.

The harbour porpoise, grey seal and bottlenose dolphins are qualifying Annex II species of The North Anglesey Marine SAC, Pen Llyn a'r Sarnau SAC and West of Wales Marine SAC. As all three species are highly mobile mammals that have the potential to be impacted outside the boundaries of the SAC's, they will be considered in relation to the works.

Menai Strait and Conwy Bay SAC is classified as a 'European Marine Site' (EMS). All EMSs are accompanied by bespoke conservation objectives and supplementary advice. The HRA will initially focus solely on the high-level objectives and then, if necessary, further scrutiny of other objectives will be reserved for the appropriate assessment.

The presence of a site on the list in Table 2 doesn't in itself justify its inclusion in subsequent stages of the HRA process, as this depends on the characteristics of the site and the possible impact pathways between the two. Therefore, to encourage a consistent, reliable and repeatable process, the HRA Handbook identifies 22 generic criteria (including sub-criteria) to focus the assessment on relevant sites only, as shown in full in Appendix A. If no European sites are identified in the final column of this table then none will be considered to be at risk and no further scrutiny is needed. In practice, this process can alter the area of search by expanding it (for instance in the case of riverine sites) or shrinking it where the evidence demands that harmful effects are unlikely.

Importantly, although the outcomes of the site identification task will reflect the type and location of the proposed development, and/or the ecological characteristics of the European sites, it does not represent the test for likely significant effect (which follows later).

Of the 22 criteria listed, four criteria were considered to be a credible threat to European sites – criterion 3, 5, 14 and 15. It should be noted that there is a close link between criterion 3 and 5 and criteria 5, 14, and 15 below. The full scanning and site selection list may be found in the Table in Appendix A. The results of this exercise are provided in Table 3 below, with columns 2 and 3 omitted from the full table. The remaining criteria have been removed from any further consideration in this HRA as they are not relevant to the proposed works.

Table 3. Scanning and site selection list for European sites that could potentially be at risk from the proposed works

Types of project (or potential effects)	Sites to scan for and check (and additional context)	List of European sites potentially at risk
(3) Projects that could affect the marine environment	Criterion 3 includes sites whose qualifying features could be affected by changes in water quality, currents or flows; or effects on the inter-tidal or sub-tidal areas or the sea bed, or marine species. Menai Strait and Conwy Bay SAC has been designated for three Annex I habitats which include sandbanks which are slightly covered by sea water all the time, intertidal mudflats and sandflats and reefs. These habitats support Annex II qualifying features which include sea and river lamprey, shad and grey seal. The works will be taking place approximately 30m south of the SAC boundary. Access will be required to the foreshore to secure the pontoons to the piles and for some construction elements of the scrub deck. Temporary disturbance of the qualifying features and habitats and possible construction pollution could occur as a result. The proposed works involve the installation of a scrub deck which will allow vessels (small pleasure boats under 15 metres LOA) to rest on a level concrete surface during low tide for cleaning. Although this is an activity that already takes place within the harbour, it does alter the area and potentially the frequency of this activity. This could increase the risk of introducing or spreading invasive non-native species into the marine environment, which could impact upon the features of the nearby Menai Strait and Conwy Bay SAC. As the works may lead to the disturbance of the qualifying features and may lead to construction related pollution, the potential of harmful effects on the Menai Strait and Conwy SAC cannot be ruled out at this stage and further consideration is required. <i>Note: There is a close link between criterion 3 and criteria 5 below.</i>	Menai Strait and Conwy Bay SAC

Types of project (or potential effects)	Sites to scan for and check (and additional context)	List of European sites potentially at risk
(5) Projects that could affect mobile species	Criterion 5 includes sites whose qualifying features include mobile species which may be affected by the project irrespective of the location of the project or whether the species would be in or out of the site when they might be affected. Mobile species are those considered to spend part of their life-cycle on land, in water or air beyond the designated site boundary. Typically, it focuses on potential impacts on functionally-linked land and water utilised by the birds, mammals and migratory fish associated with the European sites listed. Note that 'indirect' effects on mobile species on functionally – linked land or water beyond the development site, are considered under other criteria below, such as '6. Recreational pressure', and '14. Disturbance'. There are two SAC's within the 25km screening distance for otters. These are Afon Gwyrfai and Llyn Cwellyn SAC and Pen Llyn a'r Sarnau SAC. There are records of otter within 1km of the proposals, and otters are known to be present along the Afon Seiont. The intertidal area within the proximity of proposed works provide suitable foraging habitat for otters, however it is not considered to be suitable resting habitat due to the high level of human disturbance and lack of cover. The proposals could impact upon any local otter population during the construction phase through noise pollution disturbance, or pollution of foraging habitat or loss of prey species. The North Anglesey Marine SAC is designated for its harbour porpoise, Pen Llyn a'r Sarnau SAC for its grey seal and bottlenose dolphins whilst West Wales Marine SAC is designated for its harbour porpoise features. All three mammals, in particular the harbour porpoise are highly mobile species. Although the site of proposed works is not designated for the	Afon Gwyrfain and Llyn Cwellyn SAC The North Anglesey Marine SAC; Pen Llŷn a'r Sarnau SAC; and West of Wales Marine SAC

Types of project (or potential effects)	Sites to scan for and check (and additional context)	List of European sites potentially at risk
	presence of any of the three species, the marine environment does provide a potential impact pathway. As the works may therefore lead to the disturbance of the qualifying species of the four SAC's, and potential for harmful effects on Afon Gwyrfai and Llyn Cwellyn SAC, North Anglesey Marine SAC, Pen Llŷn a'r Sarnau SAC and West Wales Marine SAC cannot be ruled out at this stage and further consideration is required. <i>Note: There is a close link between criterion 5 and criteria 14 and 15 below.</i>	
(10) Projects that could change the nature, area, extent, intensity, density, timing or scale of existing activities or uses	Criterion 10 includes sites considered to have qualifying features potentially vulnerable or sensitive to the effects of the changes to existing activities proposed by the project The proposed works involve the installation of a scrub deck which will allow vessels (small pleasure boats under 15 metres LOA) to rest on a level concrete surface during low tide for cleaning. Although this is an activity that already takes place within the harbour, it does alter the area and potentially the frequency of this activity. This could increase the risk of introducing or spreading invasive non-native species into the marine environment, which could impact upon the features of the nearby Menai Strait and Conwy Bay SAC. As the works may lead to the introduction or spreading of Invasive Non Native Species, the potential for harmful effects on the Menai Strait and Conwy Bay SAC cannot be ruled out at this stage and further consideration is required.	Menai Strait and Conwy Bay SAC
(14) Projects which could introduce or increase, or alter the timing, nature or location of disturbance to species	Criterion 14 includes sites whose qualifying features are considered to be potentially sensitive to disturbance, for example as a result of noise, activity or movement or the presence of disturbing features that could be brought about by the project.	Afon Gwyrfain and Llyn Cwellyn SAC The North Anglesey Marine SAC; Pen Llŷn a'r Sarnau SAC;

Types of project (or potential effects)	Sites to scan for and check (and additional context)	List of European sites potentially at risk
	There would be some localised temporary noise pollution during the construction period through the installation of the piles within the foreshore area. This could impact mobile species features in the wider area, as discussed in (5) above, including the otter feature of the Pen Llyn a'r Sarnau SAC and Afon Gwyrfai and Llyn Cwellyn SAC, along with the bottlenose dolphin and grey seal feature of the Pen Llyn a'r Sarnau SAC, and the harbour porpoise feature of the North Anglesey Marine SAC and West Wales Marine SAC. The timings of construction work could also impact upon nocturnal species such as otter. As the works may therefore lead to the disturbance of the qualifying species of the four SAC's, and potential for harmful effects on Afon Gwyrfai and Llyn Cwellyn SAC, North Anglesey Marine SAC, Pen Llŷn a'r Sarnau SAC and West Wales Marine SAC cannot be ruled out at this stage and further consideration is required.	and West of Wales Marine SAC
(15) Projects which could introduce or increase or change the timing, nature or location of light or noise pollution	Criterion 15 includes sites whose qualifying features are considered to be potentially sensitive to the effects of changes in light or noise that could be brought about by the project. <i>See (14) above</i>	Afon Gwyrfain and Llyn Cwellyn SAC The North Anglesey Marine SAC; Pen Llŷn a'r Sarnau SAC; and West of Wales Marine SAC
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2.3 Initial outcome of site identification exercise

Following the initial high-level preliminary screening exercise provided by Table 3 above and Appendix A (full version including criteria screened out as well as those screened in), the number of potential threats and sites affected is reduced. Despite this, the nature of the criteria results in considerable overlap in some instances, such as in criteria 5, 14, and 15 which can all effectively be represented by 'disturbance of mobile species'. Criterion 3, 5 and 10 effectively represent the threats caused by 'pollution' and 'Invasive non-native species.'. These terms will therefore be used in any subsequent assessment, in place of the criteria in Table 3 above.

The outcomes of the site identification exercise are therefore shown in Table 4 below.

Table 4. Summary of potential threat mechanisms and European sites at risk

Potential threat	Relevant Criteria from Table 3	European sites
Projects that could affect mobile species	5, 14, 15.	Afon Gwyrfaï and Llyn Cwellyn SAC Pen Llŷn a'r Sarnau SAC The North Anglesey Marine SAC West Wales Marine SAC
Pollution that could affect the marine environment	3, 5.	Menai Strait and Conwy Bay SAC Pen Llŷn a'r Sarnau SAC The North Anglesey Marine SAC West Wales Marine SAC
Invasive non-native species that could affect the marine environment	3, 10	Menai Strait and Conwy Bay SAC

Table 4 above demonstrates that potential impacts on five European sites remains and a formal screening assessment is therefore required.

3.0 SCREENING

3.1 Purpose

The purpose of the screening exercise determines whether or not a plan or project will lead to a 'likely significant effect' or, in other words, whether there is a risk that the proposed works will lead to effects that would 'undermine the conservation objectives' of the site and cannot be 'excluded on the basis of objective information'. An Appropriate Assessment is required when likely significant effects (that are credible and not hypothetical) are identified (or cannot be ruled out).

3.2 Approach

In order to complete the screening stage and identify any likely significant effects on site features, additional information is needed for each site at risk. The screening tables (Table 5 and 6) below therefore collate additional information for each site, including a site description and list of qualifying features, and use this to identify any likely significant effects from the proposed works (based on the threats listed in Table 4 above) and the site features potentially affected. The site specific information provided in these tables has been collated from the Natural Resources Wales and JNCC websites. If necessary more detailed descriptions of the sites will be provided at the Appropriate Assessment stage, including the conservation objectives, but the information in Tables 5 and 6 below is sufficient for the screening stage.

In-depth analysis is not required at the screening stage as it should only operate as a 'trigger' to determine if an Appropriate Assessment is needed. Therefore, detailed examination of each of the conservation objectives of each of the features of the sites will not be undertaken at this stage, and is reserved for the Appropriate Assessment stage. Instead, this section only broadly explores whether it is possible that conservation objectives could be undermined and takes into account the risk of a potential significant effect.

As a result of the 'People Over Wind' decision, the screening stage is able to consider the essential features and characteristics of a project but is not able to take bespoke mitigation measures into account. The consideration of all mitigation for this project is therefore reserved for the Appropriate Assessment stage.

Table 5. Screening Assessment for the Menai Strait and Conwy Bay SAC

Menai Strait and Conwy Bay SAC (26482.67 ha)	UK0030202
<u>Qualifying features</u> Habitats: 1: Large shallow inlets and bays 2: Mudflats and sandflats not covered by seawater at low tide 3: Reefs 4: Sandbanks which are slightly covered by sea water at all time 5: Submerged or partially submerged sea caves Qualifying species: No Annex II species are listed as primary reasons for selection of the site as a SAC, however the Natura 2000 data form states that the following Annex II species occur within the site: • Sea lamprey <i>Petromyzon marinus</i>; • River lamprey <i>Lampetra fluviatilis</i>; • Allis shad <i>Alosa alosa</i>; • Twaite shad <i>Alosa fallax</i>; and, • Grey seal <i>Halichoerus grypus</i>. <u>Description</u> The Menai Strait and Conwy Bay SAC is situated in north-west Wales and includes the whole of the Menai Strait, from its south-western entrance at Abermenai Point through to Red Wharf Bay and Conwy Bay to the north. To the east the SAC extends to the Little Orme and to the north to Traeth Lligwy on the east coast of Anglesey. The five marine habitat features for which the site was selected are distributed throughout the SAC, with no single feature occupying the entire SAC and with some features overlapping in certain locations. The SAC supports many additional species that are not listed as qualifying features, these include seabirds, waders and wildfowl, marine mammals, fish and invertebrates such as crustaceans. The Menai Strait and Conwy Bay SAC is rich in a variety of marine species. Although the proposal site is not located within the SAC, it is located within Bangor Flats, directly adjacent to the SAC. <u>Conservation Objectives</u> The overall distribution and extent of the habitat features within the site, and each of their main component parts is stable or increasing. For the intertidal mudflats and sandflats feature these include; • Muddy gravel communities • Dwarf eelgrass, <i>Zostera noltei</i> beds • Sediment communities at Traeth Lafan For the reef feature these include; • Reef communities in high energy wave-sheltered, tide-swept conditions • Under-boulder, overhang and crevice communities • Limestone reef communities	

- Clay outcrop reef communities

For the **large shallow bay** feature these include;

- Organically enriched muddy sediment areas

Structure and function

- 1) The physical biological and chemical structure and functions necessary for the long-term maintenance and quality of the habitat are not degraded. Important elements include;
 - geology,
 - sedimentology,
 - geomorphology,
 - hydrography and meteorology,
 - water and sediment chemistry,
 - biological interactions.
- 2) This includes a need for nutrient levels in the water column and sediments to be:
 - at or below existing statutory guideline concentrations
 - within ranges that are not potentially detrimental to the long term maintenance of the features species populations, their abundance and range.
- 3) Contaminant levels in the water column and sediments derived from human activity to be:
 - at or below existing statutory guideline concentrations
 - below levels that would potentially result in increase in contaminant concentrations within sediments or biota
 - below levels potentially detrimental to the long-term maintenance of the feature species populations, their abundance or range taking into account bioaccumulation and biomagnification.

Typical species

The presence, abundance, condition and diversity of typical species is such that habitat quality is not degraded. Important elements include:

- species richness
- population structure and dynamics,
- physiological health,
- reproductive capacity
- recruitment,
- mobility
- range

As part of this objective it should be noted that:

- populations of typical species subject to existing commercial fisheries need to be at an abundance equal to or greater than that required to achieve maximum sustainable yield and secure in the long term

- the management and control of activities or operations likely to adversely affect the habitat feature is appropriate

These conservation objectives recognise and acknowledge that human activity has already modified and continues to modify habitats and species populations in various ways, to varying degrees and at varying spatial and temporal scales, either acutely or chronically. The conservation objectives do not aim to prevent all change to the habitat and species features, or to achieve an indefinable, abstract natural or pristine state, since these would be unrealistic and unattainable aspirations. Rather, they seek to prevent further negative modification of the extent, structure and function of natural habitats and species' populations by human activity and to ensure that degradation and damage to the features that is attributable to human activities or actions is prevented. Consequently, in order to meet the requirements of the Directive and ensure the site makes its appropriate contribution to conservation of biodiversity, the conservation objectives seek to:

- Encompass inherent dynamism rather than to work against it;
- Safeguard features and natural processes from those impacts of human activity that cause damage to the features through the degradation of their range, extent, structure, function or typical species;
- Facilitate, where necessary, restoration of features or components of features that are currently damaged or degraded and in unfavourable condition.

The term *degradation* is used to encompass damage or deterioration resulting only from such human activities or actions as have a detrimental effect on the feature. The magnitude of any degradation is dependent on the longevity and scale of the impact and the conservation importance of the species or habitats on which the impact occurs. This is influenced by:

- the type of human action, its nature, location, timing, frequency, duration and intensity;
- the species or habitats, and their intolerance and recoverability.

Outcomes arising from human action that are likely to be considered detrimental include such effects such as:

- permanent and long-term change of distribution or reduction in extent of a feature or feature component, or temporary modification or reduction sufficiently significant to negatively impact on biota or ecological processes;
- reduction in ecological function caused by loss, reduction or modification of habitat structural integrity;
- interference in or restriction of the range, variety or dynamism of structural, functional or ecological processes, *e.g.*: alteration of habitat structure, obstruction of tidal streams, chronic or acute thermal, salinity or suspended sediment elevations or reductions;
- hypertrophication or eutrophication;
- contamination by biologically deleterious substances;
- reduction in structure, function and abundance of species populations;
- change in reproductive capacity, success or recruitment of species populations;

- reduction in feeding opportunities of species populations
- reduction of health to a sub-optimal level, or injury, rendering the population less fit for, *inter alia*, breeding, foraging, social behaviour, or more susceptible to disease;
- increase in abundance and range of opportunist species through the unnatural generation of preferential conditions (e.g. organic enrichment), at the expense of existing species and communities;
- increase in abundance and range of non-native species.

Potential Threats / Vulnerabilities

1) Construction pollution.

Although the Menai Strait and Conwy Bay SAC is popular for an array of recreational activities from boating such as sailing, low and high-powered craft (including jetskies) and kayaking to angling and diving, without mitigation in place likely significant effect as result to the proposed works at Caernarfon Harbour cannot be ruled out.

As the proposed works will be carried out from both land and on the foreshore during low tide, it poses a potential to cause construction pollution that could be transported by tidal and river flows into the SAC. The significance of this type of pollution on the SAC habitats is considered very low, mainly because of the nature of the proposed works and construction pollutants are likely to be diluted by the time they reach the SAC. However, it is still possible that any construction pollution could impact the SAC by contributing towards increasing the overall pollution level of the Strait. Chemicals (such as from an oil spill from construction machinery), or concrete washout, could have a detrimental impact on SAC habitats and associated species and for this reason will be included as a likely significant effect as a precautionary approach considering the proximity of the SAC.

Outcome: It is considered that the construction process of the pontoons and scrub deck could potentially result in pollution, in particular oil and material, and undermine the conservation objectives of the nearby habitats, namely intertidal mudflats and sandflats, sandbanks, and reefs, and is therefore a **likely significant effect** for these features.

2) Introduction of Invasive non-native species (INNS).

The proposals include the construction of a scrub deck within the harbour, which will allow for hull cleaning of small pleasure boats during low tide, for removal of marine growth. This activity potentially increases the risk of introducing and/or spreading INNS to the marine environment, subsequently impacting upon features of the Menai Strait and Conwy Bay SAC, given the site's proximity to the Harbour.

On the one hand, the facility allows for boat owners to check, clean and dry their vessel which is considered good practice before moving to another site, reducing the risk of spreading INNS in the marine environment. However, the activity could also facilitate the spreading / introduction of INNS should boats arriving from other areas be cleaned, and appropriate measures not taken.

INNS can impact upon marine protected sites and their features through biodiversity loss (competition, predation, hybridisation), habitat modification (changing physical structure of habitats leading to degradation of features), and disruption of ecosystem services.

Outcome: It is considered that the use of the scrub deck could potentially increase the risk of introducing INNS to the marine environment and undermine the conservation objectives of the nearby habitats of the Menai Strait and Conwy Bay SAC, and is therefore **a likely significant** effect for all its qualifying features.

Summary of Likely Significant Effects and Features requiring Appropriate Assessment

- Construction pollution, impacting the marine wildlife and features of the SAC.
- INNS, impacting the marine wildlife and features of the SAC.

Table 6. Screening Assessment for the Afon Gwyrfa and Llyn Cwellyn SAC

Afon Gwyrfa and Llyn Cwellyn SAC (111.6 ha)	UK0030046
<u>Qualifying features</u> 1. Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea. (Annex I habitat) 2. Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation (Annex I habitat) 3. Atlantic salmon <i>Salmo salar</i> (Annex II species) 4. Floating water-plantain <i>Luronium natans</i> (Annex II species) 5. Otter <i>Lutra lutra</i> (Annex II species) <u>Description</u> This site comprises the Afon Gwyrfa and Llyn Cwellyn. The Gwyrfa flows out of Llyn y Gader near Rhyd Ddu and passes through Llyn Cwellyn on its way to the sea at Y Foryd, Caernarfon Bay. It also includes a tributary of the Gwyrfa, the Afon Treweunydd, and the small lake it flows from on the slopes of Snowdon. Sporadically throughout its course, the SAC is abutted by semi-natural wetland riparian habitat much of which is within the SSSI. Llyn Cwellyn has long been recognised for its conservation importance and is an excellent example of a deep (maximum depth of 37m, average depth of 23m) oligotrophic lake formed during the last Ice Age. Its nutrient-poor waters support a range of typical macrophytes, and one of the best populations of floating water plantain in the UK. The whole of the Gwyrfa river system is of outstanding ecological quality. The river is particularly noted for its salmon population, for which it is considered to be one of the best supporting rivers in the United Kingdom. It is also notable for its otter population which occur here in good numbers because of the relative naturalness of its riparian habitats and the abundance of undisturbed dense cover. In addition to the lake, the river supports a	

discrete community of floating water plantain, and water-crowfoot *Ranunculus* spp, with other associated vegetation including bryophyte assemblages occurring in various sectors of the river.

Potential Threats / Vulnerabilities

1) Pollution of foraging habitat for mobile species features (otter)

The proposed works at Caernarfon Harbour are located approximately 2.5km north of the Afon Gwyrfai and Llyn Cwelyn SAC at its closest point. Otters are known to be widely distributed in the Seiont catchment, and given that the species can have a range of between 20 – 30km it is highly likely that otters using habitat within the SAC could also be present in the vicinity of the proposed works at Caernarfon. There is potential for the works to lead to temporary deterioration in water quality through increase in suspended solids from works next to the water environment, or from pollution through accidental spill from construction machinery. There is therefore the possibility of contamination of otter foraging habitat outside of the protected site, and a reduction in abundance and availability of prey for otters (fish). Although the risk is considered low, and given the availability of suitable habitat in the wider environment, the likelihood of this resulting in a likely significant effect is low. However, it needs to be included on a precautionary basis and needs to be considered further.

Outcome:

It is considered that the threat from pollution during construction could potentially undermine the conservation objectives of the SAC for its otter species feature, and is therefore included as a likely significant effect.

2) Disturbance to mobile species features

The Afon Gwyrfai and Llyn Cwelyn SAC supports a population of otters which will range within and beyond the boundaries of the SAC to feed and commute using the waterways and riparian land to feed, rest and breed. Otters are known to be present in the Seiont catchment where works are due to take place.

There would be some temporary noise pollution and human presence during the construction period, which could potentially cause a level of disturbance to any otters foraging in the area. However, as works would be undertaken during daylight hours only, when otter activity is minimal, the risk of disturbance is low.

The proposal is likely to cause increased disturbance, in particular as a result to noise, to the qualifying and associated features of the SAC if to be found present in the vicinity of the proposed works during construction. Due to the species not being a qualifying feature of the site of proposed works itself and due to the proposed works being carried out in an already busy area subject to a level of human disturbance, it is not considered likely that the proposal will have a likely significant effect. However, otter presence cannot be ruled out at this stage due to potential pathways. For this reason, at this current stage likely significant effect of the disturbance of otter associated with the SAC cannot be ruled out and are carried forward for appropriate assessment.

Outcome:

It is considered that the threat of disturbance to mobile species (otter) during construction could potentially undermine the conservation objectives of the SAC for its otter species feature, and is therefore included as a likely significant effect.

Summary of Likely Significant Effects and Features requiring Appropriate Assessment

- Pollution of SAC habitat features and supporting habitat for species features (otter)
- Disturbance to mobile species feature (otter)

Table 7. Screening Assessment for The North Anglesey Marine SAC

The North Anglesey Marine SAC (324949ha)	UK0030398
<u>Qualifying features</u> The site qualifies as a SAC as it supports one specie listed in Annex II of the Habitats Directive. The specie being: Harbour porpoise <i>Phocoena phocoena</i> <u>Description</u> The North Anglesey Marine site covers an area of 3,249km², reaching north-west from the Isle of Anglesey into the Irish Sea. It sits at the northern extent of St. George's Channel, extending approximately half way across to the Republic of Ireland, skirting the national waters of the Isle of Man. <u>Conservation objectives</u> To ensure that the integrity of the site is maintained and that it makes the best possible contribution to maintaining Favourable Conservation Status (FCS) for Harbour Porpoise in UK waters. In the context of natural change, this will be achieved by ensuring that: 1: Harbour porpoise is a viable component of the site; 2: There is no significant disturbance of the species; and 3: The condition of supporting habitats and processes, and the availability of prey is maintained. <u>Potential Threats / Vulnerabilities</u> There are activities occurring near the North Anglesey Marine SAC which may affect the integrity of the site. One of the listed which has a current medium level risk of impact on harbour porpoises and is the only one relevant to the proposed development at Caernarfon is: - Pile driving activity which causes the pressure of anthropogenic underwater sound. Outcome: The proposal is likely to cause increased disturbance, in particular as a result to noise, to the qualifying and associated features of the SAC if to be found present in the vicinity of	

the proposed works during construction. Due to the species not being a qualifying feature of the site of proposed works itself, it is not considered likely that the proposal will have a likely significant effect. However, harbour porpoise presence cannot be ruled out at this stage due to potential pathways. For this reason, at this current stage likely significant effect of the disturbance of harbour porpoises associated with the SAC cannot be ruled out and are carried forward for appropriate assessment.

Summary of Likely Significant Effects and Features requiring Appropriate Assessment

- Disturbance of harbour porpoise associated with the SAC during the construction phase of the works.

Table 8. Screening Assessment for the Pen Llŷn a'r Sarnau SAC

Pen Llŷn a'r Sarnau SAC (146023.48ha)	UK0013117
<u>Qualifying features</u> The site qualifies as a SAC as it supports 12 species and habitats listed in Annex I and II of the Habitats Directive. They include: <i>Lagoons</i> <i>Atlantic salt meadows</i> <i>Estuaries</i> <i>Shallow inlets and bays</i> <i>Intertidal mudflats and sandflats</i> <i>Subtidal sandbanks</i> <i>Seacaves</i> <i>Reefs</i> <i>Glasswort and other annuals colonising mud and sand</i> <i>Grey Seal</i> <i>Otter</i> <i>Bottlenose dolphin</i> Three of the species listed are relevant to the proposed scheme. They include Otter, Grey seal and Bottlenose dolphin. <u>Description</u> Pen Llŷn ar Sarnau SAC is situated in northwest Wales. The SAC boundary extends from Nefyn on the north coast of Llŷn and includes parts of the seashore and the waters and seabed around the Llŷn Peninsula, in north Cardigan Bay and along the Meirionnydd coast to Clarach in Ceredigion south of the Dyfi estuary. It also includes the Glaslyn/Dwyrdd, Atro, Mawddach and Dyfi estuaries. Most of the SAC is subtidal however there are extensive intertidal areas. The SAC encompasses 9 marine habitat features and 3 mammal species. <u>Conservation objectives</u> Due to the large amount of listed features within the SAC there are several conservation objectives. However, due to only three being potentially impacted by the proposed scheme, conservation objectives relating to these species only will be included within this assessment.	

Populations

The population is maintaining itself on a long-term basis as a viable component of its natural habitat. Important elements are population size, structure, production and condition of the species within the site.

As part of this objective it should be noted that:

- For **bottlenose dolphin, otter and grey seal**; contaminant burdens derived from human activity are below levels that may cause physiological damage, or immune or reproductive suppression.
- **Grey seal** populations should not be reduced as a consequence of human activity.

Range

The species population within the site is such that the natural range of the population is not being reduced or likely to be reduced for the foreseeable future.

As part of this objective it should be noted that for **bottlenose dolphin, otter and grey seal**

- Their range within the SAC and adjacent inter-connected areas is not constrained or hindered
- There are appropriate and sufficient food resources within the SAC and beyond

The sites and amount of supporting habitat used by these species are accessible and their extent and quality is stable or increasing

Supporting habitats and species

The presence, abundance, condition and diversity of habitats and species required to support this species is such that the distribution, abundance and populations dynamics of the species within the site and population beyond the site is stable or increasing. Important considerations include;

- distribution,
- extent,
- structure,
- function and quality of habitat,
- prey availability and quality.

As part of this objective it should be noted that;

- The abundance of prey species subject to existing commercial fisheries needs to be equal to or greater than that required to achieve maximum sustainable yield and secure in the long term.
- The management and control of activities or operations likely to adversely affect the species feature, is appropriate for maintaining it in favourable condition and is secure in the long term.
- Contamination of potential prey species should be below concentrations potentially harmful to their physiological health.
- Disturbance by human activity is below levels that suppress reproductive success, physiological health or long-term behaviour
- For **otter** there are sufficient sources within the SAC and beyond of high quality freshwater for drinking and bathing.

Potential Threats / Vulnerabilities

There are several activities occurring within or near the Pen Llŷn a'r Sarnau SAC which may affect the integrity of the site. Given the distance of the works from the SAC there is no potential direct threats to the SAC itself, however given that otter, grey seals and bottlenose dolphins are highly mobile species, coastal works outside of the SAC could cause potential threats to the designated features linked to the site.

Outcome:

The proposal is likely to cause increased disturbance, in particular as a result to noise, to the qualifying and associated features of the SAC if to be found present in the vicinity of the proposed works during construction. Due to the species not being a qualifying feature of the site of proposed works itself, it is not considered likely that the proposal will have a likely significant effect. However; otter, grey seals and bottlenose dolphin presence cannot be ruled out at this stage due to potential pathways. For this reason, at this current stage likely significant effect of the disturbance of harbour porpoises associated with the SAC cannot be ruled out and are carried forward for appropriate assessment.

Summary of Likely Significant Effects and Features requiring Appropriate Assessment

- Disturbance of otter, grey seals and bottlenose dolphins associated with the SAC during the construction phase of the works.

Table 9. Screening Assessment for West Wales Marine SAC

West Wales Marine SAC (737717.38ha)	UK0030397
<u>Qualifying features</u> The site qualifies as a SAC as it supports one Habitats Directive Annex II species namely: Harbour porpoise (<i>Phocoena phocoena</i>) <u>Description</u> West of Wales Marine SAC covers a total area of 7376km² and ranges from the Llŷn Peninsula in northwest Wales through Cardigan Bay and into the south coast of Pembrokeshire, on the southwest coast of Wales. The site has been designated primarily on the long-term, relatively higher densities of porpoise in contrast with other areas. The number of harbour porpoise using the site naturally varies (e.g. between seasons). <u>Conservation objectives</u> There are three main conservation objectives for the SAC, to ensure that the integrity of the site is maintained and that it makes the best possible contribution to maintaining Favourable Conservation Status (FCS) for Harbour Porpoise in UK water. These include which include: 1: Harbour porpoise is a viable component of the site; 2: There is no significant disturbance of the species; and 3: The condition of supporting habitats and processes, and the availability of prey is maintained.	

Potential Threats / Vulnerabilities

There are activities occurring near the West Wales Marine SAC which may affect the integrity of the site. One of the listed which has a current medium level risk of impact on harbour porpoises and is the only one relevant to the proposed development at Caernarfon is:

- Pile driving activity which causes the pressure of anthropogenic underwater sound.

Outcome:

The proposal is likely to cause increased disturbance, in particular as a result to noise, to the qualifying and associated features of the SAC if to be found present in the vicinity of the proposed works during construction. Due to the species not being a qualifying feature of the site of proposed works itself, it is not considered likely that the proposal will have a likely significant effect. However, harbour porpoise presence cannot be ruled out at this stage due to potential pathways. For this reason, at this current stage likely significant effect of the disturbance of harbour porpoises associated with the SAC cannot be ruled out and are carried forward for appropriate assessment.

Summary of Likely Significant Effects and Features requiring Appropriate Assessment

- Disturbance of harbour porpoise associated with the SAC during the construction phase of the works.

Evidence provided in Tables 5 - 9 above allows the likely significant effects to European sites to be broken down into threats to specific features of the sites identified, with some features being screened out of any further assessment. Therefore, Table 10 below summarises the results of this screening exercise, listing the European sites identified as being at risk from the proposed works, the likely significant effects and the features of each of the sites that could be affected.

Table 10. Summary of Screening Exercise

European Site	<i>Projects that affect the marine environment</i>
Menai Strait and Conwy Bay SAC	Construction pollution impacting the marine wildlife and features of the SAC. Use of scrub deck increasing risk of introducing INNS to the marine environment.
	<i>Projects that affect mobile species</i>
Afon Gwyrfai a Llyn Cwellyn SAC	Pollution of mobile species foraging habitat and disturbance of mobile species feature associated with the SAC (otter) during the construction phase of the works.
North Anglesey Marine SAC	Disturbance of harbour porpoise associated with the SAC during the construction phase of the works.

Pen Llŷn a'r Sarnau SAC	Disturbance of otter, grey seals and bottlenose dolphins associated with the SAC during the construction phase of the works.
West Wales Marine SAC	Disturbance of harbour porpoise associated with the SAC during the construction phase of the works.

4.0 FORMAL SCREENING OPINION

The proposed improvement has been screened according to the statutory procedures laid out in the Habitats Regulations 2017 (as amended) using the methodology outlined in the Habitats Regulations Assessment Handbook.

The screening exercise concluded that likely significant effects (LSE) could not be ruled out for the Menai Strait and Conwy Bay SAC, Afon Gwyrfai and Llyn Cwellyn SAC, North Anglesey Marine SAC, Pen Llŷn a'r Sarnau SAC and West Wales Marine SAC due to the reasons outlined in Tables 5 – 9 and summarised in Table 10 above. Therefore, an appropriate assessment is required for these likely significant effects.

5.0 APPROPRIATE ASSESSMENT

5.1 Purpose

Where a project is likely to have a significant effect, the precautionary principle emphasises that consent can only be granted if the competent authority can ascertain that the proposed improvement will not adversely affect the integrity of the European site, following an appropriate assessment. This is the purpose of the appropriate assessment stage.

In accordance with the ‘People Over Wind’ ruling, the appropriate assessment takes any incorporated mitigation measures into account that are sufficient to remove the likely significant effect. Conversely, if mitigation measures are not proposed, or prove to be inadequate, they can be imposed by the competent authority via conditions or other planning tools.

The role of mitigation is different to that of compensation. Mitigation measures aim to avoid, remove or reduce significant effects on European sites, whereas compensation is only considered under the derogations at the later stages of the HRA if required.

The HRA Handbook outlines the definition of integrity in contemporary planning policy and states that for a consent-making body to conclude the absence of an adverse effect, then it should be ‘convinced’ that no reasonable scientific doubt remains. As defined by the CJEU (Sweetman) and European Commission, the integrity of the site is ‘the lasting preservation of the constitutive characteristics of the site’. For further definitions see Section 1.5 above.

5.2 Approach

The screening assessment found that likely significant effects could not be ruled out for the ‘Mudflat and sandflat’, ‘sandbank’, ‘reef’, ‘large shallow inlets and bays’ and ‘submerged or partially submerged sea caves’ habitat features of the Menai Strait and Conwy Bay SAC, the otter feature of the Afon Gwyrfa and Lyn Cwellyn SAC and the Pen Llyn a’r Sarnau SAC, and the marine mammals associated with North Anglesey Marine SAC, Pen Llŷn a’r Sarnau SAC and West Wales Marine SAC.

These issues are individually subject to further scrutiny through an appropriate assessment (Tables 11, 13, 15, 17 and 19 below), which considers the site’s conservation objectives for the features that have been screened into the assessment (see Table 10 above). Individual effects are assessed with and without mitigation, concluding with an individual Integrity Test including an assessment of whether any residual effects remain with mitigation in place. A list of the mitigation measures proposed is included in Table 21. If no adverse effect on integrity is recorded but residual effects do remain, an in combination assessment is likely to be required. If an adverse effect on the integrity of the site remains, the assessment would have to proceed to the derogations, or stages 3 and 4 of HRA (see Table 1 and Figure 1 in Section 1 above).

Following an in-combination assessment of any residual effects (if required), an overall Formal Integrity Test for the proposed works will be reported.

Information about the qualifying features of the sites has been obtained from the JNCC and NRW web-sites.

Table 11. Appropriate Assessment for Menai Strait and Conwy Bay SAC

Menai Strait and Conwy Bay SAC (26482.67 ha)	
Assessment without mitigation <u>Construction pollution impacting the marine wildlife and features of the SAC:</u> The construction of the pontoons and scrub deck will involve some work carried out from the foreshore, at low tide, although most machinery and equipment required will be sited on the car park area above. As a result, the proposals pose a potential to cause construction pollution that could be transported by river or tidal flows into the SAC. The significance of this type of pollution on the SAC habitats is considered low, mainly because construction pollutants are likely to be diluted by the time they reach the SAC. However, it is still possible that any construction pollution could impact the SAC by contributing towards increasing the overall pollution level of the Strait. Chemicals could have a detrimental impact on SAC habitats and associated species and for this reason has been included as a likely significant effect as a precautionary approach considering the proximity of the SAC. <u>Conclusion</u> Without mitigation, the risk to the qualifying features of the SAC in terms of the potential of introducing contaminants is not considered to represent a significant adverse effect on the integrity of the SAC, although residual effects remain. <u>Invasive non-native species impacting the marine wildlife features of the SAC:</u> The use of a scrub deck to facilitate the hull cleaning of small pleasure boats could increase the risk of introducing INNS into the marine environment. If appropriate checks and measures are not taken, boats that travel to the harbour at Caernarfon, from other areas that potentially contain INNS, could cause INNS to be inadvertently introduced within the harbour. Using the scrub deck could facilitate this introduction of INNS in such circumstances. As a result, and given the proximity of the SAC, there is a potential that any introduction of INNS could easily spread to the SAC habitats nearby. The significance of such spreading of INNS could be high, depending on the species. INNS can impact upon marine protected sites and their features through biodiversity loss (competition, predation, hybridisation), habitat modification (changing physical structure of habitats leading to degradation of features), and disruption of ecosystem services. As such, the risk of introducing INNS has been included as a likely significant effect. <u>Conclusion</u> Without mitigation, the risk to the qualifying features of the SAC in terms of the potential of introducing INNS is considered to represent a significant adverse effect on the integrity of the SAC.	
Assessment with Mitigation Each of the mitigation measures is considered to cover the criteria identified in the DTA HRA Handbook, namely effectiveness, reliability, timeliness, deliverability, enforcibility and likelihood they will be maintained and persist for however long is necessary.	

Application of mitigation measures for pollution impacts:

Mitigation measures are included in full in Table 10 below, but those involved with reducing or avoiding the potential impact from pollution during construction can be summarised as follows:

- Implement best practice to ensure good housekeeping, for example ensuring all machinery used is kept in good repair and subject to regular checks;
- Ensure all fuel and other potentially hazardous chemicals is stored in a safe compound at a distance of at least 10m from the shoreline;
- Use biodegradable lubricant and hydraulic oil in plant machinery if possible. Biodegradable oils are less toxic than most synthetic oil but should still be stored to the same standards as other oils and prevented from entering the water environment.
- Production of a Construction Environmental Management Plan (CEMP) with pollution prevention measures noted within the plan.
- Contractor to have emergency incident response procedure in place in the case of a spillage.
- Pollution spill kits to be readily available on site and in plant/machinery at all times, with staff suitably trained in how to deploy.

Application of mitigation measures for INNS:

Mitigation measures involved with reducing or avoiding potential impact from INNS can be summarised as follows:

- Users must book the scrubbing grid in advance through the CHT Harbour Office. When booking the scrubbing grid, CHT will ask for details of where the vessel has come from and when it was last cleaned. If identified as risk of INNS due to previous location, use of grid will not be permitted.
- Users must inspect the hull for invasive species (e.g., gelatinous or encrusting organisms like *Didemnum vexillum* or *Dreissena polymorpha*) before cleaning.
- If invasive species are suspected, users must cease cleaning and report immediately to CHT. CHT will advise on next steps, which may include contacting NRW for guidance.
- CHT will maintain a visible sign at the scrubbing grid with the following information:
 - Identification guide for common invasive species in Welsh waters (e.g., carpet sea squirt, zebra mussel).
 - Requirement to inspect hulls before cleaning.
 - Instruction to stop cleaning and report suspected invasive species to CHT.
 - Contact details for CHT (email and VHF) and a reminder of environmental responsibilities.
- Cleaning is permitted only during low tide when the vessel is fully dried out.

Conclusion

With these mitigation measures in place it is considered that the risk is reduced to the extent that there would be no adverse effect on the integrity of the Menai Strait and Conwy Bay SAC, with no residual effects on any of the Conservation Objectives of the features of these site.

Table 12. Adverse effects on the integrity of the European site.

Impact on Conservation Objectives – Menai Strait and Conwy Bay SAC	
Conservation Objectives for the site	Outcome
The vision for this feature is for it to be in favourable conservation status, where all the following conditions are satisfied:	
The overall distribution and extent of the habitat features within the site, and each of their main component part is stable or increasing For the intertidal mudflats and sandflats feature these include; • Muddy gravel communities • Dwarf eelgrass, <i>Zostera noltei</i> beds • Sediment communities at Traeth Lafan For the reef feature these include; • Reef communities in high energy wave-sheltered, tide-swept conditions • Under-boulder, overhang and crevice communities • Limestone reef communities • Clay outcrop reef communities For the large shallow bay feature these include; • Organically enriched muddy sediment areas	No adverse effects on integrity
Contaminant levels in the water column and sediments derived from human activity to be: -At or below existing statutory guideline concentrations -Below levels that would potentially result in increase in contaminant concentrations within sediments or biota -Below levels potentially detrimental to the long-term maintenance of the feature, species populations, their abundance or range taking into account bioaccumulation and biomagnification	No adverse effects on integrity
Populations of typical species subject to existing commercial fisheries need to be at an abundance equal to or greater than required to achieve maximum sustainable yield and secure in the long run	No adverse effects on integrity
The management and control of activities or operations likely to adversely affect the habitat feature is appropriate for maintaining it in favourable condition is secure in the long term	No adverse effects on integrity
In relation to the conservation of biodiversity, encompass inherent dynamism rather than to work against it	No adverse effects on integrity

Safeguard features and natural processes from those impacts of human activity that cause damage to the features through the degradation of their range, extent, structure, function or typical species.	No adverse effects on integrity
Facilitate, where necessary, restoration of features or components of features that are currently damaged or degraded and in unfavourable condition.	No adverse effects on integrity

Table 13. Appropriate Assessment for Afon Gwyrfai and Llyn Cwellyn SAC

Afon Gwyrfai and Llyn Cwellyn SAC (111.6 ha)
Assessment without mitigation
<u>Pollution of otter foraging habitat</u> As reported in the screening stage of this HRA, there is potential for the proposed works to lead to temporary deterioration in water quality through increase in suspended solids from works next to the water environment, or from pollution through accidental spill from construction machinery. There is therefore the possibility of contamination of otter foraging habitat outside of the protected site, and a reduction in abundance and availability of prey for otters (fish). Although the risk is considered low, and given the availability of suitable habitat in the wider environment, the likelihood of this resulting in a likely significant effect is low. However, it is included in this appropriate assessment on a precautionary basis. <u>Disturbance of otter mobile species feature</u> The Afon Gwyrfai and Llyn Cwellyn SAC supports a population of otters which will range within and beyond the boundaries of the SAC to feed and commute using the waterways and riparian land to feed, rest and breed. Otters are known to be present in the Seiont catchment where works are due to take place. There would be some temporary noise pollution and human presence during the construction period, which could potentially cause a level of disturbance to any otters foraging in the area. The piling activity associated with construction in particular is likely to increase noise levels in the vicinity of the works temporarily for periods during construction. However, as works would be undertaken during daylight hours only, when otter activity is minimal, the risk of disturbance is low. The proposal is likely to cause increased disturbance, in particular as a result to noise, to the qualifying and associated features of the SAC if to be found present in the vicinity of the proposed works during construction. Due to the species not being a qualifying feature of the site of proposed works itself and due to the proposed works being carried out in an already busy area subject to a level of human disturbance, it is not considered likely that the proposal will have a likely significant effect. However, otter presence cannot be ruled out at this stage due to potential pathways. <u>Conclusion</u> Without mitigation, the risk to the qualifying and associated features of the SAC in terms of the potential disturbance of mobile species feature and potential pollution of foraging

habitat, is not considered to represent a significant adverse effect on the integrity of the SPA, although residual effects remain.

Assessment with Mitigation

Each of the mitigation measures is considered to cover the criteria identified in the DTA HRA Handbook, namely effectiveness, reliability, timeliness, deliverability, enforcibility and likelihood they will be maintained and persist for however long is necessary.

Application of mitigation measures:

Mitigation measures are included in full in Table 10 below, but those involved with reducing or avoiding disturbance of otter and pollution of potential foraging habitat can be summarised as follows:

- Implement best practice to ensure good housekeeping, for example ensuring all machinery used is kept in good repair and subject to regular checks;
- Ensure all fuel and other potentially hazardous chemicals is stored in a safe compound at a distance of at least 10m from the shoreline;
- Use biodegradable lubricant and hydraulic oil in plant machinery if possible. Biodegradable oils are less toxic than most synthetic oil but should still be stored to the same standards as other oils and prevented from entering the water environment.
- Production of a Construction Environmental Management Plan (CEMP) with pollution prevention measures noted within the plan.
- Contractor to have emergency incident response procedure in place in the case of a spillage.
- Pollution spill kits to be readily available on site and in plant/machinery at all times, with staff suitably trained in how to deploy.
- All works to take place during daylight hours only to minimise potential impact on nocturnal species.
- No additional artificial lighting of the works area overnight.

Conclusion

With these mitigation measures in place it is considered that the risk is reduced to the extent that there would be no adverse effect on the integrity of the Afon Gwyrfa and Llyn Cwellyn SAC, with no residual effects on any of the Conservation Objectives of the features of these sites.

Table 14. Adverse effect on the integrity of the European site

Impact on Conservation Objectives – Afon Gwyrfa and Llyn Cwellyn SAC	
Conservation Objectives for the site	Outcome
Conservation Objective for Feature 5: Otter (<i>Lutra lutra</i>)	
The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:	

1. The population of otters in the SAC is stable or increasing over the long term and reflects the natural carrying capacity of the habitat within the SAC, as determined by natural levels of prey abundance and associated territorial behaviour.	No adverse effects on integrity
2. The natural range of otters in the SAC is neither being reduced nor is likely to be reduced for the foreseeable future. The natural range is taken to mean those reaches that are potentially suitable to form part of a breeding territory and/or provide routes between breeding territories. The size of breeding territories may vary depending on prey abundance.	No adverse effects on integrity
3. The population size should not be limited by the availability of suitable undisturbed breeding sites. Where these are insufficient they should be created through habitat enhancement and where necessary the provision of artificial holts. No otter breeding site is subject to a level of disturbance that could have an adverse effect on breeding success. Where necessary, potentially harmful levels of disturbance are managed.	No adverse effects on integrity
4. The safe movement and dispersal of individuals around the SAC is facilitated by the provision, where necessary, of suitable riparian habitat, and underpasses, ledges, fencing etc at road bridges and other artificial barriers.	No adverse effects on integrity
5. All factors affecting the achievement of these conditions are under control.	No adverse effects on integrity

Table 15. Appropriate Assessment for North Anglesey Marine SAC

North Anglesey Marine SAC (324949ha)	
Assessment without mitigation	
<u>Construction disturbance impacting the mobile species feature of the SAC.</u> Where possible, construction will take place from land, however, aspects of the works will need to be carried out from the foreshore during low tide. As the construction method involves some piling activity, it poses a potential to cause underwater noise, specifically impacting on any harbour porpoise that could travel to the site of proposed works from the North Anglesey Marine SAC. Although the SAC is located at a distance of 25km away from the works, harbour porpoises are highly mobile mammals and could potentially travel to the site. No harbour porpoises have been historically recorded in the vicinity of the works according to a Cofnod search of the site. <u>Conclusion</u> Without mitigation, the risk to the qualifying features of the SAC in terms of the potential of disturbance through underwater noise is not considered to represent a significant adverse effect on the integrity of the SAC, although residual effects remain.	
Assessment with Mitigation	
Each of the mitigation measures is considered to cover the criteria identified in the DTA HRA Handbook, namely effectiveness, reliability, timeliness, deliverability, enforcibility and likelihood they will be maintained and persist for however long is necessary. <u>Application of mitigation measures:</u> Mitigation measures are included in full in Table 21 below, but those involved with reducing or avoiding anthropogenic underwater noise and vibration can be summarised as follows: - Piling activities shall not take place within 3 hours either side of high tide within the harbour. This will reduce the amount of activity taking place directly within the water column and will reduce anthropogenic noise projection into the wider marine environment . - Pilling will cease and standing time will be implemented during high tide; - Piling rig and any other heavy construction vehicles/machinery will be sited on the car park area above the works. Piles to be driven using silent press-in rig where possible to reduce use of vibratory hammer. <u>Conclusion</u> With these mitigation measures in place it is considered that the risk is reduced to the extent that there would be no adverse effect on the integrity of the North Anglesey Marine SAC, with no residual effects on any of the Conservation Objectives of the features of the sites.	

Table 16. Adverse effect on the integrity of the European site

Impact on Conservation Objectives – North Anglesey Marine SAC
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Conservation Objectives for the site	Outcome
The conservation objectives for North Anglesey Marine SAC specifically refer to the harbour porpoise.	
Conservation Objectives for the harbour porpoise:	
1. Harbour porpoise is a viable component of the site	No adverse effects on integrity
2. There is no significant disturbance of the species	No adverse effects on integrity
3. The condition of supporting habitats and processes, and the availability of prey is maintained.	No adverse effects on integrity

Table 17. Appropriate Assessment for Pen Llyn a'r Sarnau SAC

Pen Llŷn a'r Sarnau SAC (146023.48ha)
Assessment without mitigation
<u>Construction disturbance impacting the mobile species features of the SAC.</u> Where possible, construction will take place from land, however, aspects of the works will need to be carried out from the foreshore during low tide. As the construction method to secure the pontoons is pilling, it poses a potential to cause underwater noise, specifically impacting on any grey seals and bottlenose dolphins that could travel to the site of proposed works from the Pen Llŷn a'r Sarnau SAC. Although the SAC is located at a distance of 25km away from the works, both bottlenose dolphins and grey seals are highly mobile mammals and could potentially travel to the site. Bottlenose dolphins are known to be present within the Menai Strait in the vicinity of Caernarfon at times. No grey seals have been historically recorded in the vicinity of the works according to a Cofnod search of the site. Similarly, otters are a mobile species feature of the SAC, and are known to be present in the Seiont catchment. There would be some temporary noise pollution and human presence during the construction period, which could potentially cause a level of disturbance to any otters foraging in the area. The proposal is likely to cause increased disturbance, in particular as a result to noise, to the qualifying and associated features of the SAC if to be found present in the vicinity of the proposed works during construction. Due to the species not being a qualifying feature of the site of proposed works itself and due to the proposed works being carried out in an already busy area subject to a level of human disturbance, it is not considered likely that the proposal will have a likely significant effect. However, otter presence cannot be ruled out at this stage due to potential pathways. <u>Pollution of otter foraging habitat</u> As reported with the otter feature of the Afon Gwyrfa and Llyn Cwellyn SAC in table 13 above, there is potential for the proposed works to lead to temporary deterioration in water quality through increase in suspended solids from works next to the water environment, or from pollution through accidental spill from construction machinery. There is therefore the possibility of contamination of otter foraging habitat outside of the protected site, and a reduction in abundance and availability of prey for otters (fish). Although the risk is considered low, and given the availability of suitable habitat in the wider environment, the

likelihood of this resulting in a likely significant effect is low. However, it is included in this appropriate assessment on a precautionary basis.

Conclusion

Without mitigation, the risk to the qualifying features of the SAC in terms of the potential of disturbance through disturbance and underwater noise is not considered to represent a significant adverse effect on the integrity of the SAC, although residual effects remain.

Assessment with Mitigation

Each of the mitigation measures is considered to cover the criteria identified in the DTA HRA Handbook, namely effectiveness, reliability, timeliness, deliverability, enforcibility and likelihood they will be maintained and persist for however long is necessary.

Application of mitigation measures:

Mitigation measures are included in full in Table 21 below, but those involved with reducing potential for pollution, and reducing or avoiding anthropogenic underwater noise and vibration can be summarised as follows:

- Piling activities shall not take place within 3 hours either side of high tide within the harbour. This will reduce the amount of activity taking place directly within the water column and will reduce anthropogenic noise projection into the wider marine environment.
- Pilling will cease and standing time will be implemented during high tide;
- Piling rig and any other heavy construction vehicles/machinery will be sited on the car park area above the works. Piles to be driven using silent press-in rig where possible to reduce use of vibratory hammer.
- Implement best practice to ensure good housekeeping, for example ensuring all machinery used is kept in good repair and subject to regular checks;
- Ensure all fuel and other potentially hazardous chemicals is stored in a safe compound at a distance of at least 10m from the shoreline;
- Use biodegradable lubricant and hydraulic oil in plant machinery if possible. Biodegradable oils are less toxic than most synthetic oil but should still be stored to the same standards as other oils and prevented from entering the water environment.
- Production of a Construction Environmental Management Plan (CEMP) with pollution prevention measures noted within the plan.
- Contractor to have emergency incident response procedure in place in the case of a spillage.
- Pollution spill kits to be readily available on site and in plant/machinery at all times, with staff suitably trained in how to deploy.
- All works to take place during daylight hours only to minimise potential impact on nocturnal species.
- No additional artificial lighting of the works area overnight.

Conclusion

With these mitigation measures in place it is considered that the risk is reduced to the extent that there would be no adverse effect on the integrity of the Pen Llŷn a'r Sarnau SAC, with no residual effects on any of the Conservation Objectives of the features of the sites.

Table 18. Adverse effect on the integrity of the European site

Impact on Conservation Objectives – Pen Llŷn a’r Sarnau SAC	
Conservation Objectives for the site	Outcome
The conservation objectives for Pen Llŷn a’r Sarnau SAC that refer specifically to otter, grey seals and bottlenose dolphins are as follows: Conservation Objectives for otter, grey seal and bottlenose dolphin:	
1. Populations The population is maintaining itself on a long-term basis as a viable component of its natural habitat. Important elements are population size, structure, production and condition of the species within the site.	No adverse effects on integrity
2. For bottlenose dolphin, otter and grey seal; contaminant burdens derived from human activity are below levels that may cause physiological damage, or immune or reproductive suppression.	No adverse effects on integrity
3. Grey seal populations should not be reduced as a consequence of human activity.	No adverse effects on integrity
4. Range The species population within the site is such that the natural range of the population is not being reduced or likely to be reduced for the foreseeable future.	No adverse effects on integrity
5. Their range within the SAC and adjacent inter-connected areas is not constrained or hindered (bottlenose dolphin, otter and grey seal)	No adverse effects on integrity
6. There are appropriate and sufficient food resources within the SAC and beyond (bottlenose dolphin, otter and grey seal)	No adverse effects on integrity
7. Supporting habitats and species The presence, abundance, condition and diversity of habitats and species required to support this species is such that the distribution, abundance and populations dynamics of the species within the site and population beyond the site is stable or increasing. Important considerations include; - distribution, - extent, - structure, - function and quality of habitat, - prey availability and quality.	No adverse effects on integrity
8. As part of this objective it should be noted that;	
- The abundance of prey species subject to existing commercial fisheries needs to be equal to or greater than that required to achieve maximum sustainable yield and secure in the long term.	No adverse effects on integrity

- The management and control of activities or operations likely to adversely affect the species feature, is appropriate for maintaining it in favourable condition and is secure in the long term.	No adverse effects on integrity
- Contamination of potential prey species should be below concentrations potentially harmful to their physiological health.	No adverse effects on integrity
- Disturbance by human activity is below levels that suppress reproductive success, physiological health or long-term behaviour	No adverse effects on integrity
- For otter there are sufficient sources within the SAC and beyond of high quality freshwater for drinking and bathing.	No adverse effects on integrity

Table 19. Appropriate Assessment for West Wales Marine SAC

West Wales Marine SAC (737717.38ha)
Assessment without mitigation
<u>Construction disturbance impacting the marine mobile species features of the SAC.</u> Where possible, construction will take place from land, however, aspects of the works will need to be carried out from the foreshore during low tide. As the construction method involves pilling activity, it poses a potential to cause underwater noise, specifically impacting on any harbour porpoise that could travel to the site of proposed works from the West Wales Marine SAC. Although the SAC is located at a distance of 29km away from the works, harbour porpoises are highly mobile mammals and could potentially travel to the site. No harbour porpoises have been historically recorded in the vicinity of the works according to a Cofnod search of the site. <u>Conclusion</u> Without mitigation, the risk to the qualifying features of the SAC in terms of the potential of disturbance through underwater noise is not considered to represent a significant adverse effect on the integrity of the SAC, although residual effects remain.
Assessment with Mitigation
Each of the mitigation measures is considered to cover the criteria identified in the DTA HRA Handbook, namely effectiveness, reliability, timeliness, deliverability, enforcibility and likelihood they will be maintained and persist for however long is necessary. <u>Application of mitigation measures:</u> Mitigation measures are included in full in Table 21 below, but those involved with reducing or avoiding anthropogenic underwater noise and vibration can be summarised as follows: - Piling activities shall not take place within 3 hours either side of high tide within the harbour. This will reduce the amount of activity taking place directly within the water column and will reduce anthropogenic noise projection into the wider marine environment. - Pilling will cease and standing time will be implemented during high tide;

- Piling rig and any other heavy construction vehicles/machinery will be sited on the car park area above the works. Piles to be driven using silent press-in rig where possible to reduce use of vibratory hammer.

Conclusion

With these mitigation measures in place it is considered that the risk is reduced to the extent that there would be no adverse effect on the integrity of the West Wales Marine SAC, with no residual effects on any of the Conservation Objectives of the features of the sites.

Table 20. Adverse effect on the integrity of the European site

Impact on Conservation Objectives – West Wales Marine SAC	
Conservation Objectives for the site The conservation objectives for West Wales Marine SAC specifically refer to the harbour porpoise.	Outcome
Conservation Objectives for the harbour porpoise:	
1. Harbour porpoise is a viable component of the site	No adverse effects on integrity
2. There is no significant disturbance of the species	No adverse effects on integrity
3. The condition of supporting habitats and processes, and the availability of prey is maintained.	No adverse effects on integrity

Table 21. Mitigation Measures Proposed to Reduce or Avoid Impacts on European Sites

Mitigation Proposed	Impact Reduced/Avoided	European Site Affected	Site Features Affected
- Implement best practice to ensure good housekeeping, for example ensuring all machinery used is kept in good repair and subject to regular checks; - Ensure all fuel and other potentially hazardous chemicals is stored in a safe compound at a distance of at least 10m from the shoreline; - Use biodegradable lubricant and hydraulic oil in plant machinery if possible. Biodegradable oils are less toxic than most synthetic oil but should still be stored to the same standards as other oils and prevented from entering the water environment. - Production of a Construction Environmental Management Plan (CEMP) with pollution prevention measures noted within the plan. - Contractor to have emergency incident response procedure in place in the case of a spillage. - Pollution spill kits to be readily available on site and in plant/machinery at all times, with staff suitably trained in how to deploy.	Construction related pollution	Menai Strait and Conwy Bay SAC	Mudflat and sandflat, Sandbank, Reef.
- Users must book the scrubbing grid in advance through the CHT Harbour Office. When booking the scrubbing grid, CHT will ask for details of where the vessel has come from and when it was last cleaned. If identified as risk of INNS due to previous location, use of grid will not be permitted. - Users must inspect the hull for invasive species (e.g., gelatinous or encrusting organisms like <i>Didemnum vexillum</i> or <i>Dreissena polymorpha</i>) before cleaning. - If invasive species are suspected, users must cease cleaning and report immediately to CHT. CHT will advise on next steps, which may include contacting NRW for guidance. - CHT will maintain a visible sign at the scrubbing grid with the following information: - Identification guide for common invasive species in Welsh waters (e.g., carpet sea squirt, zebra mussel). - Requirement to inspect hulls before cleaning. - Instruction to stop cleaning and report suspected invasive species to CHT.	INNS	Menai Strait and Conwy Bay SAC	Mudflat and sandflat, Sandbank, Reef, Large shallow inlets and bays, Submerged or partially submerged sea caves.

- Contact details for CHT (email and VHF) and a reminder of environmental responsibilities. • Cleaning is permitted only during low tide when the vessel is fully dried out.			
• Piling activities shall not take place within 3 hours either side of high tide within the harbour. This will reduce the amount of activity taking place directly within the water column and will reduce anthropogenic noise projection into the wider marine environment. • Piling will cease and standing time will be implemented during high tide; • Piling rig and any other heavy construction vehicles/machinery will be sited on the car park area above the works. Piles to be driven using silent press-in rig where possible to reduce use of vibratory hammer.	Noise and vibration generated disturbance of underwater mammals	North Anglesey SAC, Pen Llŷn a'r Sarnau SAC West Wales Marine SAC	Harbour porpoise, Grey seal, Bottlenose dolphin,
• Implement best practice to ensure good housekeeping, for example ensuring all machinery used is kept in good repair and subject to regular checks; • Ensure all fuel and other potentially hazardous chemicals is stored in a safe compound at a distance of at least 10m from the shoreline; • Use biodegradable lubricant and hydraulic oil in plant machinery if possible. Biodegradable oils are less toxic than most synthetic oil but should still be stored to the same standards as other oils and prevented from entering the water environment. • Production of a Construction Environmental Management Plan (CEMP) with pollution prevention measures noted within the plan. • Contractor to have emergency incident response procedure in place in the case of a spillage. • Pollution spill kits to be readily available on site and in plant/machinery at all times, with staff suitably trained in how to deploy. • All works to take place during daylight hours only to minimise potential impact on nocturnal species. • No additional artificial lighting of the works area overnight.	Pollution of foraging habitat and disturbance of mobile species	Afon Gwyrfai and Llyn Cwellyn SAC Pen Llŷn a'r Sarnau SAC	Otter

6.0 IN-COMBINATION ASSESSMENT

6.1 Purpose

The test for likely significant effect in Regulation 63(1) of the Habitats Regulations is that effects should be assessed ‘either alone or in combination with other plans or projects’.

For the avoidance of doubt, the Regulations identify that an in-combination assessment is required only during the screening stage and only where an impact is identified which would have an insignificant effect on its own (a ‘residual’ effect) but where likely significant effect may arise cumulatively with other plans or projects.

Cumulative effects are those which make the effect more likely or more significant. Thus, where likely significant effects can be ruled out alone, there is no need for an assessment in combination because if there is no effect, it cannot add anything to an in-combination or cumulative assessment.

At the screening stage of the assessment, however, it can be difficult to distinguish between likely significant and insignificant effects where the exercise is meant to be brief. This HRA therefore assumes that any credible effect identified is assessed *alone with no residual effects*. This allows all possible effects to be captured for more detailed scrutiny in the appropriate assessment.

Despite this, further scrutiny may modify this opinion and the need for an in-combination assessment may subsequently be required as described in the Handbook:

‘...at a later stage when the appropriate assessment concludes that a plan or project screened as having a likely significant effect alone will not, upon further investigation, be likely to have such an effect alone, but could have such an effect in combination. In (this) situation, the appropriate assessment will need to be extended, in order to address in combination effects to inform the integrity test bearing in mind the potential for cumulative effects.’

As a result, in-combination effects are therefore considered in the appropriate assessment, which has two functions. The first function is to consider whether further scrutiny of the appropriate assessment can identify that an effect, previously identified as significant alone, was not of sufficient magnitude to justify this outcome and should have been identified as a residual effect and considered in-combination.

Secondly, it explores if possible residual adverse effects on the integrity of the site that were ruled out alone could lead to a significant adverse effect when considered in-combination. This employs best practice by considering cumulative effects at all stages of the HRA.

As this HRA concluded that the level of risk associated with each of the identified likely significant effects merited appropriate assessment *alone*, there were *no residual effects* and no need for an in-combination assessment. Furthermore, it found that the outcome of the Appropriate Assessment stage was no adverse effect on site integrity with no residual effects for any of the impacts identified. Therefore, there is no need to carry out the additional in-combination assessment of these potential impacts. The individual Integrity Tests for each

issue evaluated in the appropriate assessment therefore stand with no need for further scrutiny and can be carried forward into the Formal Integrity Test in Section 7.

7.0 FORMAL INTEGRITY TEST / CONCLUSION

This HRA subjected the potential effects of the proposed works to an appropriate assessment and integrity test in accordance with the statutory procedures laid out in the Habitats Regulations 2017 (as amended) using methodology described in the Habitats Regulations Assessment Handbook (Tyldsley and Chapman, 2018 edition). As a result of this assessment, it can be ascertained that:

The assessment found that although the proposed works could result in potential construction derived pollution, potential increased risk of introducing INNS, and potential disturbance of mobile species, the risk of a likely significant effect was fairly low due to the size and dispersal of the SAC's and their qualifying features. Furthermore, with the application of mitigation measures, the risk could be reduced to an extent that there would be no adverse effect on the integrity of the Menai Strait and Conwy Bay SAC, Afon Gwyrfai and Llyn Cwellyn SAC, North Anglesey Marine SAC, Pen Llŷn a'r Sarnau SAC or West Wales Marine SAC with no residual effects.

Although this HRA has been prepared to help the Authority discharge its duties under the Habitats Regulations, the Authority remains the competent authority and it must decide whether to adopt the conclusions and recommendations of this report, or otherwise, for the purpose of their own assessment. If accepted, consultation with the statutory nature conservation body is required.

8.0 REFERENCES

Chapman, C., and Tyldesley, D. 2015. *Functional Linkage: How areas that are functionally linked to European sites have been considered when they may be affected by the projects – a review of authoritative decisions*. Natural England Research Report.

European Union. 2019. *Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC*.

Natural Resources Wales. 2025. *Condition Assessments for the Designated Features of Ardal Cadwraeth Arbennig Y Fenai a Bae Conwy / Menai Strait and Conwy Bay Special Area of Conservation*. Available from: [condition-assessment-for-menai-strait-and-conwy-bay-sac.pdf](#)

Natural Resources Wales. 2025. *Ardal Cadwraeth Arbennig Y Fenai a Bae Conwy/ Menai Strait and Conwy Bay Special Area of Conservation Advice provided by Natural Resources Wales in fulfilment of Regulation 37(3) of the Conservation of Habitats and Species Regulations 2017*. Available from: [conservation-advice-for-menai-conwy-sac.pdf](#)

Natural Resources Wales. 2018. *Y Fenai a Bae Conwy / Menai Strait and Conwy Bay Special Area of Conservation. Indicative site level feature condition assessments 2018*. Available from: <https://naturalresourceswales.gov.uk/media/684384/menai-strait-and-conwy-bay-sac-ica-2018.pdf>

Natural Resources Wales (NRW) 2022. *Core Management Plan Including Conservation Objectives for Afon Gwyrfaï a Llyn Cwellyn Special Area of Conservation*. Available from: <https://naturalresources.wales/media/670697/afon-gwyrfaï-a-llyn-cwellyn-management-plan-english .pdf>

Natural Resources Wales (NRW). 2018. *Pen Llŷn a'r Sarnau / Llyn Peninsula and the Sarnau Special Area of Conservation Advice provided by Natural Resources Wales in fulfilment of Regulation 37 of the Conservation of Habitats and Species Regulations 2017*. Available from: <https://cdn.naturalresources.wales/media/688001/eng-pen-llyn-ar-sarnau-reg-37-report-2018.pdf?mode=pad>

Joint Nature Conservation Committee (JNCC). Not dated. *Y Fenai a Bae Conwy SAC / Menai Strait and Conwy Bay SAC*. Available from: <https://sac.jncc.gov.uk/site/UK0030202>

Joint Nature Conservation Committee (JNCC). Not dated. *Pen Llŷn a'r Sarnau / Llyn Peninsula and the Sarnau SAC*. Available from: <https://sac.jncc.gov.uk/site/UK0013117>

Joint Nature Conservation Committee (JNCC). Not dated. *Afon Gwyrfaï a Llyn Cwellyn SAC*. Available from <https://sac.jncc.gov.uk/site/UK0030046>

Joint Nature Conservation Committee (JNCC). Not dated. *North Anglesey Marine SAC*. Available from: <https://sac.jncc.gov.uk/site/UK0030398>

Joint Nature Conservation Committee (JNCC). Not dated. *West Wales Marine SAC*. Available from: <https://sac.jncc.gov.uk/site/UK0030397>

Tyldesley, D., and Chapman, C. 2013. *The Habitats Regulations Assessment Handbook*, November 2018 edition UK: DTA Publications Ltd.

APPENDICES

Appendix A: European sites potentially at risk (full table)

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
(1) All projects (terrestrial, marine, coastal)	Sites within which the project is wholly or partially located	None	This criterion identifies all the European sites within the footprint of the scheme.	None
(2) Projects that could affect wetland features	(a) Sites upstream or downstream of the project location in the case of river or estuary sites	None	Effects considered are those associated with the physical presence of built development and the localised effects on surface/groundwater resources and quality, resulting from changes in run-off, sedimentation, erosion, etc.	None
	(b) Open water, peatland, fen, marsh and other wetland sites with relevant hydrological links to the project, irrespective of distance from the project location			
(3) Projects that could affect the marine environment	Sites that could be affected by changes in water quality, currents or flows; or effects on the intertidal or sub-tidal areas, or the seabed, or marine species	Menai Strait and Conwy Bay SAC	Effects considered are those of a wider, more strategic scale than (2) above. The project is considered as a possible impact on the marine environment. In particular the water quality and intertidal and sub-tidal areas and marine species.	Menai Strait and Conwy Bay SAC
(4) Projects that could affect the coast	Sites in the same coastal 'cell', or part of the same coastal ecosystem, or where there are interrelationships with or between different physical coastal processes	See 3 above	Effects considered are those of a wider, more strategic scale than (2) above. See 3 above.	See 3 above

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
(5) Projects that could affect mobile species	Sites whose qualifying features include mobile species which may be affected by the project irrespective of the location of the project or whether the species would be in or out of the site when they might be affected	Menai Strait and Conwy Bay SAC Afon Gwyrfaï and Llyn Cwellyn SAC (Otters) Pen Llŷn a'r Sarnau SAC (Otters, Grey seal and Bottlenose dolphin) North Anglesey Marine SAC (Harbour porpoise) West Wales Marine SAC (Harbour porpoise)	This considers direct impacts of the scheme on mobile species within or outside the designated sites. Mobile species are those considered to spend part of their life-cycle on land, in water or air beyond the designated site boundary. Typically, it focuses on potential impacts on functionally-linked land and water utilised by bird, mammals or fish associated with European sites. Note that 'indirect' effects on mobile species on functionally – linked land or water beyond the development site, is considered under other criteria below, such as '6. Recreational pressure', and '14. Disturbance'. Mammal features of the North Anglesey Marine SAC, Pen Llŷn a'r Sarnau SAC and West Wales Marine SAC could have a direct pathway into the site due to their high mobility features. Otter is a mobile species feature of the Afon Gwyrfaï and Llyn Cwellyn SAC. The intertidal area within the proximity of proposed works provide suitable foraging habitat for otters.	Afon Gwyrfaï and Llyn Cwellyn SAC (Otters) Pen Llŷn a'r Sarnau SAC (Otter, Grey seal and Bottlenose dolphin) North Anglesey Marine SAC (Harbour porpoise) West Wales Marine SAC (Harbour porpoise)
(6) Projects that could increase recreational pressure on European sites where	(a) European sites within which the project would be wholly or partly located (b) Such European sites within an agreed zone of influence or	None	The project is not considered to increase recreational pressure on European sites as the site is already used for mooring leisure boats and will not result in any additional capacity. Therefore, direct effects on European sites from increased recreational pressure can be ruled out of any further consideration.	None

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
qualifying features are sensitive to such pressures	other reasonable and evidence-based travel distance of the project location that may be affected by local recreational or other visitor pressure generated by the project (c) Such European sites within an agreed zone of influence or other evidence-based longer travel distance of the project, which are major (regional or national) visitor attractions such as European sites which are National Nature Reserves where public visiting is promoted, sites in National Parks, coastal sites and sites in other major tourist or visitor destinations			
(7) Projects which could increase the	(a) Sites that are used for, or could be affected by, water abstraction irrespective of distance from the project	None	The proposed improvement works would not comprise of any such activities. Therefore, direct effects on European sites from increased development can be ruled out of any further consideration.	None

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
amount of development	(b) Sites used for, or could be affected by, discharge of effluent from wastewater treatment works or other waste management streams serving the project, irrespective of distance from the project			
	(c) Sites that could be affected by the provision of new or extended transport or other infrastructure			
	(d) Sites that could be affected by increased deposition of air pollution arising from the proposals, including emissions from significant increases in traffic			
(8) Projects comprising linear developments or infrastructure	Sites within a specified distance from the centre line of the proposed route (or alternative routes), the distance may be varied for differing types of site/qualifying features and in the absence of established good practice standards, distances(s) to be agreed by	None	This HRA has adopted a 2km radius in which to evaluate the potential impacts of the proposed works. Individual effects are identified in other criteria. This criterion does not identify the types of potential impacts which are, instead, more closely defined by other criteria as listed above or below. Therefore, column 5 has been left blank as attention is drawn to more specific criteria.	See other criteria

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
	the statutory conservation body			
(9) Projects that introduce new activities or new uses into the marine, coastal or terrestrial environment	Sites considered to have qualifying features potentially vulnerable or sensitive to the effects of the new activities proposed by the project	None	The project is not considered to introduce new activities or uses into the environment.	None
(10) Projects that could change the nature, area, extent, intensity, density, timing or scale of existing activities or uses	Sites considered to have qualifying features potentially vulnerable or sensitive to the effects of the changes to existing activities proposed by the project	Menai Strait and Conwy Bay SAC	The proposed works involve the installation of a scrub deck which will allow vessels (small pleasure boats under 15 metres LOA) to rest on a level concrete surface during low tide for cleaning. Although this is an activity that already takes place within the harbour, it does alter the area and potentially the frequency of this activity.	Menai Strait and Conwy Bay SAC
(11) Projects that could change the quantity, quality, timing, treatment or mitigation of emissions or discharges to	Sites considered to have qualifying features potentially vulnerable or sensitive to the changes in emissions or discharges that could arise as a result of the project, over and above those already identified project may affect, for example as prey species or	None	The project is not considered to change the the quantity, quality, timing, treatment or mitigation of any emissions or discharges to air, water or soil harvested, extracted or consumed.	None

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
air, water or soil harvested, extracted or consumed	supporting habitat or which may be disturbed by the harvesting, extraction or consumption			
(12) Projects that could change the quantity, volume, timing, rate or other characteristics of biological resources harvested, extracted or consumed	Sites whose qualifying features include the biological resources which the project may affect, or whose qualifying features depend on the biological resources which the project may affect, for example prey species or supporting habitat which may be disturbed by the harvesting, extraction or consumption	None	No such activities are proposed and changes to biological resources that might affect qualifying features on all European sites listed can be ruled out of any further consideration.	None
(13) Projects that could change the quantity, volume, timing, rate, or other characteristics of physical resources extracted or consumed	Sites whose qualifying features rely on the physical resources which the project may affect, for example, as habitat or a physical environment on which habitat may develop or which may be disturbed by the extraction or consumption	None	The proposed works would not cause changes to any physical resources extracted or consumed.	None
(14) Projects which could	Sites whose qualifying features are considered to be	Afon Gwyrfa and Llyn Cwellyn SAC (Otters)	There would be some localised temporary noise pollution during the construction period through the installation of the	Afon Gwyrfa and Llyn Cwellyn SAC (Otters)

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
introduce or increase, or alter the timing, nature or location of disturbance to species	potentially sensitive to disturbance, for example as a result of noise, activity or movement or the presence of disturbing features that could be brought about by the project	Pen Llyn a'r Sarnau SAC (Otters, bottlenose dolphin, grey seal) North Anglesey Marine SAC (harbour porpoise) West Wales Marine SAC. (harbour porpoise)	piles within the foreshore area. This could impact mobile species features in the wider area, as discussed in (5) above, including the otter feature of the Pen Llyn a'r Sarnau SAC and Afon Gwyrfaï and Llyn Cwellyn SAC, along with the bottlenose dolphin and grey seal feature of the Pen Llyn a'r Sarnau SAC, and the harbour porpoise feature of the North Anglesey Marine SAC and West Wales Marine SAC. The timings of construction work could also impact upon nocturnal species such as otter.	Pen Llyn a'r Sarnau SAC (Otters, bottlenose dolphin, grey seal) North Anglesey Marine SAC (harbour porpoise) West Wales Marine SAC. (harbour porpoise)
(15) Projects which could introduce or increase or change the timing, nature or location of light or noise pollution	Sites whose qualifying features are considered to be potentially sensitive to the effects of changes in light or noise that could be brought about by the project	Afon Gwyrfaï and Llyn Cwellyn SAC (Otters) Pen Llyn a'r Sarnau SAC (Otters, Grey seal and Bottlenose dolphin) North Anglesey Marine SAC (Harbour porpoise) West Wales Marine SAC (Harbour porpoise)	See (14) above.	Afon Gwyrfaï and Llyn Cwellyn SAC (Otters) Pen Llyn a'r Sarnau SAC (Otters, Grey seal and Bottlenose dolphin) North Anglesey Marine SAC (Harbour porpoise) West Wales Marine SAC (Harbour porpoise)

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
(16) Projects which could introduce or increase a potential cause of mortality of species	Sites whose qualifying features are considered to be potentially sensitive to the source of new or increased mortality that could be brought about by the project	None	The proposed works are not considered to introduce or increase a potential mortality of species. No further consideration is required. Impacts to mobile species is covered under (5).	None

Extract from *The Habitats Regulations Assessment Handbook*,
www.dtapublications.co.uk

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Appendix B - Site photos



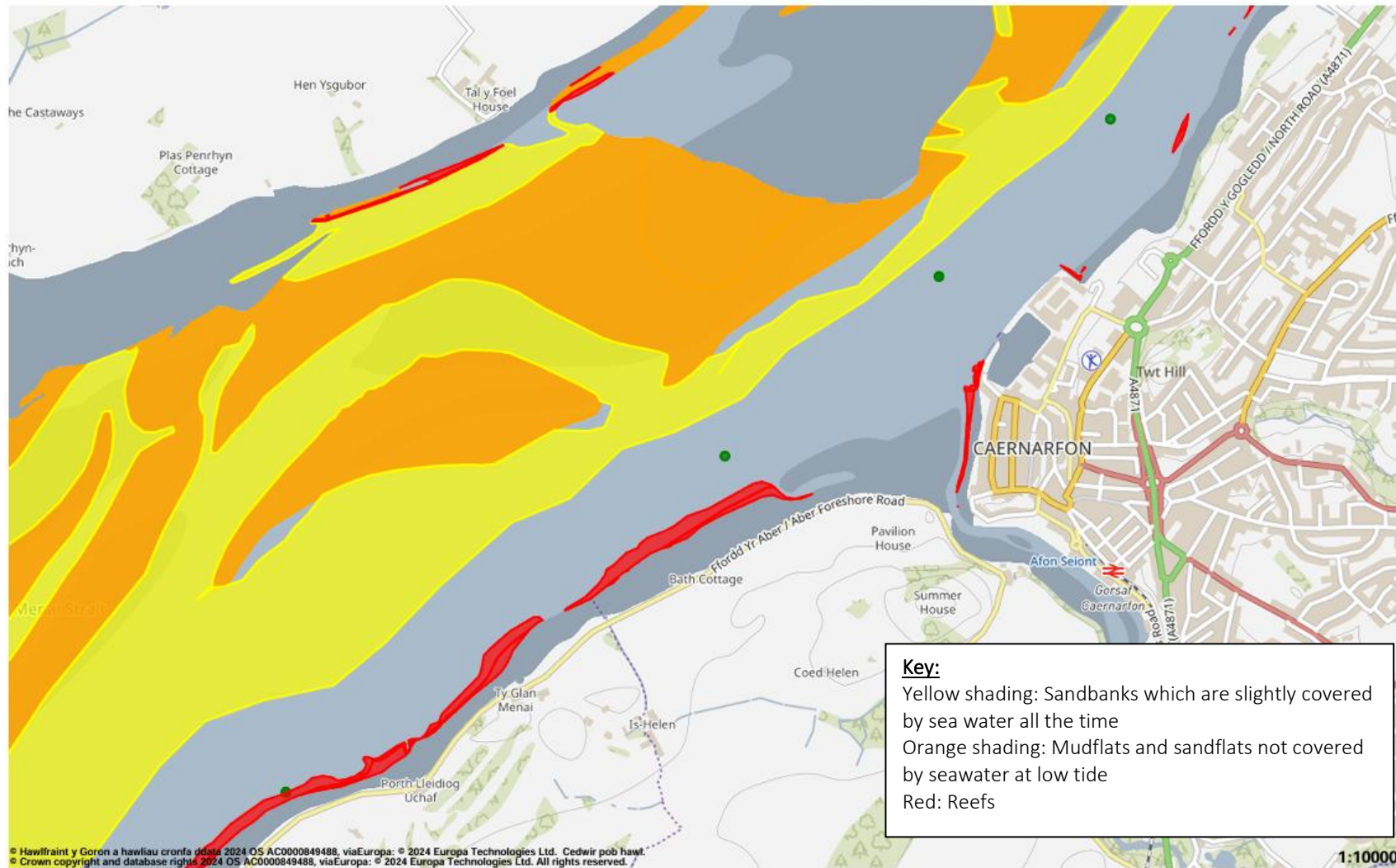
Photos 1 & 2: View of proposed pontoon installation locations, looking upstream (south east)



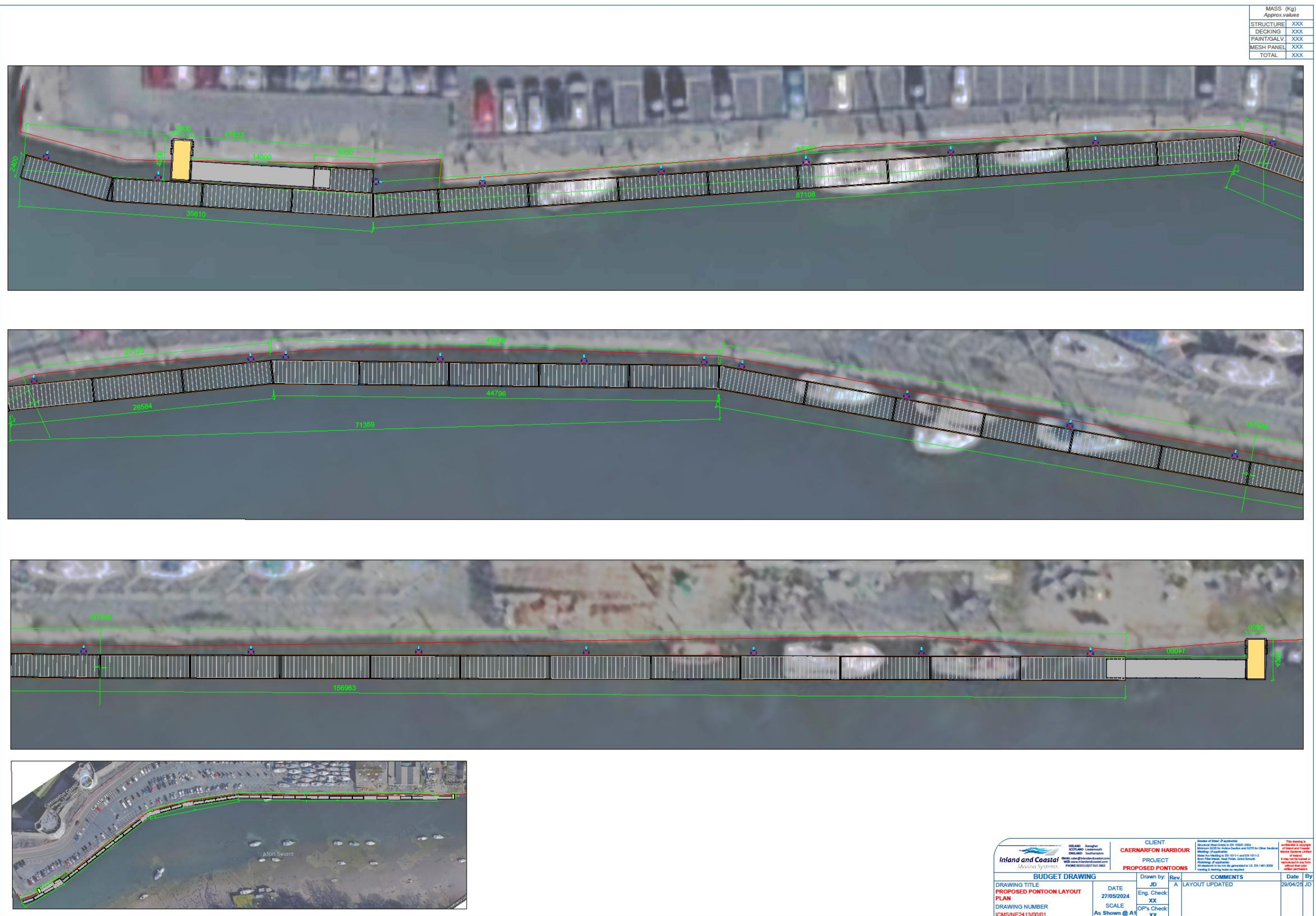
Photos 5 & 6: View of proposed location of scrub grid looking south and east.

Appendix C

SAC features



Appendix D – Pontoons and scrub deck overview plan



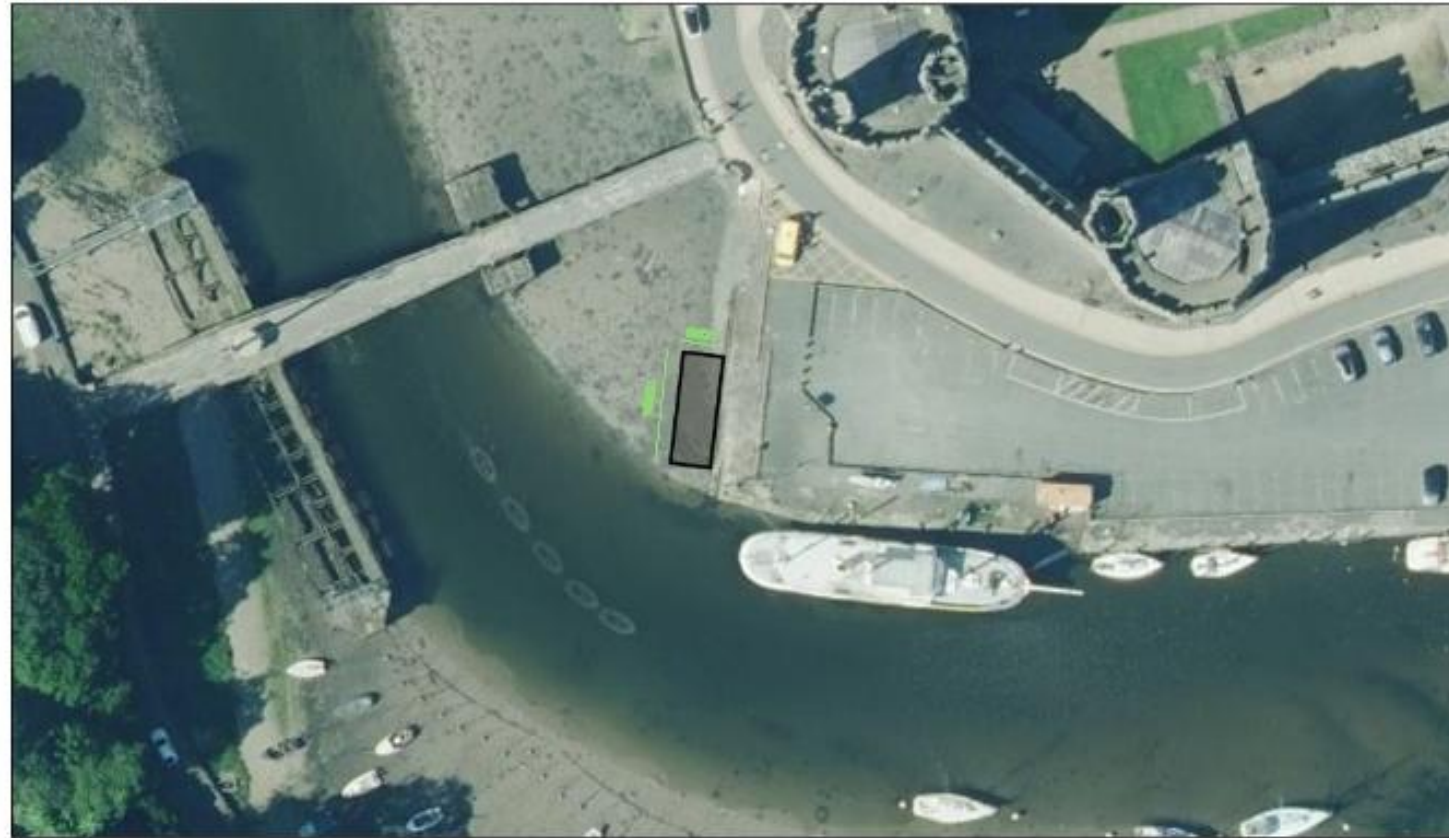
MASS (Kg) Approx. values	
STRUCTURE	XXX
DECKING	XXX
PAINT/GALV.	XXX
MESH PANEL	XXX
TOTAL	XXX



Inland and Coastal Marine Systems		CLIENT CAERNARFON HARBOUR PROJECT PROPOSED PONTOONS		Drawn by: JD Rev. 1 Comments: This drawing is a preliminary design and is subject to change without notice. It is not to be used for construction or other purposes without the written approval of the designer.	
BUDGET DRAWING		Drawn by: JD		Date: 01/05/2025	
DRAWING TITLE PROPOSED PONTOON LAYOUT PLAN (OVERVIEW)		Eng. Check: XX		Date: 01/05/2025	
DRAWING NUMBER ICMS/NEH/13/00/02		OP's Check: XX		Date: 01/05/2025	
DATE 01/05/2025		SCALE 1:450 @ A1		COMMENTS	

12732_Caernarfon Harbour Pontoons – Scrub deck layout and overview (Rev. 0.1)

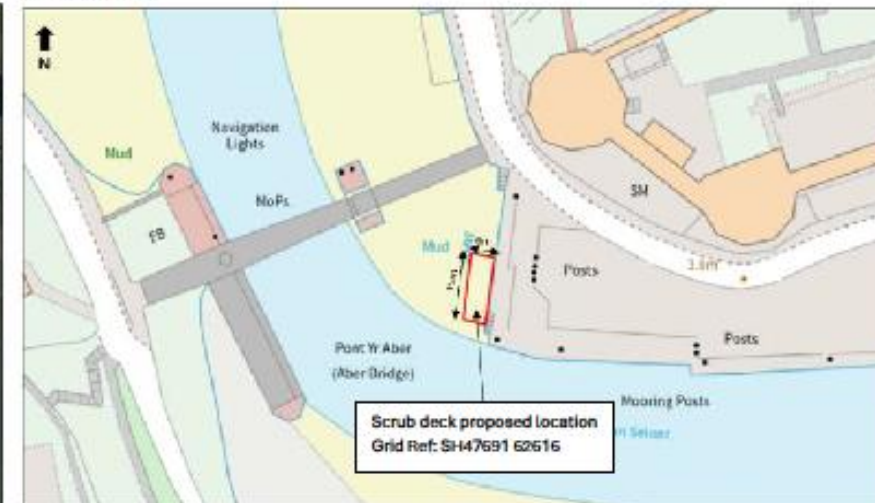
Scrub Deck Overview Plan



2025-07-03

1:605
0 0.01 0.01 0.02 mi
0 0.01 0.01 0.03 km

Location Plan



2025-07-03

0 0.01 0.01 0.02 mi
0 0.01 0.01 0.03 km

Open Roads, 10/06/2020
Erosion Service

In situ concept plans (not to scale)



Sheet pile support



Proposed Layout (not to scale)



Appendix E – Method Statement:

Caernarfon Harbour Pontoons – Outline Installation Methodology

1.1 Site Location

The site is located along the Cei Llechi area of Caernarfon Harbour, Caernarfon, Gwynedd.



Figure 1. Site location plan, shown in red.

1.2 Reference Documents

Scheme layout: NE2413-00-01 (REV A) Proposed Layout-A1.pdf

Scheme overview: NE2413-00-02 Proposed Layout (Overview)-A1.pdf

12732_Scrub deck layout and overview_0.1.pdf

Habitats Regulations Assessment (HRA) Report – 12732_Caernarfon Pontoons HRA_0.1

Water Framework Directive (WFD) Assessment Report – 12732_Caernarfon Pontoons WFD_V0.2

1.3 Description

The works consist of installing pontoons along the Cei Llechi (Slate Quay) area of the harbour in Caernarfon, Gwynedd. The proposals involve the installation of floating pontoons along a section of approximately 365m of the quay wall, secured off driven piles which are to be placed

on the foreshore adjacent to the quay wall. The proposals also include the installation of a 15m x 6m scrub deck adjacent to the harbour wall on the western side of the pontoons.

The work will involve the following:

- Set up temporary site compound and exclusion zones for piling and crane platform in car park.
- Foundation preparation on foreshore for scrub deck.
- Siting of piling rig on quay and installation of piles along the foreshore
- Concrete deck construction of scrub deck.
- Siting of crane on quay and lifting of pontoon sections into water.
- Positioning and fixing of pontoons onto piles.
- Installation of gangway and securing on to quay/car park.
- Removal of crane, equipment and site compound and re-instatement of car park.

1.4 Environmental and Cultural Heritage Constraints

The proposals are located approximately 43m south east of the Menai Strait and Conwy Bay SAC, and 32m north of the Afon Seiont SSSI.

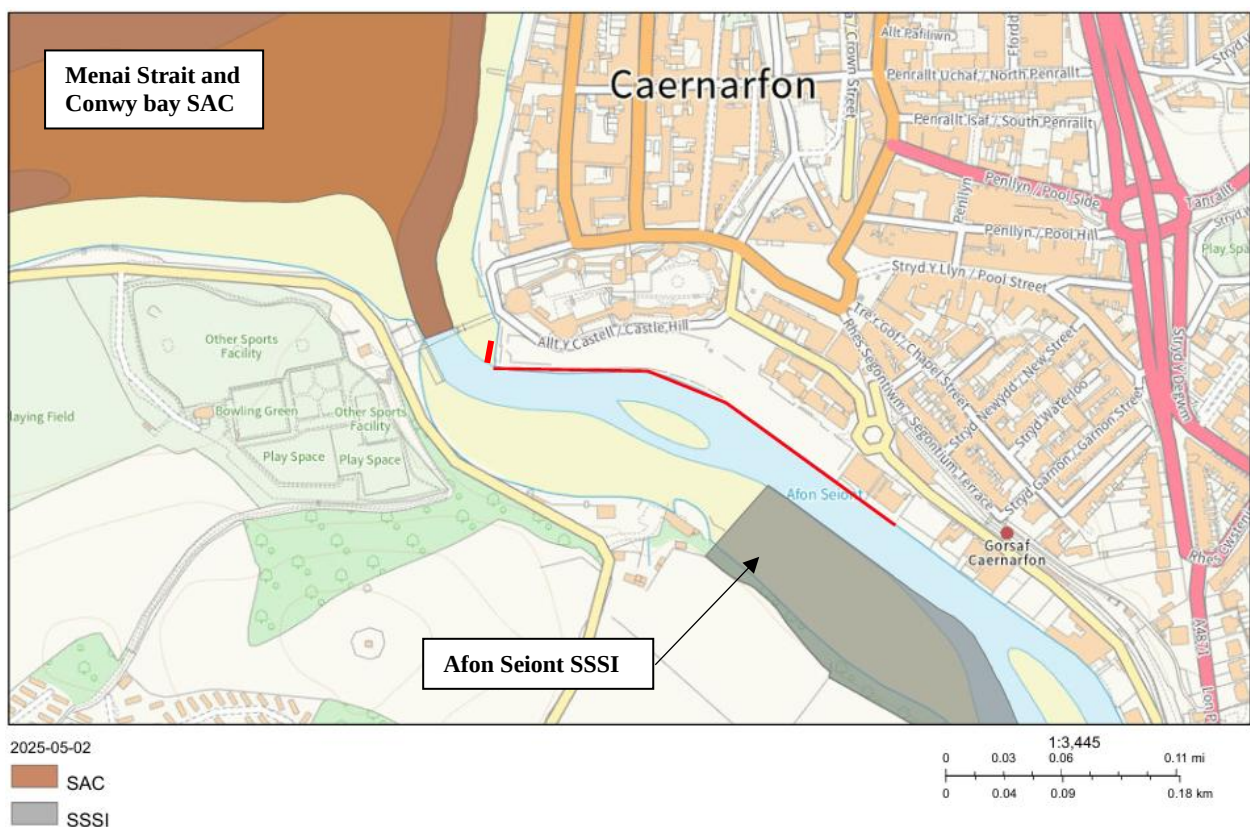


Figure 2. Conservation designations in the vicinity of the proposals

There are several cultural heritage designations in close proximity to the proposals. The quay wall is a listed structure (Grade II, reference 3815). The pontoon installation will not interact

directly with the quay wall itself, with the gangways secured to the car park area, not the capping stones of the quay wall. The scrub deck installation will interact with a length of 15m of the base of the quay wall. Works required to the listed wall will require Listed Building Consent.

There are other listed buildings nearby (shaded pink in figure 3 below), along with the castle and town walls which are designated a Scheduled Ancient Monument and World Heritage Site.

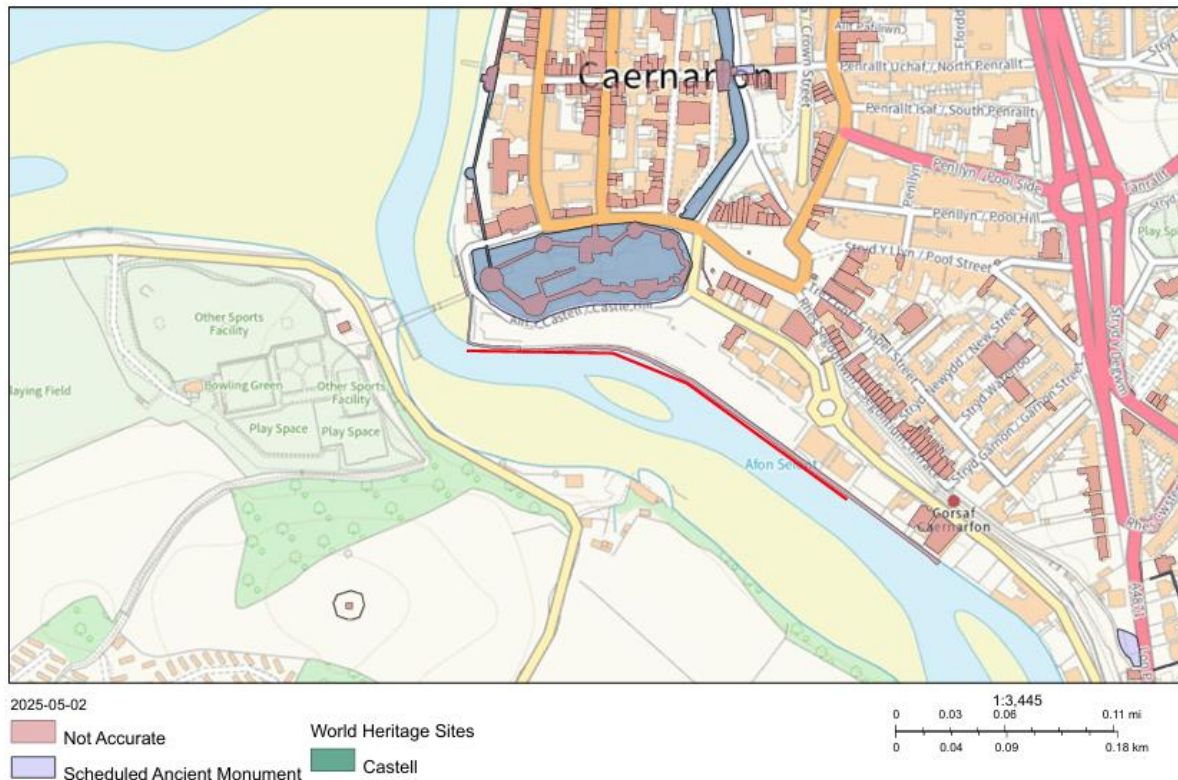


Figure 3: Cultural heritage designations in the vicinity of the proposals.

2.0 Sequence of works

2.1 Set up site compound

Proposed temporary site compound will be located within the existing Cei Llechi car park area.

Site compound to be securely fenced to prevent unauthorised access. Traffic and pedestrian management to be in place around compound.

Compound to consist of adequate welfare and storage facilities.

2.2 Pile installation:

Piling will be subject to the environmental constraints stated within this document, and the mitigation measures set out in the HRA report and WFD assessment accompanying the scheme.

High tide restrictions - Piling activities shall not take place within 3 hours either side of high tide within the harbour. Piling will cease and standing time will be implemented during high tide.

Piling installation method will be decided by the Contractor, however, the piles will be installed from the landward side with piling plant being sited a minimum of 2-3 metres away from the face of the existing quay wall. Piles to be driven using silent press-in rig where possible to reduce use of vibratory hammer.

Pontoon piles will be installed adjacent to the quay wall in the locations shown on the Pontoon Layout Plan (drawing number: ICMS/NE2413/00/01). The piles will not touch the quay wall and adequate protection measures will be put in place during construction to prevent damage to wall.

Steel sheet piling will be installed to support the scrub deck, in the location shown on plan *12732_Scrub deck layout and overview_0.1*. The sheet piling will extend 6m from the quay wall and 15m in length.

Work programme should be tailored so that piling activities do not take place within the salmonid migration run (June – Sept).

2.3 Pontoon installation:

Environmental protection procedures, in accordance with mitigation measures set out in the HRA report, will be put in place prior to locating construction equipment and vehicles close to watercourse.

Pontoons transported to site and lifted in to the water from the delivery vehicles. It is preferred to avoid storing units on site in order to avoid double handling, as such loads will be coordinated as to arrive on site on an “as needed” basis.

A mobile crane (50 -100T capacity), sited on the car park, will lift the pontoons into the water.

The mobile crane lifts pontoon units in to the water one at a time. When in the water the pontoon will be secured by operatives from work vessel with ropes.

When the next pontoon is lifted in to the water it is then connected end on end to the previously launched pontoons

When a line of pontoons has been launched and connected it is then towed to the install location by the workboat

Once in position against the piles the pile guides are affixed to connect the pontoons to the piles. This is repeated for all sections along the quay.

When the gangway landing pontoon has been installed then the gangway can be lifted from the delivery vehicles and installed.

M&E services and any ancillary equipment is installed once all the main pontoon equipment is in place and secured.

2.4 Scrub deck installation:

Level seabed at footprint of scrub deck through levelling and removal of sediment.

Drive sheet piles along perimeter of scrub deck footprint. Pile depth to suit load-bearing strata and lateral load resistance. Cut pile tops to level with coping beam elevation.

Further excavate within the working area to suitable formation level.

Lay compacted rock/gravel base.

Formwork setup to define slab extent, and install steel rebar mesh to strengthen concrete as per structural design.

Concrete pour of deck, using marine grade concrete resistant to saltwater corrosion (e.g C40/50 with SR cement). Concrete to be pumped from car park above. Concrete pours to be timed with tidal windows to maximise cure time and reduce risk of washout.

Install timber bearers on quay wall as required (to match existing).

2.5 Removal of temporary works and re-instatement:

Removal of piling / crane platform.

Removal of all equipment and compound area and re-instatement of car parking areas.

3.0 Measures to reduce the risk of pollution

The following measures will be implemented to further reduce the risk of environmental damage during the proposed works:

- A Construction Environment Management Plan (CEMP) is to be prepared which will detail what measures will be in place to protect the surrounding environment. Location of adjacent protected sites shall be clearly highlighted.
- Works to be timed to avoid periods of high tide.
- Integrity of formwork to be inspected prior to pouring/pumping of concrete.
- All concrete use within works to include quick setting cement to reduce risk of washout and ensure all new concrete elements are set prior to incoming tides.
- Biodegradable lubricant and hydraulic oil to be used in plant machinery where possible. Biodegradable oils are less toxic than most synthetic oil but should still be stored to the same standards as other oils and prevented from entering the water environment.
- Pollution spill kits to be readily available on site within plant/machinery at all times,

with staff suitably trained in how to deploy.

- Contractor to have emergency incident response procedure in place in the case of a spillage. Response to include accurate procedure to swiftly remove any contaminated sand/material from site in the case of accidental spillage.
- Contractor to adhere to pollution prevention best practice guidelines, including;
- GGP5: Works and maintenance in or near water

Policy for the Use of the Scrubbing Off Grid in Afon Seiont, Caernarfon Harbour

Purpose

This policy outlines procedures for using the scrubbing off grid in the Afon Seiont, within the Caernarfon Harbour Trust (CHT) jurisdiction, for hull cleaning of small pleasure boats (under 15 metres LOA). It aims to manage marine growth and prevent the spread of invasive species, ensuring compliance with the **Marine and Coastal Access Act 2009, Natural Resources Wales (NRW)** marine licensing requirements, and CHT bylaws. The policy is designed to qualify as a low-risk activity, likely exempt from a marine licence, by minimising environmental impact in the marine environment below the Mean High Water Springs (MHWS) mark.

Scope

This policy applies to vessel owners or operators using the designated scrubbing off grid in the Afon Seiont for hull cleaning to remove marine growth.

Definitions

- **Scrubbing Off Grid:** A designated intertidal structure in the Afon Seiont, managed by CHT, where vessels can dry out at low tide for hull cleaning.
- **Mean High Water Springs (MHWS):** The average high water level during spring tides, defining the upper boundary of the marine environment subject to NRW licensing.
- **Marine Environment:** Areas below MHWS or within tidal influence, where deposits require a marine licence unless exempt.
- **Low-Risk Activity:** Activities classified by NRW as Band One, which may be exempt from licensing if environmental impacts are minimised.
- **Invasive Species:** Non-native marine species (e.g., zebra mussels, carpet sea squirts) that can harm local ecosystems if spread during hull cleaning.

Policy Requirements

1. Booking and Registration

- **Booking:** Users must book the scrubbing grid in advance through the CHT Harbour Office (email: admin@caernarfonharbour.org.uk; VHF channels 12/14, initial contact on 16). Priority is given to vessels registered with CHT and compliant with Harbour Dues (£38.10 per metre per annum, as of 2024/25).
- **Vessel Eligibility:** Only small pleasure boats (under 15 metres LOA) are permitted. Commercial vessels are not covered by this policy.

2. Environmental Mitigation Measures

To ensure the activity is low-risk and likely exempt from NRW marine licensing, while preventing the spread of invasive species, the following measures must be followed:

- **Invasive Species Awareness and Reporting:**
 - When booking the scrubbing grid, CHT will ask for details of where the vessel has come from and when it was last cleaned.

- Users must inspect the hull for invasive species (e.g., gelatinous or encrusting organisms like *Didemnum vexillum* or *Dreissena polymorpha*) before cleaning.
- If invasive species are suspected, users must cease cleaning and report immediately to CHT (email: admin@caernarfonharbour.org.uk; VHF channels 12/14). CHT will advise on next steps, which may include contacting NRW for guidance.
- **Informative Signage:** CHT will maintain a visible sign at the scrubbing grid with the following information:
 - Identification guide for common invasive species in Welsh waters (e.g., carpet sea squirt, zebra mussel).
 - Requirement to inspect hulls before cleaning.
 - Instruction to stop cleaning and report suspected invasive species to CHT.
 - Contact details for CHT (email and VHF) and a reminder of environmental responsibilities.
- **Cleaning Methods:** Use manual scraping or low-pressure water cleaning to remove marine growth. High-pressure washing is prohibited to avoid dispersing invasive species fragments into the water. The sanding or removal of paint shall not be permitted on the scrub grid.
- **Eco-Friendly Cleaning Agents:** Only biodegradable, non-toxic cleaning agents approved by the UK Environment Agency (e.g., phosphate-free detergents) may be used. A list of approved agents is available from CHT.

3. Operational Procedures

- **Tidal Planning:** Users must consult tide tables (e.g., Liverpool tides) and coordinate with CHT for safe access and egress, considering strong tidal currents (up to 3.5 knots) and Caernarfon Bar conditions.
- **Grid Use:**
 - Vessels must be positioned on the grid at high tide and secured as per CHT instructions.
 - Cleaning is permitted only during low tide when the vessel is fully dried out.
 - Maximum duration on the grid is one tidal cycle (approximately 12 hours) unless authorised by CHT.
- **Safety:**
 - Users must wear appropriate personal protective equipment (PPE), including gloves and eye protection, when handling marine growth.

- A basic risk assessment must be completed before starting work.
- **Supervision:** Users must remain present during cleaning to ensure compliance with this policy.

4. Environmental Monitoring

- **Inspections:** CHT may inspect the grid during or after use to verify compliance with environmental measures.
- **Reporting:** Any suspected invasive species or accidental release of wastewater must be reported to CHT immediately.
- **Records:** Users must keep records of cleaning agents used for six months, available for CHT inspection.

5. Compliance and Enforcement

- **CHT Bylaws:** Users must comply with CHT bylaws, including payment of grid usage fees.
- **NRW Regulations:** Activities must align with NRW's low-risk activity criteria to avoid the need for a marine licence. If invasive species are detected, users must follow CHT and NRW guidance.
- **Penalties:** Non-compliance (e.g., failing to report invasive species, discharging wastewater) may result in fines or suspension of grid access by CHT.
- **Appeals:** Disputes can be addressed to the CHT Harbour Master.

6. Alternative Options

- **Professional Services:** Users are encouraged to use local providers like Above The Brine or Menai Marine at Victoria Dock for professional hull cleaning, which are equipped to manage invasive species risks.
- **Alternative Sites:** If the Afon Seiont grid is unavailable, consider the Port Penrhyn maintenance grid or Conwy scrubbing grid, subject to their policies.

Responsibilities

- **Users:** Must follow this policy, inspect for invasive species, and report as required.
- **CHT:** Maintains the grid, provides signage, approves bookings, and monitors compliance.

Contact Information

- **Caernarfon Harbour Trust:** Email: admin@caernarfonharbour.org.uk; VHF: Channels 12/14 (initial contact on 16).
- **Natural Resources Wales:** Website: www.naturalresourceswales.gov.uk (for guidance on invasive species and licensing).

Review

This policy will be reviewed annually by CHT to ensure alignment with environmental regulations and best practices for invasive species management.