Caernarfon Harbour Pontoons

Water Framework Directive Assessment

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Document Control Sheet

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Revision History

Date	Version No.	Summary of Changes
09/01/2025	0.01	Initial draft version
04/07/2025	0.02	Review following updated design

Reviews

Name	Title	Date	Version
David Harries	Principal Environment Officer	30.07.2025	0.02

Approvals

Name	Title	Date	Version
Alex Jones	Principal Environment Officer	04.08.25	0.02

Distribution

Name	Title	Date	Version

Content

Background

YGC have been commissioned to carry out Environmental Assessments, including a Water Framework Directive Assessment, in support of a Marine Licence application, for the installation of pontoons and scrub deck adjacent to the quay wall at the Cei Llechi area of Caernarfon Harbour, Gwynedd. The site of proposed works is located at the estuary of the Afon Seiont, close to the Menai Strait.

Introduction

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 proposal is subject to a Marine Licence by Natural Resource Wales, and must also follow the guidelines set out by the WFD legislation and not cause negative effects to the water environment, water quality, ecosystems or biodiversity. This report therefore highlights any impacts the work could potentially have on the waterbody, along with mitigation and an assessment (if required) of whether the proposals comply with the Water Framework Directive.

A full method statement can be found as a supporting document, however the main works to be carried out include 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

The proposed scrub deck is for the use of small pleasure boats (under 15 metres LOA), and allows vessels to rest on a level concrete surface during low tide for hull cleaning. The Caernarfon Harbour Trust policy for use of the scrub deck is provided as a supporting document.

Legislative Background

The Water Framework Directive (WFD) is a European Directive which sets out a strategic planning process for the purposes of managing, protecting and improving the water environment. The WFD introduces new environmental requirements which aim to meet good status in all water bodies. For surface waters, good status is made up of 'good ecological status (GES)' (or good ecological potential (GEP) where artificial or heavily modified) and 'good chemical status'. Ecological status and potential are made up of a number of biological, hydromorphological and physio-chemical quality elements. Chemical status is recorded as either good or failing. For groundwater to be in overall 'good' status, both quantitative and chemical status must be 'good'. The WFD also requires prevention of deterioration in water body status including deterioration of any of the individual quality elements.

The main objectives of the WFD are to:

- Prevent deterioration in the status of aquatic ecosystems, protect them and improve the ecological condition of waters;
- Aim to achieve at least 'Good Status' for all waters by 2015 (2021 or 2027 where fully justified within an extended deadline under Article 4.4);
- Promote sustainable use of water;
- Conserve habitats and species that depend directly on water;
- Progressively reduce or phase out the release of individual pollutants or groups of pollutants that present a significant threat to the aquatic environment;
- Progressively reduce the pollution of groundwater and prevent or limit the entry of pollutants; and
- Help reduce the effects of floods and droughts.

New activities and schemes that affect the water environment may adversely impact biological, hydromorphological, physico-chemical and/or chemical quality elements (WFD quality elements), leading to deterioration in water body status. They may also render proposed improvement measures ineffective, leading to the water body failing to meet its WFD objectives for GES/GEP. Under the WFD, activities must not cause deterioration in water body status or prevent a water body from meeting GES/GEP by invalidating improvement measures.

WFD Assessment in Stages

The Water Framework Directive Assessment can have up to three stages, which are

- Screening Stage: excludes any activities that do not need to go through the scoping or impact assessment stages
- Scoping Stage: identifies the receptors that are potentially at risk from your activity and need impact assessment
- Impact Assessment Stage: considers the potential impacts of your activity, identifies ways to avoid or minimise impacts, and shows if your activity may cause deterioration or jeopardise the water body achieving good status

The Proposal

Your activity	Description, notes or more information
Name of activity	Caernarfon Harbour Pontoons Installation
Brief description of activity	Installation of floating pontoons along the Cei Llechi area of the Harbour in 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.
Location of activity (central point XY coordinates or national grid reference)	*Scheme location:* 1. 247694 362604 (Pontoons) 2. 247693 362596 3. 248015 362463 4. 248021 362467 5. 247693 362606 (scrub deck) 6. 247687 362607 7. 247689 362622 8. 247694 362621
Footprint of activity (ha)	*Proposal footprint totals approximately 0.16ha.*
Timings of activity (including start and finish dates)	*Start date: currently unknown* *End date: currently unknown*

Extent of activity (for example size, scale frequency, expected volumes of output or discharge	360m length of floating pontoons, secured to 24no. of driven piles. 90m2 concrete scrub deck, secured on a sheet piled foundation.
Use or release of chemicals (state which ones)	*None*

WFD Assessment

WFD Classification

The WFD classification for a defined water body is produced by assessment of a wide variety of different 'elements' which includes:

- 'biological elements' such as fish, invertebrates, phytobenthos (which includes plants, macro-algae and phytoplankton);
- 'supporting elements' that include chemical measurements such as ammonia, dissolved oxygen, pH, phosphate, copper, zinc and temperature; and
- 'supporting conditions' (sometimes referred to as hydromorphology), that assess the physical attributes of the water body such as 'quantity and dynamics of flow' and 'morphology'.

The assessment given for each element is also accompanied by a measure of certainty in the result. The status classification is published in the River Basin Management Plan (RBMP)[1] and provides a baseline condition against which compliance and future improvements can be measured.

The activity / proposal involves the Seiont Transitional waterbody, and a summary of key elements is provided below.

Water body[1]	Description, notes or more information
WFD water body name	*Seiont*
Water body ID	*GB521006501100*
River basin district name	*Western Wales River Basin*
Water body type (estuarine or coastal)	*Transitional (Estuarine)*
Water body total area (ha)	*161,728m^2 which equals 16.1ha*
Overall water body status (2021)	*Good*
Ecological status	*Good*
Chemical status	*High*
Hydromorphology status of water body	*Not High*
Heavily modified water body and for what use	*No*
Higher sensitivity habitats present	*None*

[1] https://www.gov.uk/government/collections/river-basin-management-plans-2015#north-west-river-basin-district-rbmp:-2015

Lower sensitivity habitats present	*Rocky shore (intertidal rock), gravel and cobbles (intertidal and subtidal coarse sediment), intertidal soft sediment (mudflats and sandflats).*
WFD protected areas within 2km	*Menai Strait and Conwy Bay SAC.*

WFD Assessment - Screening:

The WFD is also required in support of a Band 2 Marine Licence Application, by NRW.

WFD Assessment – Scoping Exercise:

The scoping exercise is carried out to identify all the potential risks to each receptor element that are used to determine the status of the waterbody. The receptors / elements are:

- Hydromorphology
- biology – habitats
- biology – fish
- water quality
- protected areas

These receptors are based on the water body's quality elements (supporting elements, biological elements, and chemical elements).

The scoping exercise has been undertaken following the template provided on the gov.uk[2] website.

Hydromorphology:

Consider if your activity:	Yes	No	Hydromorphology risk issue(s) / observations
Could impact on the hydro morphology (for example morphology or tidal patterns) of a water body at high status	Requires impact assessment	Impact assessment not required	*Waterbody not high status. See below for hydromorphology impact.*
Could significantly impact the hydro morphology of any water body	Requires impact assessment	Impact assessment not required	*The floating pontoons are to be located in an established working harbour in an area where boats are already moored.* *The piles used to secure the pontoons have a minimal physical footprint on the riverbed. Spacing between the piles, will allow current flow and sediment processes to continue, therefore*

			transport processes are largely unaltered. *Pontoons float with the tide and do not block or divert water movement significantly, and allow uninterrupted tidal flushing, preserving estuarine hydrodynamics. Therefore, the proposals are not likely to significantly impact on hydromorphology.* *The scrub deck is located away from the main estuary channel. This reduces the risk of altering natural flow paths. The deck is positioned on intertidal shingle, and will be set at a similar level to the surrounding surface, which will minimise flow disruption. The small scale of the structure limits potential for disrupting sediment transport or channel morphology.*

[2] https://www.gov.uk/guidance/water-framework-directive-assessment-estuarine-and-coastal-waters#contents

Is in a water body that is heavily modified for the same use as your activity	Requires impact assessment	Impact assessment not required	*The proposed activity is not within a waterbody classed as heavily modified.*

Biology - habitats:

Consider if habitats are at risk from your activity.

Higher sensitivity habitats [3]	Lower sensitivity habitats [4]
chalk reef	cobbles, gravel and shingle
clam, cockle and oyster beds	intertidal soft sediments like sand and mud
intertidal seagrass	rocky shore
maerl	subtidal boulder fields
mussel beds, including blue and horse mussel	subtidal rocky reef
polychaete reef	subtidal soft sediments like sand and mud
saltmarsh	
subtidal kelp beds	
subtidal seagrass	

Consider if the footprint[5] of your activity is:	Yes	No	Biology habitats risk issue(s) / observations
0.5km^2 or larger	Yes to one or more – requires impact assessment	No to all impact assessment not required	*No – the total area of the proposed activity is 0.16ha, which equates to 0.0016km2*
1% or more of the water body's area			*No - the total area of water body is 16.1 ha, and area of proposed activity does not exceed 0.16ha, which represents 0.9% of the waterbody area.*
Within 500m of any higher sensitivity habitat			*No – The proposed work is not known to be within 500m of any higher sensitivity habitat.*

[3] Higher sensitivity habitats have a low resistance to, and recovery rate, from human pressures.

[4] *Lower sensitivity habitats have a medium to high resistance to, and recovery rate from, human pressures.*

[5] Note that a footprint may also be a temperature or sediment plume. For dredging activity, a footprint is 1.5 times the dredge area.

1% or more of any lower sensitivity habitat			*No – There are lower sensitivity habitats within the area of the works. However, it is not believed that the footprint of the scheme would exceed a total area of more than 1% of the habitat area.*

Biology – fish

Consider if fish are at risk from your activity, but only if your activity is in an estuary or could affect fish in or entering an estuary.

Consider if your activity:	Yes	No	Biology fish risk issue(s) / observations
Is in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary	Continue with questions	Go to next section	*The proposals are within the Afon Seiont transitional water body which is considered an estuarine water body.*
Could impact on normal fish behaviour like movement, migration or spawning (for example creating a physical barrier, noise, chemical change or a change in depth or flow)	Requires impact assessment	Impact assessment not required	*The installation works during construction have the potential to impact on normal fish behaviour, most notably through production of noise. Operationally, the proposals are not likely to impact on normal fish behaviour.*
Could cause entrainment or impingement of fish	Requires impact assessment	Impact assessment not required	*The project will not cause entrainment or impingement of fish.*

Water Quality:

Consider if water quality is at risk from your activity.

Consider if your activity:	Yes	No	Water quality risk issue(s) / observations
Could affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)	Requires impact assessment	Impact assessment not required	*No – There may be some discolouration of water and sediment resuspension during construction, however, this would clear within 1 tidal cycle i.e. high water – low water – high water*
Is in a water body with a phytoplankton status of moderate, poor or bad	Requires impact assessment	Impact assessment not required	*No – From available information, the waterbody does not have a phytoplankton status of moderate, poor or bad.*
Is in a water body with a history of harmful algae	Requires impact assessment	Impact assessment not required	*No – As far as we are aware, the waterbody does not have a history of harmful algae.*

Consider if water quality is at risk from your activity through the use, release or disturbance of chemicals.

If your activity uses or releases chemicals (for example through sediment disturbance or building works) consider if:	Yes	No	Water quality risk issue(s) / observations
The chemicals are on the Environmental Quality Standards Directive (EQSD) list	Requires impact assessment	Impact assessment not required	*Plant machinery will be required to undertake the proposed activity, and therefore there is an inherent risk of releasing oils and fuels into the environment, albeit the risk is considered to be low.*
It disturbs sediment with contaminants above Cefas Action Level 1	Requires impact assessment	Impact assessment not required	*No – we have no reason to believe that the activity would disturb sediments with contaminants above Cefas Action Level 1.*

If your activity has a mixing zone (like a discharge pipeline or outfall) consider if:	Yes	No	Water quality risk issue(s) / observations
The chemicals released are on the Environmental Quality Standards Directive (EQSD) list	Requires impact assessment[5]	Impact assessment not required	*No – the proposal does not use a chemical mixing zone.*

WFD Protected Areas

Consider if WFD protected areas are at risk from your activity. These include:

- Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- Shellfish waters
- Bathing Waters
- Nutrient Sensitive Areas

Consider if your activity is:	Yes	No	Protected areas risk issue(s) / observations
Within 2km of any WFD protected area[6]	Requires impact assessment	Impact assessment not required	*The proposals are within 30m of the Menai Strait and Conwy Bay SAC, and 30m of the Afon Seiont SSSI.*

Invasive Non-Native Species (INNS)

Consider if there is a risk your activity could introduce or spread INNS.
Risks of introducing or spreading INNS include:

- materials or equipment that have come from, had use in or travelled through other water bodies
- activities that help spread existing INNS, either within the immediate water body or other water bodies

Consider if your activity could:	Yes	No	INNS risk issue(s) / observations
Introduce or spread INNS	Requires impact assessment	Impact assessment not required	*The NRW coastal risk assessment shows that the Menai Strait is at risk from the following INNS:* • *American Oyster Drill* • *Leathery Sea Squirt* • *Colonial Tunicate* • *Slipper Limpet* *And is at an overall INNS risk of deterioration by 2050.* *There will be some presence of plant machinery on the foreshore, above mean high water level for a limited amount of time. The risk of introduction of marine INNS is low in this instance. However, it is common practice to wash down equipment following a period working in/near marine environments (to ensure longevity of equipment and reduce ongoing maintenance and repair costs), and risk should be managed by ensuring the plant are cleaned before leaving the existing / preceding site, and are clean on arrival onto this site. Following these pollution prevention measures will help reduce the risk further.* *There is an operational risk of introducing or spreading INNS through the ongoing use of the scrub deck, therefore this requires an impact assessment.*

Summary of Scoping:

Receptor	Potential risk to receptor?	Note the risk issue(s) for impact assessment
Hydromorphology	No	*No significant impact. The small scale of the structure limits potential for disrupting sediment transport or channel morphology.*

Biology: habitats	No	*No higher Sensitivity Habitat located near the proposed work.*
Biology: fish	Yes	*The installation works during construction have the potential to impact on normal fish behaviour, most notably through production of noise.*
Water quality	Yes	*Plant and machinery will be required to undertake the proposed activity, and therefore there is an inherent risk of releasing oils and fuels (PAHs) into the environment, albeit, the risk is considered to be low.*
Protected areas	Yes	*The proposed activity is being undertaken in close proximity to a protected area, therefore, potential impact to protected sites cannot be ruled out at scoping stage.*
Invasive non-native species	Yes	*There is an operational risk of introducing or spreading INNS through the ongoing use of the scrub deck, therefore this requires an impact assessment.*

Assessment of impacts on waterbody quality elements

WFD Compliance

There are three key objectives against which the impacts of proposed works on a water body need to be assessed to determine compliance with the overarching objectives of the WFD:

- Objective 1: The Scheme will not cause deterioration in any element of water body classification.
- Objective 2: The Scheme will not prevent the WFD status objectives from being reached within the water body or other downstream water bodies.
- Objective 3: The Scheme will contribute to the delivery of the relevant WFD objectives. In this case it will be what contribution the Scheme can make towards the water body reaching its objective Good Ecological Potential (GEP) through planned RBMP mitigation measures.

The first two objections must be met to avoid infraction of the WFD. The delivery of the third objective is central to the implementation of the WFD, where it can be supported through its operational activities. If it is considered that the scheme is likely to cause deterioration in water body status or prevent a water body from meeting its ecological objectives then an assessment would be made against the conditions listed in Article 4.7 of the WFD. Article 4.7 can be invoked if; 'new modifications' are of overriding public interest and/or the environmental and social benefits of achieving the WFD objectives are outweighed by the benefits of the new modifications to human health, safety and sustainable development; there are no significantly better environmental options that are technically feasible or not disproportionately costly; and all practicable steps for mitigation have been taken.

Biology: Fish

The scoping exercise identified that the installation works during construction have the potential to impact on normal fish behaviour, most notably through production of noise.

The Afon Seiont is considered a salmonid river, meaning it supports migratory species like Atlantic Salmon and Sea Trout. The river has historically supported salmonid runs. As the proposed works involve piling activities, there is potential to cause underwater noise. Fish may actively avoid areas of noise, treating them like physical obstacles. This can delay or prevent them from migrating up the estuary to reach spawning grounds.

Salmon migration tends to take place in late summer to early autumn (July-Sept, depending on rainfall), however early running salmon and smaller trout can enter estuaries in late spring to early summer. Similarly, Sea Trout peak runs tend to be between June and August, particularly in spate conditions. Rivers such as the Seiont are spate dependant, meaning fish will wait in estuaries until rains raise river levels.

Mitigation measures implemented as part of the HRA includes a restriction on undertaking piling activities 3 hours either side of high tide. This is to limit the amount of piling taking place within the water column, reducing the impact further away from the works site. This will mean that there will always be a break in piling activities. Therefore, should noise from piling activities be causing a barrier for fish migration, this will be temporary and there will be windows of no activity for any fish within the estuary to migrate, coinciding with high tide. The piling activity for the pontoon piles will be taking place at different locations along the quayside. This will mean that there will be some additional downtime between piling activity, as equipment will need to be moved between finishing one pile and starting the next. Sheet piling for the scrub deck shall only take place during low tide conditions, avoiding the need for piling directly in the water column. It is therefore concluded that there will be sufficient amount of downtime between piling activities, where noise will not be causing a potential barrier to fish migration.

It is not yet known what time of year works are likely to take place. Work programme should be tailored so that piling activities do not take place within the salmonid migration run (June – Sept).

Mitigation measures:

- Sheet piling for scrub deck shall only take place during low tide conditions, avoiding the need for piling directly in the water column.
- 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.
- 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.
- Work programme should be tailored so that piling activities do not take place within the salmonid migration run (June – Sept).

With the above mitigation measures in place, it is not considered that the proposed activity will have a significant impact on migratory fish.

Water Quality

Plant and machinery will be required to undertake the proposed activity, and therefore there is an inherent risk of releasing oils and fuels into the environment, although the risk is considered to be low due to most plant being sited on the car park area above, the impact on the waterbody could not be completely ruled out at the scoping stage. The following Reasonable Avoidance and Mitigation Measures will be implemented during the course of the proposed work.

Mitigation measures:

- 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.
- NRW emergency help line (0300 065 3000) will be contacted in the case of an emergency spill.

Since most plant and machinery are not going to be on the foreshore, and assuming that machinery used are well maintained, it is considered unlikely that the proposed activity would result in a contravention of Objective 1. However, accidents do happen – and by having the above measures in place it will reduce any impact should an accident occur.

Protected Areas

The proposed work is located within 2km of WFD Protected Areas, namely Menai Strait and Conwy Bay SAC, and the Afon Seiont SSSI. Since there are engineering works within 2km of these protected areas, and potential impact pathways in the form of tidal action, impact upon these receptors could not be ruled out at scoping stage

A Habitat Regulations Assessment (12732_Caernarfon Pontoons HRA – available as a separate document), has been produced for the works. Whilst Likely Significant Effect could not be ruled out in the screening stage (Stage 1 – Test of Likely Significant Effect), due to potential pollution pathway to the SAC and potential to introduce INNS, a conclusion of No likely Significant Effect

was reached at Stage 2 with the implementation of Reasonable Avoidance Measures. The mitigation measures can be found in Table 10 of the HRA.

The Afon Seiont SSSI is of special interest for strata which are exposed in the west river bank (cliff) of Afon Seiont and in a former river cliff, inland, alongside the A487 some 200 m east of the river. The exposed rocks include strata from two series within the Ordovician Period, namely the Arenig and overlying Llanvirn series. It is not deemed that the proposed works pose a risk to the features of the SSSI, especially with distance from site and pollution prevention mitigation measures outlined above and within the HRA implemented. The proposed works are 30m away from the SSSI at its nearest point, no access to the SSSI is required to undertake the works, and therefore there is not likely to be any physical damage to SSSI features as a result of the works.

Therefore, it is considered that the proposed activity will not result in the contravention of Objective 1.

Invasive Non Native Species

The NRW coastal risk assessment shows that the Menai Strait is at risk from the following INNS:

- American Oyster Drill
- Leathery Sea Squirt
- Colonial Tunicate
- Slipper Limpet

And is at an overall INNS risk of deterioration by 2050.

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.

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.

Mitigation measures:

- Users must book the scrubbing grid in advance through the Caernarfon Harbour Trust (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.

Potential impact of INNS introduction on the nearby SAC has been assessed within the HRA.

Conclusion

It is established through the assessment above that by implementing good working practices and reasonable avoidance measures that the proposed works would not lead to deterioration of any quality element of the waterbody (objective 1) nor would prevent the overall objectives for the waterbody being met (Objective 2).

Appendices

Appendix A – Site location

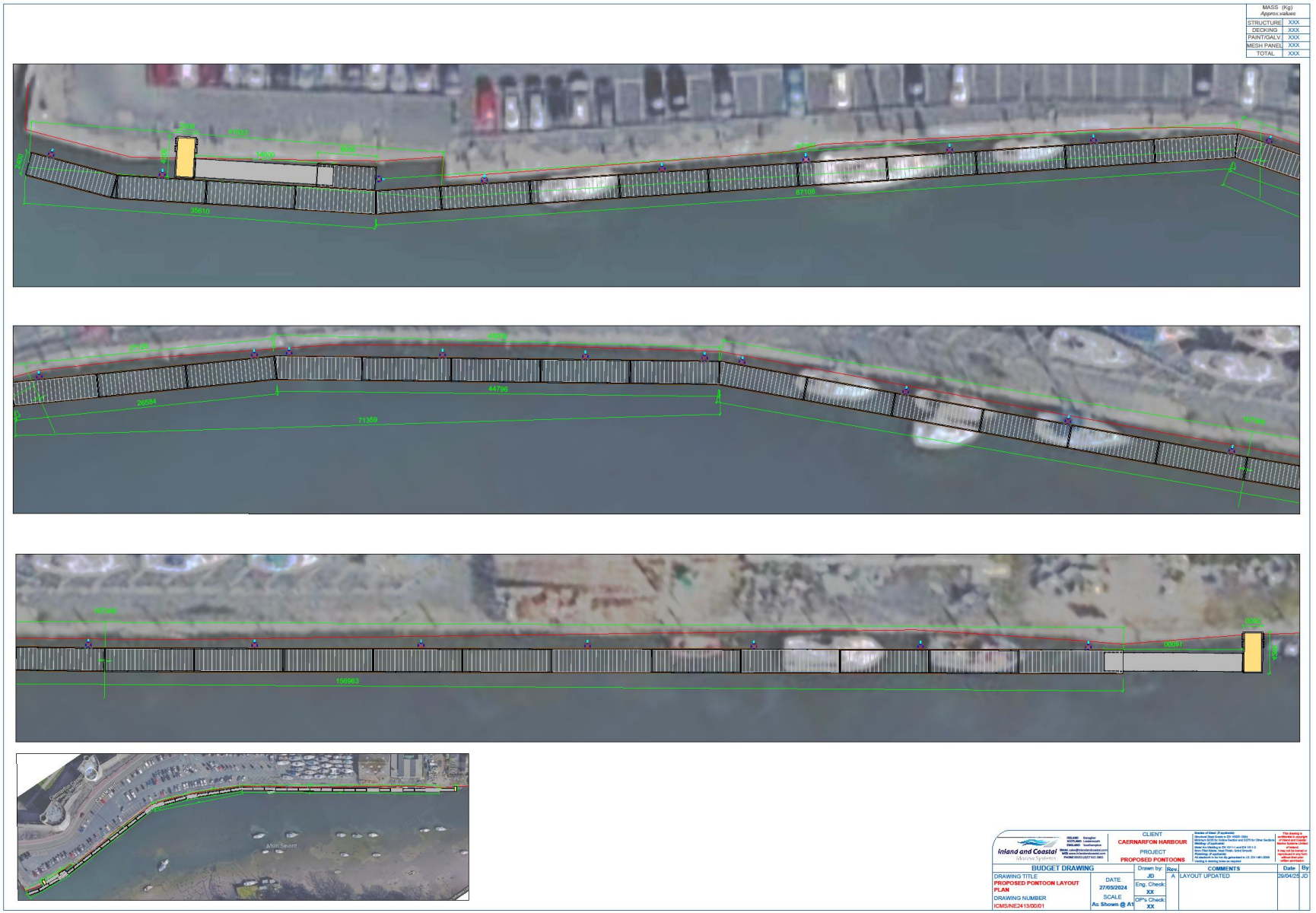
2025-07-10

1:4,644

0 0.04 0.07 0.15 mi

0 0.05 0.1 0.2 km

Appendix B – Pontoons and scrub deck overview



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

Inland and Coastal Marina Systems

CLIENT
CAERNARFON HARBOUR

PROJECT
PROPOSED PONTOONS

BUDGET DRAWING

DRAWING TITLE
PROPOSED PONTOON LAYOUT PLAN (OVERVIEW)

DRAWING NUMBER
ICMS/NE24 13/00/02

DATE
01/05/2025

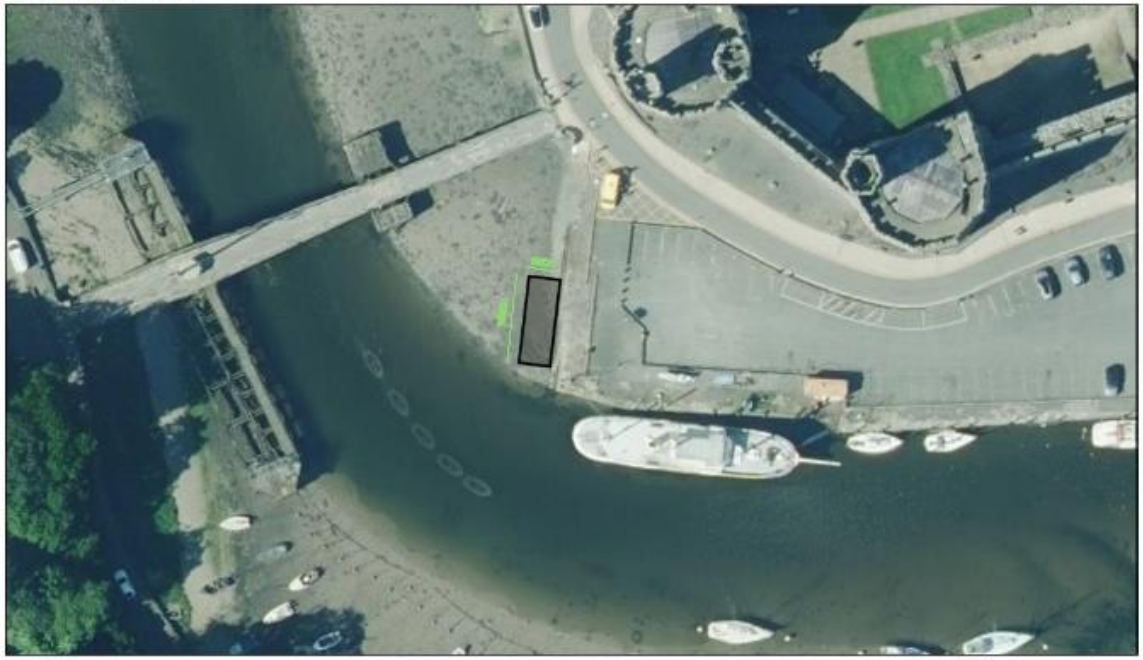
SCALE
1:450 @ A1

Drawn by: JD
Eng. Check: XX
OP's Check: XX

Rev.	COMMENTS	Date	By

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

Scrub Deck Overview Plan



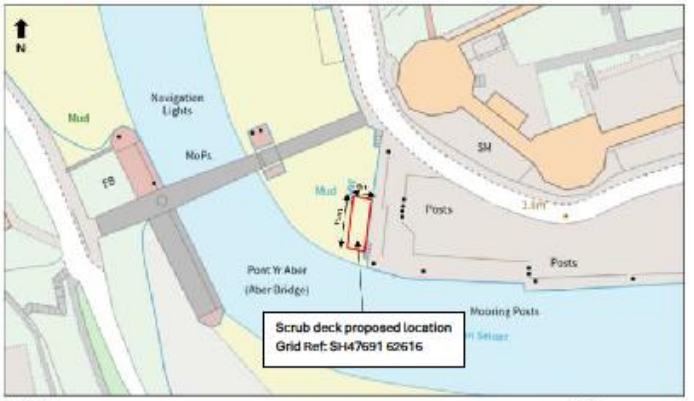
2025-07-03

1:605

0 0.01 0.01 0.02 mi

0 0.01 0.01 0.03 km

Location Plan



In situ concept plans (not to scale)

Sheet pile support

Propsed Layout (not to scale)

Appendix C -
Caernarfon Harbour Pontoons Habitats Regulations Assessment (HRA) (as separate document)