

TECHNICAL NOTE

Document number: PE17_001-ATK-EWE-SWMWRCES-RP-LW-000001

A477 Westfield Pill bridge repairs

SUBJECT	PROJECT NO.	DATE
Water Framework Directive Assessment	5227258	10/03/25
AUTHOR	DISTRIBUTION	REPRESENTING
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Document history

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
1.0	To support Band 2 Marine Licence Application	RF	FS	LJ	LJ	March 2025

Client signoff

Client	Pembrokeshire County Council		
Project	Westfield Pill Bridge	Project No.	5227258
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1. Introduction

1.1 Background

The Westfield Pill road bridge is a 7-span, simply supported concrete structure that carries the A477 highway over the Cleddau Ddu inlet at Neyland in Pembrokeshire, Wales. The bridge runs at a height of over 30m over the habitats underneath, comprising of the Westfield Pill river, intertidal mudflats and sandbanks and wooded riverbanks. Its location is identified in Figure 1-1.

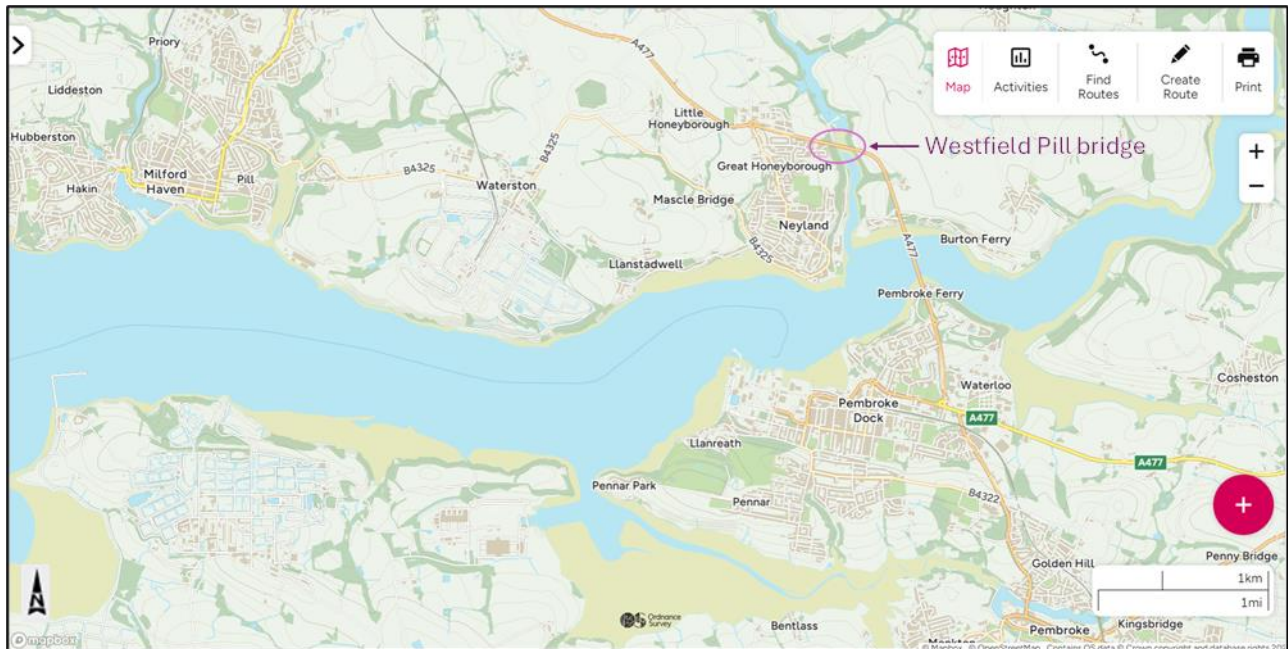


Figure 1-1 - Westfield Pill Bridge location in relation to Milford Haven and surrounding area

Following a Principal Inspection in 2022, several defects were identified that would adversely affect the durability of the structure in the long term. As a Highway Authority, Pembrokeshire County Council (PCC) has a statutory duty to maintain the highway and has engaged AtkinsRéalis to undertake the required maintenance and repairs during 2025.

Since the bridge crosses the Cleddau Ddu where it is still tidal, the works require a Marine Licence from Natural Resources Wales. The Marine Licencing process involves engagement with key stakeholders to determine whether the proposed works will cause any impacts to relevant interests in the area. This Technical Note summarises the intended works and provides information for relevant stakeholder organisations¹ to review, in the expectation that there will be no adverse impacts on their areas of interest or jurisdiction, or on activities taking place below the bridge.

PCC anticipates that this information and engagement will enable the stakeholders to support the County Council in its application for the Marine Licence or overcome any issues they may have with the proposed scheme.

¹ The Port of Milford Haven, the Maritime & Coastguard Agency, Trinity House and the Neyland Yacht Haven.

TECHNICAL NOTE

1.2 Purpose of the document

This document is a Water Framework Directive (WFD) compliance assessment for the maintenance and repair works (the 'Scheme') mentioned in Section 1.1. and described in Section 3. Further details on the Directive, and its implementation into UK legislation, can be found in Section 2 below.

A compliance assessment is a statutory requirement for all new developments and schemes that have potential to affect the water environment. The assessment must demonstrate that the Scheme will not cause deterioration to (or prevent achievement of Good status in) the water bodies it affects.

This WFD assessment has been written to support a Band 2 Marine Licence Application to Natural Resources Wales for works to repair the A477 Westfield Pill bridge in Pembrokeshire, Wales.

2. Water Framework Directive background

2.1 Legislative Background

The Water Framework Directive 2000/60/EC is a European Directive, fully transposed into UK law following Brexit. Its purpose is to establish a framework for the protection and improvement of inland surface water bodies, estuaries, coastal waters and groundwater. The framework for delivering the WFD is through River Basin Management Planning, which requires surface water bodies to achieve both Good Chemical Status (GCS) and Good Ecological Status (GES), and for groundwater bodies to achieve both Good Chemical Status (GCS) and Good Quantitative Status (GQS).

River Basin Management Plans (RBMPs) outline the actions required to enable natural water bodies to achieve this.

Artificial and Heavily Modified Water Bodies (AWB and HMWB) are surface water bodies that may be prevented from reaching GES due to the modifications necessary to maintain their function for essential human uses, such as flood defence, navigation or drinking water supply. They are, however, required to achieve Good Ecological Potential (GEP), through the implementation of a series of mitigation measures outlined in the RBMP. Although the UK is no longer part of the EU, the aims and requirements of the WFD are part of UK legislation and a WFD assessment is a requirement for this Scheme.

The background to the WFD, required assessments and a summary of key WFD Objectives are set out in Figure 2-1.

New activities and Schemes that affect the water environment may adversely impact biological, hydromorphological, physicochemical and/or chemical quality elements (WFD quality elements), leading to a 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 and Schemes must not cause deterioration in water body status or prevent a water body from meeting GES/GEP by invalidating improvement measures.

In addition to protecting and improving water bodies, the WFD also requires that a register of 'Protected Areas' is developed, which are "all areas lying within each river basin district which have been designated as requiring special protection under specific Community legislation for the protection of their surface water and groundwater or for the conservation of habitats and species directly depending on water". In the UK, these Protected Areas are:

- Areas with water-dependent habitats that are protected under the Conservation of Habitats and Species Regulations 2017, and (by Government policy) under the Ramsar Convention
- Drinking Water Protected Areas
- Shellfish Waters
- Bathing Waters
- Nutrient Sensitive Areas.

The potential impacts of new activities and Schemes on these WFD Protected Areas must also be considered in order to ensure compliance with the overall requirements of the WFD.

WFD Objectives

The WFD is a European Directive which sets out a strategic planning process for the purposes of managing, protecting and improving the water environment. 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.

Natural Resources Wales are responsible for implementing the WFD in Wales, with the Environment Agency having joint responsibility for cross-border areas. They monitor, advise and manage many aspects of the water environment through regulating discharges, abstractions and processing environmental permits and licences. Natural Resources Wales and the Environment Agency are committed to implement environmental improvements by reducing the physical impacts of flood risk management activities within artificial or heavily modified water bodies.

WFD Classification

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

- '*biological elements*' such as fish, invertebrates, Phytobenthos (which includes plants, macro-algae, 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 RBMP and provides a baseline condition against which compliance and future improvements can be measured.

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 a 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 GEP through planned RBMP mitigation measures.

Objective 1 and Objective 2 must be met to avoid infringement 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.

Figure 2-1 – Summary of Water Framework Directive

2.2 Approach to the WFD Assessment

2.2.1 NRW guidance and templates

Natural Resources Wales (NRW) is the lead authority for the implementation of the WFD in Wales².

NRW has developed guidance to support the carrying out of WFD assessments to consider the potential effects of proposals on the water environment. This includes all rivers, lakes, estuaries, coastal waters and groundwaters.

Early consideration of potential risks and associated impacts enables them to be 'designed out' of the process. If a proposal has the potential to cause deterioration to a water body or protected area, or prevent them meeting their objectives, the activity can only be allowed to proceed if it meets the requirements of Regulation 17 of the [WFD Regulations 2017](#). An assessment exercise to demonstrate compliance with the Reg. 17 requirements can have up to three stages:

- **Stage 1: Screening** This stage identifies the receptors that could be impacted by a proposal. Any activities that do not need further assessment can be screened out at this stage. Any activities with the potential for impact to the water environment will be screened in for further assessment.
- **Stage 2: Scoping** The receptors that are potentially at risk from a proposal will be identified and carried forward for further detailed assessment in stage 3. If no receptors have been identified as being at risk, the WFD assessment is complete.
- **Stage 3: Detailed assessment** The potential impacts of the activity on the receptors identified in Stage 2 are considered and ways to avoid, minimise or mitigate them are identified. A conclusion is drawn on whether the activity may prevent the water body and any protected areas from achieving their objectives or may cause deterioration in water body status.

This WFD assessment has broadly followed the principles outlined in the NRW WFD Guidance Note 78³.

2.2.2 Data Sources

The Scheme to repair the Westfield Pill bridge has been developed and is supported by a number of technical documents, assessments of the proposals and other information. Where relevant, these have been used to inform this WFD assessment. Online sources of information have also been used.

The key data sources that have informed this assessment are:

- Westfield Pill Deck Refurbishment Habitats Regulations Assessment (AtkinsRéalis, 2024) PE17_001-ATK-EGN-SWMWRCES-RP-LE-000001
- Document PE17_001-ATK-SBR-SWMWRCES-PT-CB-000001 | P01 | 11/09/24: Westfield Bridge Repairs Technical Note – CG300 Structures Technical Approval Proforma
- A477 Technical Note to support Band 1 Marine Licence Application (AtkinsRéalis, October 2024)
- National Biodiversity Network (NBN) Atlas Wales.
https://wales.nbnatlas.org/?gad_source=1&gclid=EAlaQobChMIppS-zMLdhQMVP5ZQBh2R8QynEAAAYASABEgKDuPD_BwE
- Current WFD status classification data and Water Body Objectives (Cycle 3 – 2021) from Water Watch Wales at <https://waterwatchwales-nrw.hub.arcgis.com/>
- Western Wales River Basin Management Plan 2015-2021 Summary (Natural Resources Wales, 2015).

² [Natural Resources Wales / Improving water quality](#)

³ NRW Guidance Note GN078: Complying with the WFD Regulations 2017: Screening (26/6/24) – available on request from WFDWales@cyfoethnaturiolcymru.gov.uk

3. Proposed Works and Programme

3.1 Proposed Scheme

The refurbishment works involve:

- the replacement of the eastbound and westbound bridge parapets
- the replacement of the expansion joints
- the resurfacing of the bridge deck carriageway.

The works are proposed to start in July 2025 and last for approximately three months. Works will be undertaken during daylight hours. All works will be undertaken from the bridge deck, without the need for any works in the water or the clearance of any nearby vegetation under the bridge.

3.2 Construction methods

3.2.1 Site Access

Access to and from the site will be via the A477 carriageway. The site compound, also to be used as a storage and laydown area, will be situated approximately 500m beyond the western edge of the Westfield Pill bridge, as illustrated in Figure 3-1.

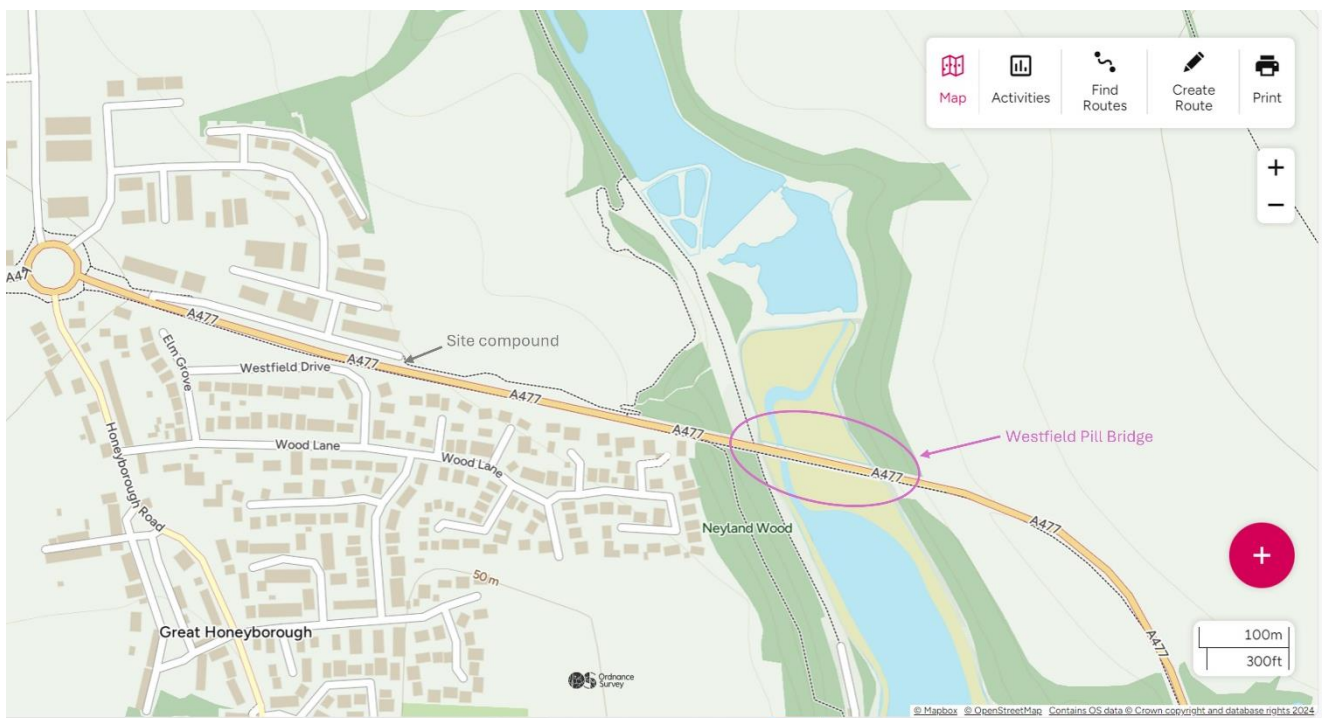


Figure 3-2 - Location of site compound in relation to bridge works

3.2.2 Method Statements

Pembrokeshire County Council has not yet appointed the contractors for the works, so we are unable to provide their Method Statements, although they will be made available to NRW in due course. However, the proposed activities are like-for-like replacement works that are highly unlikely to deviate from the standard methods of work used on similar bridge schemes elsewhere.

The outline Description of Works for the expansion joint and bridge parapet replacement elements are contained in Document PE17_001-ATK-SBR-SWMWRCEs-PT-CB-000001 | P01 | 11/09/24: Westfield Pill Bridge Repairs Technical Note – CG300 Structures Technical Approval Proforma. This Technical Note, provided as a supporting document for the Marine Licence application, was prepared for the Invitation To Tender process for potential contractors.

In the absence of appointed contractors, we have reviewed examples of Method Statements provided by other contractors in order to consider how the works will be done. The details have informed the application for a Marine Licence from NRW and have also been used to draft this WFD Assessment. We anticipate that this information should be sufficient to allow NRW to issue a Marine Licence but, should a contractor propose works that go beyond the parameters noted here, PCC will liaise with NRW over the need for a variation.

See Appendix B for further information on the reviewed Method Statement documents, which are supplied as stand-alone reports in support of this WFD assessment.

Parapet replacement

We have reviewed a Method Statement prepared by Saferoad UK Ltd. for the refurbishment of a bridge parapet on the A4119 near Ynysmaerdy, South Wales, which covers a range of hazards and precautions, ranging from hot works and working at height to waste disposal requirements, as part of the activities to be undertaken:

- install edge protection
- remove existing steel parapet
- install resin bonded anchorages
- test newly cast anchors
- installation of SN2W2 parapet
- grout posts/repair anchorages.

It is envisaged that parapet replacement works will be confined to the parapet edge beam and will not interfere with the bridge deck. It is also anticipated that the existing parapet anchors can be removed without breaking out any concrete, so no excavations are planned. The excerpt from design drawings below, Figure 3-2, shows an enlarged view of the holding down bolt and the works related to the replacement of the anchorages.

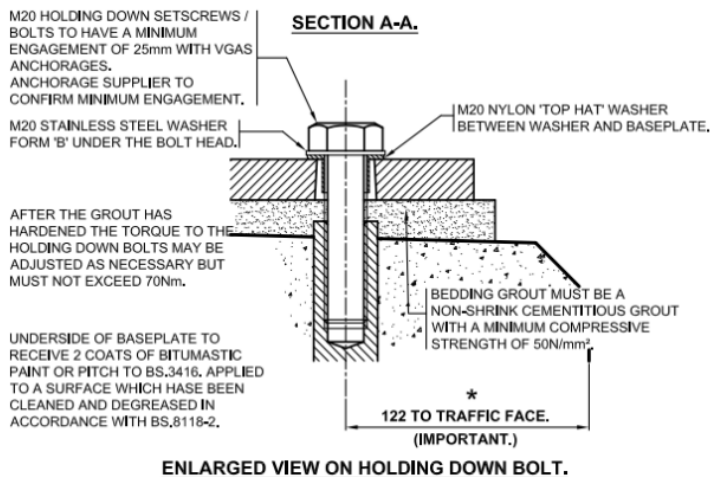


Figure 3-2 Illustration showing aspects of grouting and replacement of anchorages.

Expansion joint replacement

Information was provided from the Safety Method Statement produced by BridgeCare for their works to replace the Transflex Expansion Joint on the Britannia Bridge, North Wales, in 2023/4, which included:

- Localised cutting out of road surface, using motorised floor saw with water-fed dust suppression/wet vacuum, during removal of existing expansion joints.
- Use of polymers and mortars during installation of new expansion joints, including installation of sink outlet through membrane underneath.

Resurfacing of carriageway

A Method Statement supplied by G.D. Harries & Sons Ltd (GDH – MS01: PCC – Carriageway Planing and Surfacing Operations) provides an idea of what may be expected for the carriageway resurfacing works. These are likely to include:

- Planing of the deck surface to remove existing tarmac
- Delivery of hot bituminous materials to the required location in clean, insulated vehicles and will remain covered while in transit and/or awaiting tipping.
- Bituminous pavement courses laid using the materials outlined in contract specification.

Environmental procedures:

We have reviewed the publication Guidance for Pollution Prevention 5 (GPP 5), jointly produced by NRW, SEPA and DAERA⁴, and have considered its advice for best practices relating to Works or Maintenance activities in or near water, along with the working practices set out in the generic Method Statements provided for bridgeworks.

Mobile plant refuelling will be carried out in accordance with the approved procedures and done away from watercourses and drainage routes from the bridge. If there is a risk that any spilled substances may enter a watercourse, the Main Contractor will be informed prior to commencing work. The Site Supervisor and Main Contractor's Management and Environmental Team will be notified immediately of any spills.

Plant leakage is to be cleaned up immediately using spill kits, which will be maintained in all site vehicles. Absorbent mats will be placed under generators to ensure any leaks of liquid are contained. All used spill kits will be disposed of in spill kit bins in the Main Contractor's compound, in line with COSHH requirements.

Dust extraction attachment for the core driller is to be utilised during drilling operations in order to minimise the risk of water pollution caused by concrete dust and small pieces of concrete debris. Dust suppression for all construction works is to be implemented through the application of water during periods of dry weather. The quantity of water applied is to be carefully managed to prevent excess water from entering a watercourse. Temporary dust barriers will be utilised, if required, during carriageway planning works to provide increased dust and construction debris containment.

All waste materials are to be disposed of using the correct skips in line with the relevant Control of Substances Hazardous to Health (COSHH) assessment and the site rules. No waste materials are to be allowed to enter water courses.

A dam will be installed on the bridge, behind the drilling position, and extra care will be taken when grouting. Any leaks will be highlighted, and instant corrective action will be taken to stop any grout from reaching the watercourse below.

⁴ <https://www.netregs.org.uk/media/1418/gpp-5-works-and-maintenance-in-or-near-water.pdf>

3.2.3 Outline construction programme

The works are intended to begin in July 2025 and will last for approximately 3 months. A Marine Licence is requested to run from 1 June 2025 to 31 May 2026 to accommodate the works. All construction activities will be limited to daylight hours.

3.2.4 Interface with other users and interests

The proposed Scheme constitutes maintenance work for the Westfield Pill bridge. As such, it does not require a Marine Works Licence from the Port of Milford Haven.

The works are also taking place away from any area where navigation marks or buoys for commercial traffic may be present. We believe that there will be no adverse effects on the activities undertaken by the Port of Milford Haven or the navigational areas of interest of the Maritime & Coastguard Agency or Trinity House. The air draft below the bridge will not be affected by any of the works.

Pembrokeshire County Council has consulted with these stakeholder organisations, as well as the Neyland Yacht Haven, and all are content with the proposals. The correspondence is available in Appendix C as supporting information for this WFD Assessment and the Band 2 Marine Licence application.

3.3 Operation and decommissioning

The maintenance works will enable the continued safe use of the bridge and no further works of this scale are expected for the foreseeable future. No decommissioning is required or is proposed as part of the Scheme; therefore, decommissioning effects have not been considered as part of this assessment.

4. Screening

4.1 Screening of WFD water bodies

An exercise was completed, using the NRW template for Stage 1 screening assessment for compliance with the WFD Regulations 2017, to identify water bodies relevant to the Westfield Pill bridge Scheme.

A study boundary, also known as zone of influence, was set for the screening. This was the surface water catchment within which the Scheme area falls, plus (for surface waters) one water body upstream and downstream of the Scheme. The zone of influence was restricted to one water body upstream and downstream as, given the nature of the bridge repair works, it was unexpected that there would be any influence beyond this.

4.1.1 River and transitional water bodies

In the Western Wales River Basin District, the following surface water bodies are within the zone of influence:

- Milford Haven Inner; transitional (GB531006114100)
- Westfield Pill – head waters to tidal limit; river (GB110061031260)
- Milford Haven Outer, coastal (GB641008220000)

The scheme is located approx. 30m above the Cleddau Dhu inlet, part of the Milford Haven Inner transitional water body. In Cycle 3 (2021), its Overall Water Body status and Ecological status were Moderate.

The upstream water body is the Westfield Pill river, from head waters to the tidal limit, which was also considered to have an Overall Water Body Status of Moderate and an Ecological status of Moderate. The downstream water body is Milford Haven Outer, a coastal water body with Moderate Overall Water Body status and Moderate Ecological status, approximately 2km to the west.

Due to the localised nature of the bridge works, we do not believe they will have any impact on the WFD classifications of either the upstream or downstream water bodies. As a result, Westfield Pill (head waters to tidal limit) and Milford Haven Outer have been **screened out** of further assessment.

A summary of the screened surface water bodies WFD classification is provided in Table 4-1 below using data provided at <https://waterwatchwales.naturalresourceswales.gov.uk>. The location of the Scheme in relation to screened surface water bodies is shown in Figure 4-1.

Table 4-1 Summary of WFD Classification for Surface Water Bodies

Name	Type	Hydro-morphological designation	Water body ID	Ecological status	Chemical status	Overall Status Cycle 3
Milford Haven Inner	Transitional	Natural	GB531006114100	Moderate	Moderate	Moderate
Westfield Pill – head waters to tidal limit	River	Natural	GB110061031260	Moderate	High	Moderate
Milford Haven Outer	Coastal	Natural	GB641008220000	Moderate	Moderate	Moderate

4.1.2 Lake water bodies

There are no lake water bodies within the zone of influence for this scheme. **Therefore, lake water bodies have been screened out of further assessment.**

4.1.3 Groundwater bodies

The Cleddau and Pembrokeshire groundwater body (GB41002G200400) is bisected by the Cleddau Dhu inlet. The overall waterbody status of the groundwater body has been assessed as 'Poor', driven by a 'Poor' chemical status.

The proposed works are not anticipated to interact with the groundwater body. Based on this, the Cleddau and Pembrokeshire groundwater body has been **screened out of further assessment.**

4.1.4 Canal water bodies

There are no canal water bodies in the vicinity of the works or hydrologically connected to the Westfield Pill river or Milford Haven Inner water body. Therefore, impacts to WFD **canal water bodies are screened out of further assessment.**

4.1.5 Screening assessment summary

The following WFD water body was **screened in** for further assessment:

- Milford Haven Inner (GB531006114100), a transitional water body.

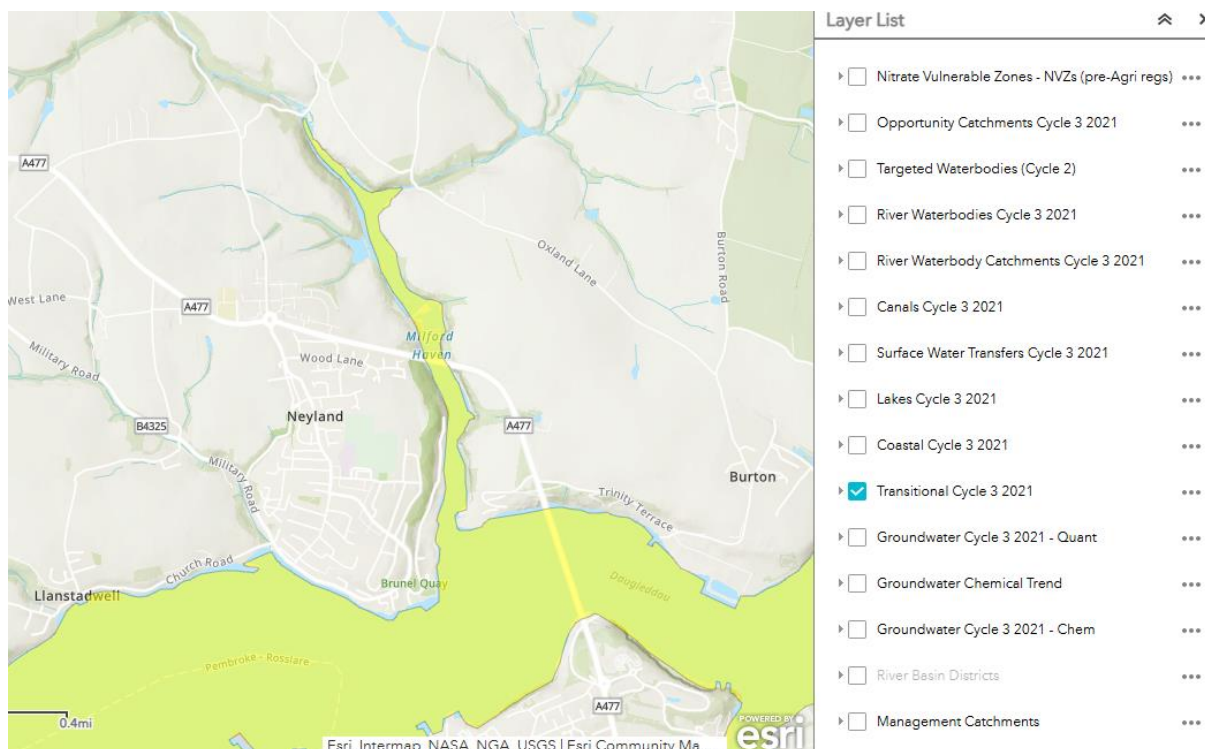


Figure 4-2 – WFD transitional water body (Milford Haven Inner) showing A477 and Westfield Pill bridge

4.2 Screening of Relevant Scheme Activities

For the one water body screened in for further assessment, activities that could impact on the status of the water body were identified for construction and operational stages. The activities that should be screened in for further assessment are detailed in Tables 4-2 to 4-4.

Table 4-2 Screening of Scheme Activities: Operation Stage

Scheme element	Activity	Screening rationale
Site establishment and demobilisation	Creation and demobilisation of temporary compound	Screened out – A temporary compound will be located on a hard surface in a residential area at the western end of the bridge, further along the A477, and away from the Cleddau Dhu river. There will be no direct pathways for the site compound activities to affect the surface water bodies. No deterioration or impacts to water bodies are expected from the site compound. Best practice guidelines will be followed by the appointed Contractor for the storage and use of all fuels and chemicals, including for use in welfare facilities.

Table 4-3 Screening of Scheme Activities: Construction Stage

Scheme element	Activity	Screening rationale
Replacement of eastbound and westbound bridge parapets	Installation of edge protection Removal of steel parapet Installation of resin-bonded anchorages Testing of newly cast anchors Installation of SN2W2 parapet Grouting of posts and repair of anchorages post-installation.	Screened in – activities may result in an increase in dust and the accidental spillage of fuel, or other chemicals, which may enter the watercourse 30m below the bridge deck, affecting the surface water quality.
Replacement of expansion joints	Localised cutting out of road surface during removal of existing expansion joints. Use of polymers and mortars during installation of new expansion joints, including installation of sink outlet through membrane underneath.	Screened in – activities may result in an increase in concrete/road surface dust and the accidental spillage of polymers, which may enter the watercourse 30m below the bridge deck, affecting the surface water quality.
Removal of existing bridge carriageway surface prior to resurfacing following completion of all other works	Planing of the deck surface to remove old tarmac Hot bituminous materials shall be delivered to the required location in clean, insulated vehicles and remain covered while in transit and/or awaiting tipping. Bituminous pavement courses laid using the materials outlined in contract specification.	Screened in – activities may result in an increase in dust from old road surface and the accidental spillage of hot bituminous materials, which may enter the watercourse 30m below the bridge deck, affecting the surface water quality.

Table 4-4 Screening of Scheme Activities: Decommissioning Stage

Scheme element	Activity	Screening rationale
None	Decommissioning works	Screened out – The scheme involves maintenance works for the ongoing use of the A477 bridge, not decommissioning activity.

5. WFD scoping assessment

5.1 Waterbody baseline data

5.1.1 Milford Haven Inner baseline

A summary of the WFD status baseline classification for the Milford Haven Inner water body is provided in Table 5-1 below. Based on the 2021 Cycle 3 data, the Overall WFD status for the Milford Haven Inner area is 'Moderate', with ecological status also classified as 'Moderate'. The mitigation assessment has been determined as the elements driving the ecological status.

Table 5-1- WFD Status (Cycle 3) – Baseline classification for the Milford Haven Inner waterbody

Name	Water body type	Hydro-morphological designation	Water body ID	Ecological status	Chemical status	Overall Status Cycle 3
Milford Haven Inner	Transitional	Natural	GB531006114100	Moderate	Moderate	Moderate

Biological quality elements:	Physico-chemical quality elements:	Hydromorphological supporting elements:
Fish: Good	Dissolved oxygen: High	Hydrological regime: Not High
Invertebrates: Good	Dissolved Inorganic: Moderate	Morphology: Not High
Macroalgae: High	pH: Not assessed	Heavily Modified Water Body: Natural
Phytoplankton: High	Temperature: Not assessed	Artificial Water Body: No
Angiosperm: Good		
Salt Marsh: High		
Sea Grass: Good		
Macroalgae: Moderate		
	All metals assessed: High	

5.1.2 Protected Areas and Sensitive Habitats

The WFD Protected Areas and Sensitive Habitats within 2km of the site are illustrated in Figures 5-1 and 5-2. The Pembrokeshire Marine SAC is located 150m to the north and 875m south of the bridge (Figure 5-1). It is possible that there will be some potential impacts on the natural features for which site has been designated, particularly the intertidal mudflats and sandbanks and supporting habitat for otter on the riverbanks.

The Pembrokeshire Bat Sites and Bosherton Lakes SAC is 8km east of the site and hosts Little horseshoe bats, which may be affected by noise, vibration and possible light disturbance as they are known to roost in the bridge's eastern abutment but has no hydrological link to the Milford Haven Inner waterbody, so has been screened out of any further consideration for this WFD assessment.

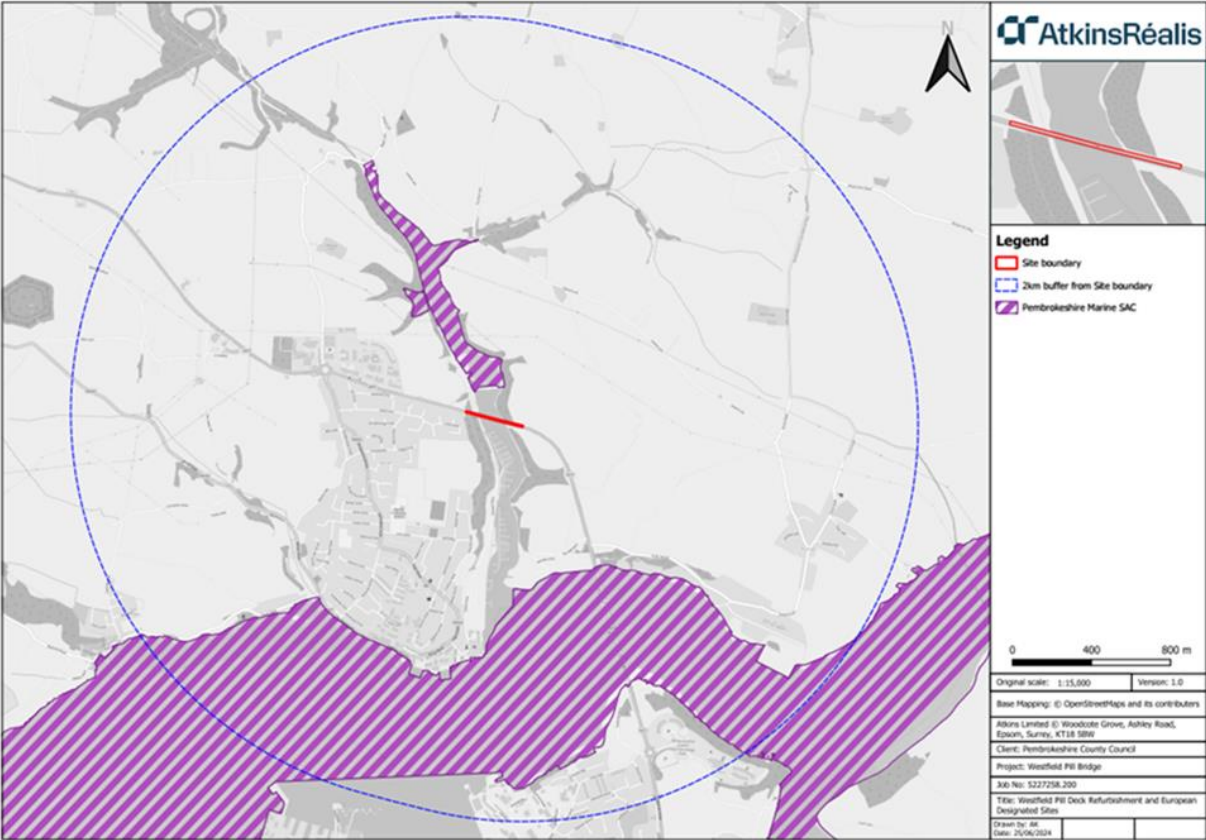


Figure 5-1 Position of Westfield Pill Bridge in relation to Pembrokeshire Marine Special Area of Conservation (SAC) with 2km buffer illustrated⁵

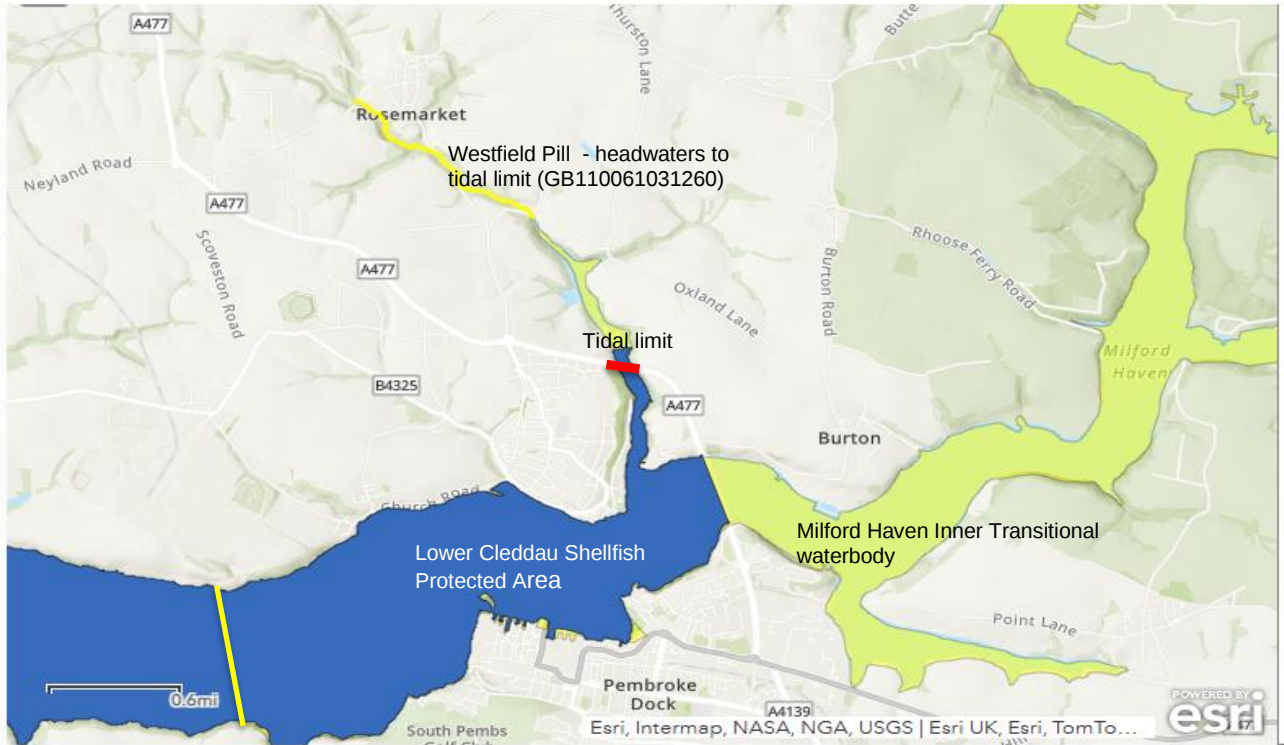


Figure 5-2 Position of Westfield Pill Bridge (red line) in relation to nearby water bodies

⁵ Graphic taken from the Westfield Pill Deck Refurbishment Habitats Regulations Assessment.

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Table 5-2 summarises the WFD information provided by the Cycle 3 web mapping service on the Water Watch Wales online data portal⁶.

Table 5-2 Summary of WFD Protected Areas and Sensitive Habitats

WFD Protected Areas	Location in relation to the Scheme
Special Area of Conservation (SAC)	Pembrokeshire Marine Special Area of Conservation is located 150m north and 875m south of the bridge.
Special Protection Area (SPA)	There are no SPAs within 2km of the scheme
Drinking Water Protected Area	The site is within Cleddau and Pembrokeshire Coastal Rivers groundwater drinking water protected area.
Bathing Waters	There are no designated bathing waters within 2km of the scheme
Shellfish Waters Protected Area	The bridge runs across the northernmost part of the Lower Cleddau Shellfish Waters Protected area, which stops at the tidal limit.
Nitrate Vulnerable Zones	There are no Nitrate Vulnerable Zones within 2km of the scheme.
WFD Sensitive Habitats	Location in relation to the Scheme
Intertidal soft sediments – sand, mud and mixed (Lower Sensitivity)	Present along the side of the Cleddau Dhu, river under the A477 bridge and adjacent to the Neyland Yacht Haven.
SAC Protected Species	Location in relation to the Scheme
Sea lamprey & River lamprey Allis shad & Twaite shad	All are mobile species known to breed up freshwater rivers in gravel but spend their lives at sea in saltwater habitats. There are known populations of sea and river lamprey within the Cleddau rivers, but few records of Allis or Twaite shad within the Pembrokeshire Marine SAC.
Otter	The riverbanks adjacent to the Cleddau Dhu are heavily wooded and suitable for supporting otter holts or resting sites.

5.1.3 Scoping of scheme activities

The Scheme is restricted to the bridge deck, which is located over 30m above the Milford Haven waterway. A Scoping exercise has been undertaken, following the NRW Stage 2 scoping assessment for compliance with the WFD Regulations 2017, to identify the potential risks of each activity that was screened in for further assessment. Scoping assesses the potential impacts of the proposed activities on groundwater bodies, protected areas and sensitive habitats and species, using the following approach:

- Sources – if the proposed activities can cause impact to the water environment
- Pathways – how activities can cause impact on the water environment
- Receptors – elements of the water environment impacted by the proposed activities.

At the scoping stage, there is a need to identify all potential risks to each receptor, i.e.:

- Hydromorphology (i.e. hydrology and morphology): modification of flow as a result of activities (e.g., velocity, variability, abstraction or discharge)
- Water quality – e.g. addition of contaminants, removal/addition of sediment, oxygen levels
- Biology – e.g. fish, invertebrates and intertidal sandbanks and mudflats.

⁶ [Water Watch Wales https://waterwatchwales-nrw.hub.arcgis.com/](https://waterwatchwales-nrw.hub.arcgis.com/)

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Table 5-3 presents the summary results of the identified risks and receptors for the A477 bridge repair works.

Table 5-3 Summary of Scoping results for A477 bridge repair works

Receptor	Potential risk to receptor	Note of risk for impact assessment
Hydromorphology	No	Construction: Minor excavations will be required to the bridge deck to break out the existing expansion joints, but these will be confined to the bridge area. There will be no changes to drainage as a result of the works. With no physical interface between the works and the river, no impacts to hydromorphology are expected. Operation: No impacts to hydromorphology are expected.
Biology: fish	Yes	Construction: No impacts likely as the works are localised to the bridge area, with no 'in-channel' works causing barriers for fish movement. However, accidents during the construction works, e.g. unintended release of hot bituminous materials or pollution from machinery, could adversely impact species that rely on the water and associated habitats immediately below the bridge and downstream, e.g. sea and river lamprey. Operation: No impacts to fish species are expected.
Biology: habitat	No	Construction: Minor excavations will be required to the bridge deck to remove the existing expansion joints and replace them. Although accidents could happen, e.g. debris falling from the deck, measures will be in place to prevent this and all wastes will be removed from site for safe disposal. No adverse impacts on the intertidal sandbanks and mudflats under the bridge area are envisaged. Operation: No impacts are expected to the habitats in the area around or under the bridge.
Water quality	Yes	Construction: The expansion joints will be replaced on a like-for-like basis, so there will be no changes to drainage from the bridge as a result of the works. Accidents during the construction works, e.g. debris falling in the water despite measures in place to prevent this, unintended release of hot bituminous materials or pollution from machinery, could adversely affect the water quality immediately below the bridge. Operation: No impacts to water quality are expected.
Protected areas	No	Construction: Minor excavations will be required to the bridge deck to break out the existing expansion joints, but these will be confined to the bridge area. No excavations within the Marine SAC or other protected areas are required and no impacts to those areas are expected, although there is the potential for adverse impact on fish species (a feature of the SAC) from the accidents outlined above. While incidents are possible, the Method Statements for such works should prevent them taking place, minimising any risk to the protected area as a receptor. Operation: No impacts to protected areas are expected.

5.1.4 Mitigation measures

The scoping exercise acknowledges that there are potential impacts to the Milford Haven Inner water body from the proposed maintenance and repair activities on the A477 bridge, resulting in a possible impact on biology (fish) and water quality.

However, with mitigation in the form of measures intended to remove the risk of any adverse impacts on the water body, or deterioration that leads to failing to achieve its objectives, we believe that all these potential impacts can be avoided. Proposed mitigation measures are set out in Table 5-4.

Table 5-4 Proposed mitigation measures for bridge works

Primary project aspect	Summary of activities involved	Mitigation measures
Parapet replacement	• install edge protection • remove existing steel parapet • install resin bonded anchorages • test newly cast anchors • installation of SN2W2 parapet • grout posts/repair anchorages	• Edge protection shall be installed before the removal of the redundant parapet, with the working area to be kept clear of parts, fixings and debris to avoid anything falling from the bridge deck area. • Material will be removed within a highly controlled environment and taken to a licensed disposal facility, with minimal risk of any debris escaping to the surrounding environment or over the side into the river or habitats below. • Any hot works, e.g. cutting or grinding, to be carried out with a Hot Works Permit in place and all necessary PPE used. • Mobile plant refuelling to be done away from watercourses and drainage routes but absorbent Nappy Matts will be placed under generators to ensure leaks of any liquids are contained. • Works associated with grouting, although taking place c. 30m above the Cleddau Dhu inlet, should be undertaken during dry weather conditions to prevent any risk of washout adversely impacting the physico-chemical status of the waterbody. • See further technical information on grouting and the nature of the anchors likely to be used in Appendix B (SSR-120 Technical Data Sheet) of the supporting document Technical Note: CG300 Structures Technical Approval Proforma (Document: PE17_001-ATK-SBR-SWMWRCEs-PT-CB-000001), which provides details of the construction plans for the expansion joint replacement and parapet replacement.

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Bridge deck refurbishment – expansion joint replacement	• erect exclusion zone on bridge deck with burning screen to isolate joint installation area • mark out and saw cut road surfacing using motorised floor saw with water-fed dust suppression/wet vacuum • remove existing joint material and holding-down bolts using mechanical means and in accordance with a Lifting Plan developed for the project; remove from site for disposal • install replacement holding-down bolts install secondary membrane including drainage • install new bridge joint modules; position and align, ready for securing by fixed bolts • seal fixing sockets using bolt hole sealant, before curing	• Use motorised floor saw with water-fed dust suppression/wet vacuum • Works to remove the existing infrastructure will be undertaken using an appropriate excavator, with the works confined to the bridge deck. As such, the material will be removed within a highly controlled environment and taken to a licensed disposal facility, with minimal risk of any debris escaping to the surrounding environment or over the side into the river or habitats below. • Bolt hole sealant will be used in accordance with product specification and data sheet to prevent any dripping or accidental discharge over the side.
Bridge deck refurbishment – resurfacing of carriageway	• planing works undertaken, including identification and marking out of any iron works and all arisings to be put into suitable vehicles for removal offsite • iron works to be raised/lowered when appropriate during planing activities, • new surface to be spread, levelled and tramped by a self-propelled paving machine; hand laying or raking to adjust the level of the new surface shall only be permitted around gullies/manholes where the paver cannot operate.	• Hot bituminous materials to be delivered to the required location in clean, insulated vehicles and covered during transit and whilst awaiting tipping onto the bridge deck • Activities on the bridge deck restricted to particular areas by cordons, as appropriate • Vehicles to be controlled by a nominated banksman at all times

5.2 WFD impact assessment

The likely construction and operational effects of the Scheme on Milford Haven Inner transitional water body (GB531006114100) are summarised in Table 5-5. Within this assessment, impacts are categorised as:

- **Minor** - significance of impact which is insufficient to cause a change to the elements status at the water body scale
- **Localised** - limited to the direct vicinity of the proposed works.
- **Temporary** – short lived and reversible

Table 5-5 WFD impact assessment of construction and operational effects on the Milford Haven Inner waterbody

WFD Quality Element	Primary project aspect	Construction	Operation	Overall conclusion
Hydromorphology	Parapet replacement	It is envisaged that the existing parapet anchors can be removed without breaking out any concrete. Parapet replacement works will be confined to the parapet edge beam and will not interfere with the bridge deck. With no physical interface between the works and the river, no impacts to hydrology or morphology are expected.	The bridge maintenance will allow continuation of the use of the carriageway and no impacts to hydrology or morphology are expected.	Any impacts on hydromorphology from construction works are expected to be temporary, minor and localised . During operation there will be no impact on hydromorphological elements.
	Bridge deck refurbishment – expansion joint replacement	Minor excavations will be required to the bridge deck to break out the existing expansion joints, but these will be confined to the bridge area. With no physical interface between the works and the river, no impacts to hydrology or morphology are expected.	The bridge maintenance will allow continuation of the use of the carriageway and no impacts to hydrology or morphology are expected.	There is expected to be no impact on flows or sediment dynamics.
	Bridge deck refurbishment – resurfacing of carriageway	Planing works will be undertaken to remove the existing surface and a new surface spread, levelled and tramped in place by a self-propelled paving machine. With no physical interface between the works and the river, no impacts to hydrology or morphology are expected.	The bridge maintenance will allow continuation of the use of the carriageway and no impacts to hydrology or morphology are expected.	
Biology: fish	Parapet replacement	No impacts likely as the works are localised to the bridge area and parapet edge beam, with no 'in-channel' works causing barriers for fish movement. However, accidents during the construction works, e.g. unintended release of hot bituminous materials or pollution from machinery, could adversely impact species that rely on the water and associated habitats below the bridge and downstream, e.g. sea and river lamprey.	No impacts to fish species are expected.	The Scheme is likely to have a negligible impact on fish within the Cleddau Dhu river. Any impacts on fish from construction works are expected to be temporary, minor and localised . During operation, there will be negligible impacts on the biological quality elements,

	Bridge deck refurbishment – expansion joint replacement	Minor excavations will be required to the bridge deck to break out the existing expansion joints, but these will be confined to the bridge area. With no physical interface between the works and the river, no impacts to fish species are expected.	No impacts to fish species are expected.	relative to the existing conditions.
	Bridge deck refurbishment – resurfacing of carriageway	Planing works will be undertaken to remove the existing surface and a new surface spread, levelled and tramped in place by a self-propelled paving machine. With no physical interface between the works and the river, no impacts to fish species are expected.	No impacts to fish species are expected.	
Biology: habitat	Parapet replacement	No impacts on the habitat under the bridge is likely as the works are localised to the bridge area. However, accidents during the construction works, e.g. unintended release of debris from the removal of expansion joints or old road surface, the release of hot bituminous materials or pollution from machinery, could cause adversely impact if they fall from the bridge area into the river below.	No impacts to the intertidal mudflats and sandbanks are expected.	The Scheme is likely to have a negligible impact on the habitats of the nearby SAC because the bridge passes over a gap in the Pembrokeshire Marine SAC area. Any impacts on intertidal mudflats or sandbanks from construction works are expected to be temporary, minor and localised . During operation, there will be negligible impacts on the biological quality elements, relative to the existing conditions.
	Bridge deck refurbishment – expansion joint replacement	Minor excavations will be required to the bridge deck to break out the existing expansion joints but will be confined to the bridge area and undertaken according to established Method Statements and practice. With no physical interface between the works and the river, no impacts are expected to the subtidal mudflats and sandbanks in the SAC.	No impacts to habitats are expected.	
	Bridge deck refurbishment – resurfacing of carriageway	Planing works will be undertaken to remove the existing surface and a new surface spread, levelled and tramped in place by a self-propelled paving machine.	No impacts to fish species are expected.	

		With no physical interface between the works and the river, no impacts to fish species are expected.		
Water quality	Parapet replacement	The parapet will be replaced on a like-for-like basis, so there will be no changes to drainage from the bridge as a result of the works. No impact to water quality is expected. Accidents during the construction works, e.g. debris falling in the water or pollution from machinery, could adversely affect the water quality below the bridge.	No impacts to water quality are expected.	The potential impacts as a result of construction are, at worst, likely to have a minor, localised and temporary impact on physico-chemical elements and will not cause deterioration at the water body scale. Overall, the scheme is considered to have no effect on water quality elements because it will not change the physico-chemical composition of the water body .
	Bridge deck refurbishment – expansion joint replacement	Minor excavations will be required to the bridge deck to break out the existing expansion joints, but these will be confined to the bridge area and mitigation measures (outlined in Table 5-4) will be employed to ensure no debris falls into the river or pollution arises from machinery used. With no physical interface between the works and the river, no impacts to water quality are expected.	No impacts to water quality are expected.	
	Bridge deck refurbishment – resurfacing of carriageway	Planing works will be undertaken to remove the existing surface and a new surface spread, levelled and tramped in place by a self-propelled paving machine. With no physical interface between the works and the river, no impacts to water quality are expected.	No impacts to water quality are expected.	
Protected areas	Parapet replacement	It is envisaged that the existing parapet anchors can be removed without breaking out any concrete. Parapet replacement works will be confined to the parapet edge beam and will not interfere with the bridge deck. With no physical interface between the works and the river, no impacts to hydrology or morphology are expected.	No impacts to protected areas are expected.	The Scheme is likely to have a negligible impact on protected areas. Any impacts from construction works are expected to be temporary, minor and localised . During operation, there will be negligible impacts relative to the

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	Bridge deck refurbishment – expansion joint replacement	Minor excavations will be required to the bridge deck to break out the existing expansion joints, but these will be confined to the bridge area. With no physical interface between the works and the river, no impacts to protected areas are expected.	No impacts to protected areas are expected.	existing conditions.
	Bridge deck refurbishment – resurfacing of carriageway	Planing works will be undertaken to remove the existing surface and a new surface spread, levelled and tramped in place by a self-propelled paving machine. With the works contained within the bridge area, no impacts to surrounding protected areas are expected.	No impacts to protected areas are expected.	
Invasive Non-Native Species (INNS)	All aspects of project works	Given the nature of the bridge replacement works, any danger from Invasive Non-Native Species is expected to be minimal but site operators will be reminded that they are working adjacent to a protected site and will be expected to ensure their equipment has been cleaned if previously used in an area where INNS may be present	No impacts to the protected areas or their habitats or species are expected.	During the periods of construction and operation there will be negligible impacts on the biological quality elements as a result of INNS, relative to the existing conditions.

The Scheme has been assessed as **WFD-compliant** as all impacts are expected to be, at worst, minor, localised and temporary, as outlined above. **The works are not expected to cause any deterioration in quality elements relating to protected areas, habitats or features, or prevent the water body from achieving its objectives.**

6. Conclusion

The Scheme consists of refurbishment works for the A477 Westfield Pill bridge over the Cleddau Dhu tidal inlet in Pembrokeshire, West Wales. The refurbishment works consist of:

- the replacement of the eastbound and westbound bridge parapets
- the replacement of the expansion joints
- the resurfacing of the bridge deck carriageway.

The WFD screening assessment identified one transitional waterbody that had the potential to be directly affected by the Scheme: the Milford Haven Inner transitional waterbody (GB531006114100). No other water bodies were screened into the assessment.

The Scoping assessment also identified construction and operational activities that have the potential to impact on WFD quality elements. These have been considered in relation to their potential for adversely affecting the current status of the waterbody and it has been concluded that any effect will be localised, minor or negligible and temporary.

The Impact assessment has assessed the Scheme against the hydromorphological, biological and physico-chemical elements of the Milford Haven Inner transitional waterbody. It has also considered potential impacts on protected sites in proximity to the A477 bridge.

The Scheme will not result in deterioration to any of the elements for the waterbody assessed.

Appendices

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Appendix A. Scoping of Scheme Activities

A.1 Scheme Information

Table 6-1 Scheme information

Your activity	Description, notes or more information				
Name of activity	Westfield Pill bridge refurbishment works				
Brief description of activity	Bridge maintenance and repair work on the A477 crossing of the Cleddau Ddu waterway, to the north of Milford Haven. Main items are replacement of bridge parapet and expansion joints and resurfacing of the carriageway.				
Location of activity (central point XY coordinates or national grid reference)	Positions of the corners of bridge works:				
	Easting	Longitude	Northing	Latitude	
	196629	-4.94546	206076	51.71644	
	196624	-4.94552	206061	51.71631	
	196914	-4.94129	206002	51.71588	
	196908	-4.94137	205986	51.71574	
Footprint of activity (ha)	~0.4 ha				
Timings of activity (including start and finish dates)	The works will take place from July 2025 for a period of approximately three months				
Extent of activity (for example size, scale frequency, expected volumes of output or discharge)	The activity on the bridge covers the footprint area of ~0.4ha				
Use or release of chemicals (state which ones)	No chemicals are anticipated to be used in construction or released from the site during operation.				

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A.2 Scoping: Milford Haven Inner

Table 6-2 Scoping table for Milford Haven Inner

Water body	Description, notes or more information
WFD water body name	Milford Haven Inner
Water body ID	GB531006114100
River basin district name	Western Wales
Water body type (estuarine or coastal)	Transitional
Water body total area (ha)	5,469 ha
Overall water body status (2021)	Moderate
Ecological status	Moderate
Chemical status	High
Target water body status and deadline	Good by 2027
Hydromorphology status of water body	Not High
Heavily modified water body and for what use	Heavily Modified (use not stated)
Higher sensitivity habitats present	Saltmarsh and seagrass
Lower sensitivity habitats present	Intertidal Soft Sediments – sand, mud and mixed
Phytoplankton status	Not assessed
History of harmful algae	Not assessed
WFD protected areas within 2km	Pembrokeshire Marine Special Area of Conservation Shellfish Water Protected Area

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A.3 Specific risk information

The potential risks of the Scheme on each of the following receptors has been considered: hydromorphology, biology (habitats and fish), water quality, protected areas and invasive non-native species (INNS).

A.3.1 Section 1: Hydromorphology

Table 6-3– Potential risks of the Scheme to Hydromorphology

Consider if your activity:	Yes	No	Hydromorphology risk issue(s)
Could impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status	Requires impact assessment	Impact assessment not required	No – This is a water body classified as a HMWB, with a Moderate WFD status
Could significantly impact the hydromorphology of any water body	Requires impact assessment	Impact assessment not required	No – this is classified as a HMWB, with a Moderate WFD status and, although there is a possibility of an impact on the hydromorphology of the waterbody, the lack of physical interface between the works and the Cleddau Dhu river during construction makes this unlikely. During operation, there is unlikely to be an impact as the bridge is restored to its operational status and there is no interaction with the river.
Is in a water body that is heavily modified for the same use as your activity	Requires impact assessment	Impact assessment not required	Yes - This water body is designated as a HMWB. The works will not impact the heavily modified status.

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A.3.2 Section 2: Biology

A.3.2.1 Habitats

Habitats of sensitivity that have been considered include the following.

Table 6-4 – Habitats of sensitivity

Higher sensitivity habitats	Lower sensitivity habitats
Saltmarsh	Intertidal soft sediments, e.g., sand and mud

Table 6-5- Potential risks of the Scheme to Habitats

Consider if the footprint of your activity is:	Yes	No	Biology habitats risk issue(s)
0.5km ² or larger or	Yes, to one – requires impact assessment	No, to all – impact assessment not required	No – footprint of activity is approx. 0.004km ²
1% or more of the water body's area			No – footprint is ~0.01% of the water body's area
Within 500m of any higher sensitivity habitat			No – no higher sensitivity habitats within 500m of the bridge works
1% or more of any lower sensitivity habitat			No – the works are directly above intertidal soft sediments (sand, mud and mixed) in the Cleddau Dhu but the footprint of any activities likely to impact on lower sensitivity habitat is less than 1%.

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A.3.2.2 Fish

Table 6-6 - Potential risks of the Scheme to Fish

Consider if your activity:	Yes	No	Biology fish risk issue(s)
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	No: fish movement will not be impacted as the works are small, localised and taking place c.30m above the tidal inlet. There are no barriers to fish movement.
Could impact on normal fish behaviour like movement, migration or spawning (e.g. creating a physical barrier, noise, chemical change or a change in depth or flow).	Requires impact assessment	Impact assessment not required	No: the works are small, localised and taking place c.30m above the tidal inlet. There are no barriers to fish movement.
Could cause entrainment or impingement of fish	Requires impact assessment	Impact assessment not required	No: the works will not cause entrainment or impingement of fish.

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A.3.3 Section 3: Water quality

Table 6-7 - Potential risks of the Scheme to Water Quality

Consider if your activity:	Yes	No	Water quality risk issue(s)
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 – although there is a risk of debris falling into the water, or of chemical leaks or spills from machinery being used on the bridge works, mitigation measures will be in place to prevent this.
Is in a water body with a phytoplankton status of moderate, poor or bad	Requires impact assessment	Impact assessment not required	Not assessed for this water body.
Is in a water body with a history of harmful algae	Requires impact assessment	Impact assessment not required	Not assessed for this water body.

Table 6-8- Potential risks of the Scheme to Water Quality

If your activity has a mixing zone (like a discharge pipeline or outfall) consider if:	Yes	No	Water quality risk issue(s)
The chemicals released are on the Environmental Quality Standards Directive (EQSD) list	Requires impact assessment	Impact assessment not required	No – no chemicals will be released via the bridge works. Any chemicals that will be used will be done so with appropriate bunding and to the requirements of Method Statements.
It disturbs sediment with contaminants above Cefas Action Level 1	Requires impact assessment	Impact assessment not required	No - no sediment will be disturbed by works on the bridge

Table 6-9 - Potential risks of the Scheme to Water Quality

If your activity has a mixing zone (like a discharge pipeline or outfall) consider if:	Yes	No	Water quality risk issue(s)
The chemicals released are on the Environmental Quality Standards Directive (EQSD) list	Requires impact assessment	Impact assessment not required	No chemicals are to be released during the bridge refurbishment works.

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A.3.4 Section 4: WFD protected areas

Protected area types considered include, but are not limited to, the following.

- Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- Shellfish Waters
- Bathing Waters
- nutrient sensitive areas.

Table 6-10 - Potential risks of the Scheme to WFD protected areas

Consider if your activity:	Yes	No	Biology fish risk issue(s)
Within 2km of any WFD protected area	Requires impact assessment	Impact assessment not required	Yes: the bridge runs between a gap in the Pembrokeshire Marine Special Area of Conservation area, with the SAC c.175m to the north and c.850m to the south.
	Requires impact assessment	Impact assessment not required	A Groundwater Drinking Water Protected Area is within 2km of the scheme but no impacts are expected as there are no below ground works or riverbed excavations and no new pollution sources as part of the works or operation. Therefore, no impact assessment is required.
	Requires impact assessment	Impact assessment not required	The Lower Cleddau Shellfish Water Protected Area is to the east of the scheme but any material falling from the bridge into the Cleddau Dhu would be swept into Milford Haven either by the normal downstream flow of water or on an ebb tide before it could be carried back into the Shellfish Water on the next flood tide. Given the volume of water involved and the likelihood of dispersion and dilution, any risks to the Shellfish Water would be minimal.

There are no further WFD protected areas within 2km of the scheme.

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A.3.5 Section 5: Invasive non-native species (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

Table 6-11- Potential risks of the Scheme to INNS

Consider if your activity could:	Yes	No	INNS risk issue(s)
Introduce or spread INNS	Requires impact assessment	Impact assessment not required	No – the bridgeworks will not spread Invasive Non-Native Species to the Cleddau Dhu river. Construction activities will be managed through on-site ‘toolbox’ talks and biosecurity measures to avoid the spread of INNS via plant or machinery that may have been used in other locations where INNS is an issue, but no impacts are expected as part of the Scheme’s operation.

TECHNICAL NOTE

A.3.6 Summary

Table 6-12 – Summary of Scoping for Milford Haven Inner

Receptor	Potential risk to receptor?	Note the risk issue(s) for impact assessment
Hydromorphology	No	Construction: Minor excavations will be required to the bridge deck to break out the existing expansion joints, but these will be confined to the bridge area. With no physical interface between the works and the river, no impacts to hydro morphology are expected. Operation: The bridge maintenance will allow continuation if the use of the carriageway and no impacts to hydrology or morphology are expected.
Biology: habitats	No	Construction: No higher sensitivity habitats within 500m of the works. The works are directly above intertidal soft sediments (sand, mud and mixed) in the Cleddau Dhu but the footprint of any activities likely to impact on lower sensitivity habitat is less than 1%. Operation: Unlikely to be an impact during operation.
Biology: fish	Yes	Construction: The works are localised to the bridge area, with no 'in-channel' works causing barriers for fish movement. However, accidents during the construction works, e.g., unintended release of hot bituminous materials or pollution from machinery, could adversely impact species that rely on the water and associated habitats immediately below the bridge and downstream, e.g., sea and river lamprey. Operation: No impacts to fish species are expected.
Water quality	Yes	Construction: The expansion joints will be replaced on a like-for-like basis, so there will be no changes to drainage from the bridge as a result of the works. Accidents during the construction works, e.g., debris falling in the water, unintended release of hot bituminous materials or pollution from machinery, could adversely affect the water quality immediately below the bridge. Operation: No impacts to water quality are expected.
Protected areas	No	Construction: Minor excavations will be required to the bridge deck to break out the existing expansion joints, but these will be confined to the bridge area. No excavations within the Marine SAC or other protected areas are required and no impacts to protected areas are expected. Operation: No impacts to protected areas are expected as the works will merely maintain existing road traffic over the Cleddau Dhu inlet. There is a Groundwater Drinking Water Protected Area within 2km of the scheme, but impacts are not expected as there are no significant below ground works and no new pollution sources as part of the Scheme. There are no further WFD protected areas within 2km of the scheme.
Invasive non-native species (INNS)	No	Construction: The bridgeworks will not spread Invasive Non-Native Species to the Cleddau Dhu river. Activities will be managed through on-site 'toolbox' talks and biosecurity measures to avoid the spread of INNS via plant or machinery that may have been used in other locations where INNS is an issue. Operation: No impacts are expected as part of the Scheme's operation.

Appendix B. Method Statements

Since contractors have not yet been appointed for the activities, we are currently unable to provide actual Method Statements for the bridgeworks. However, Pembrokeshire County Council has provided Method Statements from other, similar, jobs in order to provide an idea of what may be anticipated.

These documents are available as individual files and cover:

- **File name: Method Statement – Saferoad A4119 Coedely parapets**
Parapet replacement: Method Statement prepared by Saferoad UK Ltd. for the refurbishment of a bridge parapet on the A4119 near Ynysmaerdy, South Wales. It covers a range of hazards and precautions, ranging from hot works and working at height to waste disposal requirements, as part of the activities to be undertaken.
- **File name: Method Statement – Transflex Install MS REV 1 2024, BridgeCare**
Expansion joint replacement: Method Statement produced by BridgeCare for their works to replace the Transflex Expansion Joint on the Britannia Bridge, North Wales, in 2023/4.
- **File name: Method Statement – MS1 CDMC 1st Review – GDH 2014 – carriageway planing and resurfacing**
Resurfacing of carriageway: Method Statement 'GDH – MS01: PCC – Carriageway Planing and Surfacing Operation' was supplied by G.D. Harries & Sons Ltd (GDH) as an example of what may be expected for the resurfacing works.

Appendix C. Stakeholder engagement

Pembrokeshire County Council has engaged with the following stakeholders about the potential effects of the bridge refurbishment works on their own interests and responsibilities:

- Port of Milford Haven
- Neyland Yacht Haven
- Maritime & Coastguard Agency
- Trinity House

A letter was sent to each organisation, inviting their views and comments. An example, sent to the Port of Milford Haven, is shown below.

Date • Dyddiad 8 October 2024
Your ref • Eich cyfeirnod
My ref • Fy nghyfeirnod
Telephone • Ffôn 01437 776153
Email • E-bost neil.morgan@pembrokeshire.gov.uk
www.pembrokeshire.gov.uk / www.sir-benfro.gov.uk



Pembrokeshire County Council Cyngor Sir Penfro

WILL BRAMBLE CBE
Chief Executive / Prif Weithredwr

DARREN THOMAS
Head of Infrastructure and Environment
Pennaeith Seilwaith a Gwasanaethau Amgylcheddol

Pembrokeshire County Council,
County Hall, HAVERFORDWEST,
Pembrokeshire, SA61 1TP

Cyngor Sir Penfro,
Neuadd y Sir, HWLFFORDD,
Sir Benfro, SA61 1TP

Telephone / Ffôn 01437 764551

Please ask for
Os gwelwch yn dda gofynnwch am

Neil Morgan, Bridge Engineer

Capt. David Lockwood
Port of Milford Haven
Gorsewood Drive
Milford Haven
Pembrokeshire
SA73 3EP

Dear Capt. Lockwood,

A477 – Westfield Pill Bridge repairs: Natural Resources Wales Marine Licence application

As you are aware from recent communications with Julie Payne in your team, Pembrokeshire County Council is intending to undertake maintenance on the Westfield Pill Bridge, which carries the A477 carriageway over the Cleddau Dhu tidal inlet to the north of Neyland and Pembroke Dock. AtkinsRéalis is supporting the Council and is advising them on securing a Marine Licence from Natural Resources Wales.

As part of the Marine Licence application process, we are engaging with key stakeholders to advise them of the works to be undertaken and provide a point of contact should they have any concerns. The stakeholders are the Port of Milford Haven, the MCA, Trinity House and the Neyland Yacht Haven.

This letter is intended to advise you of the proposals, the timescale involved and that we believe there will be no adverse impacts to shipping or navigation as a result of the activities. The relevant information for the project is attached in the accompanying Technical Note and project drawing. We would be grateful if you would kindly review it and confirm in writing that the works will not pose a risk to the vessels using the Port of Milford Haven or to other maritime users of the area. Further, we would appreciate it if you could also confirm that since the works involve the maintenance of the bridge infrastructure, they do not require a Marine Works Licence from PoMA.

Your response will be used as supporting information for the Marine Licence application and we would appreciate a response by Friday 18 October 2024. Should you have any concerns, we will work to resolve them. Please do not hesitate to contact me in the first instance if you have any questions, either by email or on 01437 776153.

Yours sincerely,

Neil Morgan
Bridge Engineer

TECHNICAL NOTE

The responses received are shown below in date order:

Neyland Yacht Haven

From: James Cotton <James.cotton@neylandyachthaven.com>
Sent: 14 October 2024 11:32
To: Morgan, Neil <Neil.Morgan@pembrokeshire.gov.uk>
Subject: RE: Westfield Pill Bridge Repairs

Morning Neil,

Many thanks for your call and email with reassurance that the potential impact upon vessels berthed below has been considered alongside the environmental risks of the works and that suitable mitigation measures will be in place. Provided these appropriate mitigation measures are put in place I am content with your consultation.

Best Regards,

James Cotton CMM
Marina Director
Neyland Yacht Haven Ltd



Registered in England
No. 2751404
Neyland Yacht Haven Ltd
Brunel Quay
Neyland
Pembrokeshire
SA73 1PY
Tel: 01646 601601

Maritime & Coastguard Agency

From: navigation safety <navigationsafety@mcga.gov.uk>
Sent: 22 October 2024 10:01
To: Morgan, Neil <Neil.Morgan@pembrokeshire.gov.uk>
Subject: Pembrokeshire County Council Correspondence

Dear Neil,

Thank you for the information regarding the proposed Westfield Pill Bridge repair works.

We note that the works fall within the jurisdiction of a Statutory Harbour Authority (SHA), being Milford Haven Port Authority, and therefore they are responsible for the safety of navigation within their waters.

Therefore, on the understanding that the following takes place, the MCA would have no significant concerns to raise with regards to the safety of navigation and would be satisfied that the risk is relatively low on this occasion:

1. All maritime safety legislation is complied with.
2. The site is within port limits and the applicant should gain the approval/agreement of the responsible local navigation authority or the Harbour Authority/ Commissioners/ Council. They may wish to issue local warnings to alert those navigating in the vicinity to the presence of the works, as deemed necessary.

Please can you confirm that you accept the above risk mitigations?

Kind regards,

Jo Cooke
Marine Licensing and Consenting Advisor
UK Technical Maritime Services Navigation



NavigationSafety@mcga.gov.uk

Mobile: 07815 703225

Maritime & Coastguard Agency
Spring Place, 105 Commercial Road,
Southampton, SO15 1EG

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www.gov.uk/mca

TECHNICAL NOTE

Port of Milford Haven



THE UK'S LEADING ENERGY PORT

Neil Morgan
Bridge Engineer
Pembrokeshire County Council
Highway Infrastructure
County Hall
Haverfordwest
Pembrokeshire SA61 1TP

29th October 2024

Dear Neil,

Re: Marine Works License Requirement for Westfield Pill Bridge Works

I am writing to confirm that the planned works on the Westfield Pill Bridge do not require a formal Marine Works License (MWL). However, we request that the contractors take particular care to ensure no materials or debris enter the waterway during the course of the project. This measure is essential to preserve the integrity of the surrounding marine environment.

Additionally, we recommend notifying Neyland Marine well in advance of the commencement of works, as their moorings are in close proximity to the bridge site. Adequate notice will allow them to take any necessary precautions to safeguard their vessels and operations.

Please feel free to contact me should you require any further information or clarification on this matter.

Kind regards,

David Lockwood
Assistant Harbourmaster



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deliver



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Port of Milford Haven
Gorsewood Drive, Milford Haven, Pembrokeshire SA73 3EP
Tel: +44 (0) 1646 696100
Email: enquiries@mhpa.co.uk
Web: mhpa.co.uk

Marine Services | Quayside Services | Hospitality & Tourism | Property & Development

TECHNICAL NOTE

Trinity House

From: Catherine Bransby <Catherine.Bransby@trinityhouse.co.uk>

Sent: 19 November 2024 15:41

To: Fairgrieve, Rhona <Rhona.Fairgrieve@atkinsrealis.com>

Cc: Morgan, Neil <Neil.Morgan@pembrokeshire.gov.uk>

Subject: RE: Westfield Pill Bridge, Pembrokeshire - request for view on Marine Licence application

Good afternoon Rhona,

Apologies for not getting back to you next week.

I can confirm that Trinity House has no objections or comments regarding these works.

Many thanks.

Kind regards,

Catherine Bransby

Navigation Requirements Advisor | Navigation | Trinity House

e: catherine.bransby@trinityhouse.co.uk | t: 0207481 6920 m: 0787578357

www.trinityhouse.co.uk

