



THE
ENVIRONMENT
PARTNERSHIP



HW021 GAS PIPELINE DIVERSION

CARMARTHEN

HRA SCREENING REPORT

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G8795.26.001 - Internationally designated sites within 10km

1.0 Introduction

Background

- 1.1 TEP was commissioned in April 2023 by Wales and West Utilities (WWU) to undertake a Habitats Regulations Screening Assessment in support of the NW021 gas pipeline diversion project (hereafter referred to as the 'proposed Scheme').
- 1.2 The assessment was commissioned following a request from Natural Resource Wales during the determination period of the clients Flood Risk Activities Permit (FRAP). Since the first issue of this report, it has become apparent that a marine licence will be required to permit the works associated with drilling beneath the River Tywi to proceed. This HRA will be used to support a future marine licence application.
- 1.3 Ecological surveys/reports undertaken in support of the development include:
 - Ecological Desk Study (2022),
 - Extended Phase 1 Habitat Survey (2022),
 - Ecological Assessment (2022),
 - Pre-commencement ecological walkover (May 2023),
 - Water Vole Survey (May 2023).
- 1.4 The approximate location of the site is shown in Figure 1.

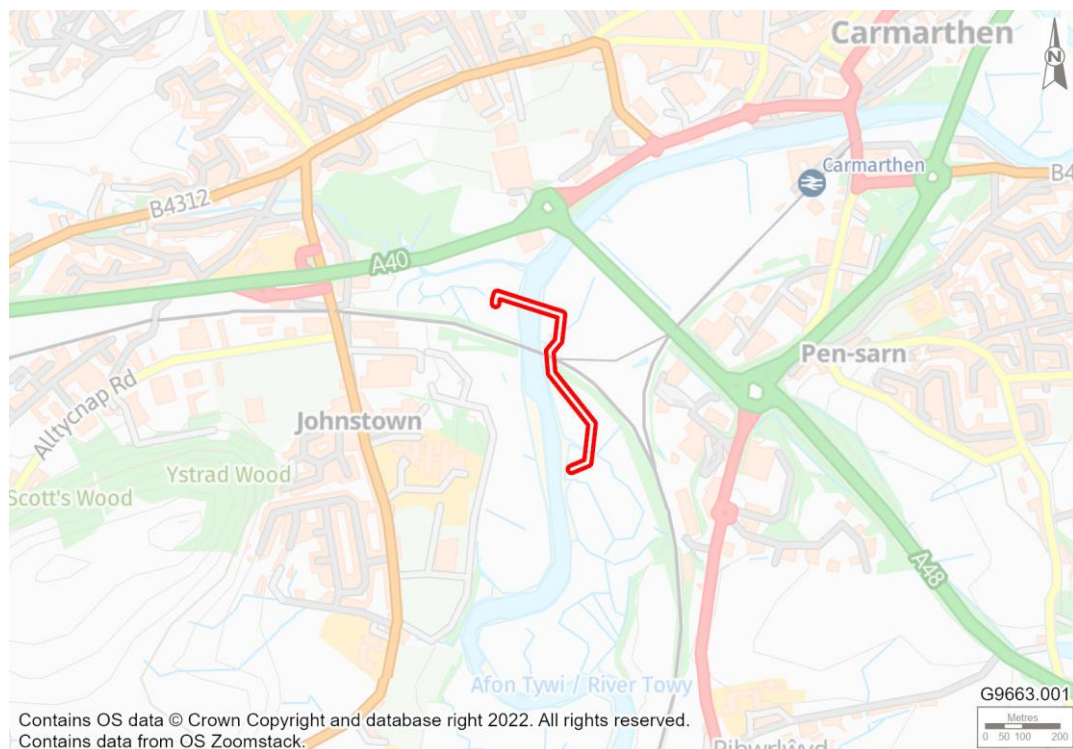


Figure 1. Site Location

Project Description

- 1.5 The project consists of the installation of a new gas pipeline in the floodplain of the Afon Tywi/River Tywi south of Carmarthen as a diversion from the existing pipeline. The works are considered urgent due to current gas leaks within the existing pipeline located on either side of the river. The works consist of open cut trenching within the fields (approximately 500m in length) east and west of the river and Horizontal Directional Drilling (HDD) for approximately 170m under the Afon Tywi/River Tywi. Works started in April 2023. The works are anticipated to take 6-8 months to complete. The existing pipeline will be abandoned. Site compounds and an access track for the works will be required.
- 1.6 An existing stone farming access track will be used to access the main works area. From the A40 road bridge south, bog mats will be laid to facilitate access. The pipe trench will measure 600mm wide and be 1.5m deep.

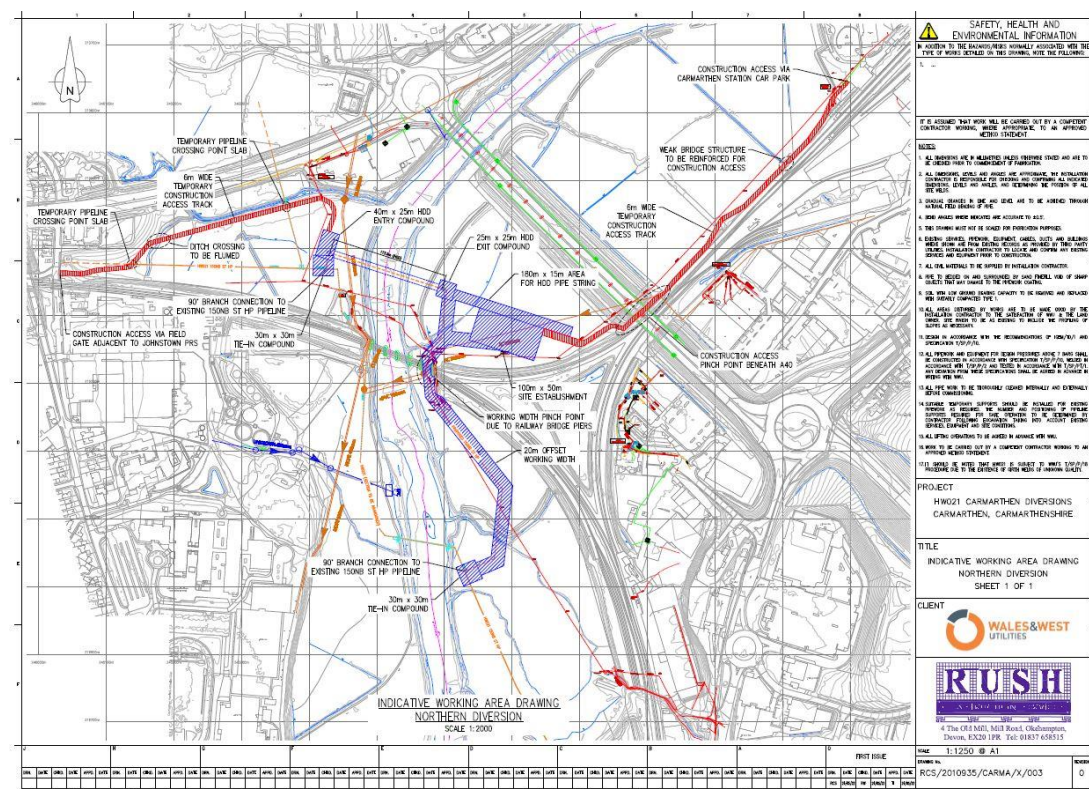


Figure 2. Proposed Works Plan

Structure of the Report

- 1.7 Section 3.0 provides details of the international protected sites within proximity to the proposed development as well as known existing baseline information for the qualifying features of these protected sites.
- 1.8 Section 4.0 sets out the 'Test of Likely Significant Effect' (TOLSE) which provides a screening assessment (comprises Stage 1 of the Habitats Regulations Assessment process) to determine whether the proposed development alone or in combination with other plans or projects is likely to have a significant effect on European sites.

- 1.9 Section 5.0 'Conclusions' provides a summary of this shadow Habitats Regulations Screening Assessment report.

2.0 The Habitats Regulations Procedure

- 2.1 Habitats Regulations Assessment (HRA) is an assessment of the potential effects of a proposed project or plan on one or more sites of international nature conservation importance.
- 2.2 The Habitats Directive (92/43/EEC) established a network of designated sites, within the European Community, with the objective of protecting sites that are considered to be of exceptional importance in respect of rare, endangered or vulnerable natural habitats and species. These are European designated sites and are known as Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Offshore Marine Sites (OMS).
- 2.3 The Habitats Directive (92/43/EEC) transposed into UK law in 1994 as The Habitats Regulations, which was subsequently amended and is known as the Conservation of Habitats and Species Regulations 2017. A number of changes have been made to this by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, referred to as the 2019 Regulations. Under the 2019 Regulations, SACs and SPAs in the UK no longer form part of the EU's Natura 2000 ecological network. The 2019 Regulations have created a National Site Network (NSN) on land and at sea, including both the inshore and offshore marine areas in the UK.
- 2.4 Ramsar sites are wetlands of international importance, designated under the International Wetlands Convention, which took place at Ramsar, Iran. Although Ramsar sites do not form part of the national site network, National planning policy recommends that Ramsar sites should be afforded the same level of consideration as SAC and SPA designated sites.
- 2.5 Under the Habitats Regulations the granting of approval (i.e., planning permissions, licences and consents) for developments is restricted if they are likely to have a significant adverse effect on an SAC, SPA or Ramsar site.
- 2.6 Guidance (EC, 2001¹; IPC, 2022²) on undertaking assessment of plans or projects that may impact upon designated European sites recommends a staged approach to the assessment process:
 - **Stage 1. Screening** - The process of identifying potentially relevant European sites and the likely impacts of a project upon the designated features of a European site, either alone or in combination with other plans and projects and considering whether the impacts are likely to be significant.
 - **Stage 2. Appropriate Assessment (AA)** - Assessment of the impacts, considering proposed mitigation measures, on the integrity of the European site, either alone or in combination with other plans and projects, with regard to the site's structure and function and its conservation objectives. If it cannot be concluded beyond reasonable scientific doubt that the project would not adversely affect site integrity, then development

¹ European Commission (2001) Assessment of plans and projects significantly affecting Natura 2000 Sites. Methodological guidance in the provisions of Article 6 (3) and (4) of the Habitats Directive 92/43/EEC

² The Infrastructure Planning Commission (2022). Advice Note 10: Habitat Regulations Assessment for nationally significant infrastructure projects.

consent cannot be issued unless the steps set out in Stages 3 are successfully concluded.

- **Stage 3. Derogation** – consider if proposals that would have an Adverse Effect on Integrity (AEoI) of a European site(s) qualify for an exemption. There are three tests to this stage to be followed in order: consider alternative solutions; consider IROPI; and secure compensatory measures. Each test must be passed in sequence for a derogation to be granted.

- 2.7 All three stages of the process are referred to cumulatively as the Habitats Regulations Assessment (HRA).
- 2.8 Guidance on what constitutes the integrity of a European site has been provided by the European Commission (EC, 2001³). In this guidance, integrity is defined as *“the coherence of the site’s ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or populations of species for which the site has been designated”*.
- 2.9 This document contains Stage 1 of the HRA process. This assessment takes account of the 2017 People over Wind ruling which confirmed that mitigation cannot be taken into consideration at the screening stage prior to Appropriate Assessment.

³ European Commission (2001 Assessment of plans and projects significantly affecting Natura 2000 Sites. Methodological guidance on the provisions of Article 6 (3) and (4) of the Habitats Directive 92/43/EEC.

3.0 Summary of Baseline Information

Natura 2000 Sites Considered within Influencing Distances

- 3.1 The application is located within 10km of the following Natura 2000 sites, consisting of Special Areas of Conservation (SAC), Special Protection Area (SPA) and Ramsar sites:

Table 1 - NSN Sites within 10km

Site Name	Designation	Distance (km)
Afon Tywi / River Tywi	SAC	Within the Site
Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd	SAC	1.7km South

- 3.2 The locations of these NSN sites relative to the proposed development are shown in Drawing G9663.002.

Afon Tywi / River Tywi (SAC) - UK0013010

- 3.3 The general site character comprises the following habitats:
- Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (9%)
 - Salt marshes, Salt pastures, Salt steppes (2%)
 - Shingle, Sea cliffs, Islets (7%)
 - Inland water bodies (Standing water, Running water) (62%)
 - Bogs, Marshes, Water fringed vegetation, Fens (6%)
 - Heath, Scrub, Maquis and Garrigue, Phygrana (4%)
 - Improved grassland (3%)
 - Broad-leaved deciduous woodland (7%).
- 3.4 The Afon Tywi rises in the Cambrian Mountains and flows south for some 10km before entering Llyn Brianne reservoir. The reservoir was constructed in the early 1970s to regulate water flows in the Tywi, enabling abstraction for public supply at Nantgaredig. From Llyn Brianne the Tywi falls steeply through mountain valleys for a further 20km before reaching the upper boundary of the SAC at Llandovery Road Bridge. The river then flows in a broadly south-westerly direction to Llandeilo, and then westerly through Carmarthen to outfall into Carmarthen Bay at Llansteffan. The Afon Tywi SAC boundary terminates in the tidal reaches just south of Carmarthen, where it enters the Carmarthen Bay & Estuaries SAC.
- 3.5 The site qualifies for the following reasons:
- Annex II species that are a primary reason for selection of this site:
- Twaite shad – *Alosa fallax*: A large spawning population of twaite shad occurs in the Tywi, south Wales, and is considered to be self-sustaining. Spawning sites occur throughout the lower reaches of the river between

Carmarthen and Llangadog, with most spawning occurring downstream of Llandeilo. Water quality and quantity are considered adequate to maintain this internationally vulnerable species, and there are no impassable obstructions along the migration route, though one weir at Manorafon may be an obstacle during low flow conditions. The presence of Llyn Brianne reservoir at the headwaters provides the potential to manipulate river flows to aid shad migration.

- Otter – *Lutra lutra*: The Afon Tywi is one of the best rivers in Wales for otters. There are abundant signs of otters, and they are regularly seen on the river. The water quality is generally good and there is an ample supply of food. There are suitable lying-up areas along the riverbank, but there are few known breeding sites on the main river, although cubs have been seen.

Annex II species present as qualifying feature, but not as a primary reason for selection of this site:

- Sea Lamprey – *Petromyzon marinus*
- Brook Lamprey – *Lampetra planeri*
- River Lamprey – *Lampetra fluviatilis*
- Allis shad – *Alosa alosa*
- Bullhead – *Cottus Gobio*

Conservation Objectives⁴

3.6 Each conservation objective is a composite statement defining a site-specific aspiration for each designated feature. This composite statement contains clauses that correspond to all the elements of FCS, namely:

3.7 For habitat features:

- Extent should be stable in the long term, or where appropriate increasing;
- Quality (including in terms of ecological structure and function) should be being maintained, or where appropriate improving;
- Populations of the habitat's typical species must be being maintained or where appropriate increasing;
- Factors affecting the extent and quality of the habitat and its typical species (and thus affecting the habitat's future prospects) should be under appropriate control.

3.8 For species features:

- The size of the population should be stable or increasing, allowing for natural variability, and sustainable in the long term;
- The distribution of the population should be being maintained;
- There should be sufficient habitat, of sufficient quality, to support the population in the long term;
- Factors affecting the population, or its habitat should be under appropriate control

⁴ Core Management Plan including Conservation Objectives for Afon Tywi / River Tywi SAC Version 2, Natural Resource Wales, September 2022.

- 3.9 There are generic conservation objectives for physical habitat and water quality, and for population attributes, relevant to Allis shad, Twaite shad, sea lamprey, river lamprey, brook lamprey and bullhead, which are defined below in Tables 2 and 3, and should be met.

Table 2. Generic Conservation Objectives for the physical habitat and water quality.

<p>Quality (including in terms of ecological structure and function) should be being maintained, or where appropriate improving.</p> <p>There should be sufficient habitat, of sufficient quality, to support the population in the long term.</p>	<p>Flow regime, water quality and physical habitat including substrate quality should be at least maintained in, or restored as far as is possible to, a near-natural state, in order to support the ecosystem structure and function across the whole area of the SAC.</p> <p>The standards for the elements of flow should be met as defined in Appendix 1 and Appendix 3. Flows should be at what is considered near natural for a watercourse of this type. Near-natural flow regime is defined as the characteristic pattern of a river's flow quantity, timing, and variability in un-impacted conditions. The five components of flow: magnitude, frequency, duration, timing and rate of change influence the ecological integrity of the river ecosystem.</p> <p>Flow will not be depleted by abstraction or physical modifications to the extent that:</p> <ul style="list-style-type: none"> - spawning or nursery sites of features, are damaged or destroyed. - access to feature's spawning habitat is hindered. - outward migration of features species is hindered. <p>The standards for the elements of water quality should be met as defined in Appendix 2. Potential sources of pollution will be considered in assessing plans and projects, and measures will be taken to control such pollution so as to meet levels that do not degrade the ecology of the river.</p> <p>Physical habitat should be at least maintained in, or restored as far as is possible to, a near-natural state, in order to support the ecosystem structure and function across the whole area of the SAC. This includes the:</p> <ul style="list-style-type: none"> - Structure and composition of the riparian vegetation: The native tree cover, which should include sufficient regenerating, mature and over-mature trees and standing dead wood. Dead wood should not be removed from the river. The bankside vegetation should feature native plant communities supported by near-natural land-use adjacent to the river. - Physical river processes and features - high degree of naturalness should be retained which is governed by dynamic processes resulting in a variety of physical habitat features, including a range of substrate types, variations in flow, channel width and depth, in-channel and side channel sedimentation features, erosion features and both in-channel and bankside vegetation cover. - Predominantly unmodified ecological and hydromorphological processes and characteristics, should be at least maintained or restored where necessary. - Physical modifications, including, but not limited to, revetments on alluvial rivers, using stone, concrete or waste materials, unsustainable gravel extraction, addition or release of excessive quantities of fine sediment, will be avoided where they impact on the capability of each species feature to occupy the full extent of its natural range. - Natural factors such as waterfalls, which may limit the natural range of a species features, or dispersal between naturally isolated populations, should not be modified. - Artificial widening or deepening of channels, and extensive reinforcement of banks, should be avoided where they affect the function and viability of a habitat. - No new barriers causing an impact on the capability of each species feature to occupy the full extent of its natural range, will be permitted. Existing, artificial barriers causing an impact should be modified as necessary to allow passage, e.g., weirs, bridge sills, acoustic barriers. No physical structures should impact on the connectivity of the habitat. There should be no man-made barriers to the free movement of water, sediment and aquatic organisms that may affect the river-bed structure and hydrology downstream. - The river plan, form and profile should be predominantly un-modified and characteristic of the river type. The river should support stable or increasing populations of features, in characteristic proportions. In many circumstances, a natural channel may move in response to extreme floods - this is a positive conservation attribute.
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	<p>Existing invasive non-native species which threaten the conservation status of the SAC features will be controlled where feasible. No new introductions of invasive non-native species should occur.</p> <p>The standards for siltation should be met. Levels of suspended solids should be such that fish spawning or nursery habitats are not degraded.</p> <p>For species only: All known breeding, spawning and nursery sites of species features should be maintained as suitable habitat as far as possible, or restored to suitable habitat (except where natural processes cause them to change).</p> <p>As a minimum, all waterbodies should be meeting Good Ecological Status under the Water Framework Directive. More stringent targets will be applicable for some determinands.</p> <p>All river SSSI habitat features should meet favourable condition. In some cases, the SAC habitat may not be underpinned by a river habitat SSSI feature. In this case, the target is to maintain and restore the characteristic physical features of the river channel, banks, and riparian zone consistent with favourable condition of the SAC features.</p>
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Table 3. Generic Conservation Objectives for population attributes.

The distribution of the population should be being maintained or where appropriate increasing.	The natural range of the feature in the SAC is neither being reduced nor is likely to be reduced for the foreseeable future. The natural range is taken to mean those reaches where predominantly suitable habitat for each life stage exists over the long term. Suitable habitat is defined in terms of near-natural hydrological and geomorphological processes and forms e.g., suitable flows to allow upstream migration, depth of water and substrate type at spawning sites, and ecosystem structure and functions e.g. food supply. Suitable habitat need not be present throughout the SAC but where present must be secured for the foreseeable future. Natural factors such as waterfalls may limit the natural range of individual species. Existing artificial influences on natural range, such as physical barriers to migration, should be modified where possible, to allow passage
There should be sufficient habitat, of sufficient quality, to support the population in the long term.	Water quality should not be injurious to any life stage. All reaches within the site that contain, or should contain twaite shad, allis shad, sea lamprey, brook lamprey, river lamprey or bullhead under conditions of high environmental quality will comply with the targets given. While the current SAC boundary encompasses core areas of habitat for twaite shad, allis shad, sea lamprey, brook lamprey, river lamprey or bullhead, the long-term security and resilience of the population is dependent on suitable habitat both within and outside of the protected site boundary.
The size of the population should be stable or increasing, allowing for natural variability, and sustainable in the long term	<p>The population will be at least maintained or increasing and there will be evidence of recent recruitment.</p> <p>Extent and quality of available spawning habitat should be sufficient to maintain the population levels.</p>
Factors affecting the population, or its habitat should be under appropriate control.	Factors affecting the population or its habitat (including fishing, poaching, siltation, air pollution, abstraction, entrainment, discharges and reservoir releases) should be under appropriate control.

3.10 There are separate conservation objectives for otter, which are defined below in Table 4, and should be met.

Table 4. Conservation Objectives for otter

The size of the population should be stable or increasing, allowing for natural variability, and sustainable in the long term.	The population of otters in the SAC is stable or increasing over the long term and reflects the natural carrying capacity of the habitat within the SAC, as determined by natural levels of prey abundance, and associated territorial behaviour
The distribution of the population should be being maintained, or where appropriate increasing.	The natural range of otters in the SAC is neither being reduced nor is likely to be reduced for the foreseeable future. The natural range is taken to mean those reaches that are potentially suitable to form part of a breeding territory and/or provide routes between breeding territories. The whole area of the Tywi SAC is considered to form potentially suitable breeding habitat for otters. The size of breeding territories may vary depending on prey abundance. The population size should not be limited by the availability of suitable undisturbed breeding sites. Where these are insufficient, they should be created through habitat enhancement and where necessary the provision of artificial holts. No otter breeding site should be subject to a level of disturbance that could have a negative effect on breeding success. Where necessary, potentially harmful levels of disturbance must be managed.
There should be sufficient habitat, of sufficient quality, to support the population in the long term.	The safe movement and dispersal of individuals around the SAC is facilitated by the provision, where necessary, of suitable riparian habitat, and underpasses, ledges, fencing etc at road bridges and other artificial barriers.
Factors affecting the population, or its habitat should be under appropriate control.	Water quality parameters, as defined in Appendix 2 must be met. There should be no reduction in availability of otter prey (e.g., eel), as a result of anthropogenic activities or factors.

- 3.11 The current status of features 1 to 4 (twait shad, allis shad, sea lamprey, brook lamprey and bullhead) are all in an unfavourable condition.
- 3.12 Feature 5, otters, are currently in a favourable condition.

Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd (SAC) - UK0020020

- 3.13 The Carmarthen Bay and Estuaries SAC is a large site encompassing the estuaries of the Rivers Loughor, Tâf and Tywi (coastal plain estuaries) and the Gwendraeth (a bar-built estuary). There are extensive areas of intertidal mudflats and sandflats with large areas of these flats dominated by bivalves. There is a complete sequence of saltmarsh vegetation, from pioneer vegetation through to upper saltmarsh transitions and it is also important for transitions from saltmarsh to sand dune and other habitats. Carmarthen Bay is an extensive shallow bay with a wide variety of seabed types, including mud, sand, and rock, although the majority of the seabed is sandy. The SAC includes Helwick Bank, a linear shallow subtidal sandbank that is unusual in being highly exposed to wave and tidal action. The Burry Inlet and Three Rivers system provides a migratory route for salmonids, lampreys, and shad. The features are distributed throughout the SAC with no single feature occupying the entire SAC and with features overlapping in some locations.
- 3.14 The general site character comprises the following habitats:
- Marine areas, Sea inlets (82.1%)
 - Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (13.7%)
 - Salt marshes, Salt pastures, Salt steppes (4.1%)
 - Shingle, Sea cliffs, Islets (0.1%)
- 3.15 Annex I habitats that are a primary reason for selection of this site.
- Sandbanks slightly covered by sea water all the time: Carmarthen Bay and Estuaries on the south coast of Wales includes the sandbank of Helwick Bank, a linear shallow subtidal sandbank that is unusual in being highly exposed to wave and tidal action. The animal communities found in and on the bank reflect these conditions, being tolerant of high levels of disturbance. Within Carmarthen Bay there are also several other smaller sandbanks in relatively shallow waters, which support a range of species (including bivalves, amphipods, and worms), many of which spend most of their time wholly or partly buried in the sediment.
 - Estuaries: Carmarthen Bay and Estuaries provides an example of a large estuarine site on the south coast of Wales, encompassing the estuaries of the Rivers Loughor, Tâf and Tywi (coastal plain estuaries) and the Gwendraeth (a bar-built estuary). These four estuaries form a single functional unit around the Burry Inlet, with important interchanges of sediment and biota. The estuaries of this site support a range of subtidal and intertidal sediments that grade from sand at the mouth to mudflats in the upper estuary. The fauna of the sediments varies but includes communities with polychaete and oligochaete worms and areas with extensive cockle beds and other bivalve molluscs. This site has a range of undisturbed transitions to coastal habitats.
 - Mudflats and sandflats not covered by seawater at low tide: Carmarthen Bay and Estuaries on the south coast of Wales includes extensive areas of intertidal mudflats and sandflats. Large areas of these intertidal flats are

dominated by bivalves. In areas of fine sand cockles *Cerastoderma edule* are abundant, along with other bivalves, amphipods and worms. In muddier sediments the sand-gaper *Mya arenaria*, peppery furrow-shell *Scrobicularia plana* and mud-snail *Hydrobia ulvae* are also found in large numbers. The lower Loughor Estuary is one of the few places in the UK where the worm *Ophelia bicornis* has been found. There are also beds of the nationally scarce dwarf eelgrass *Zostera noltei*.

- Large shallow inlets and bays: Carmarthen Bay, off the south Wales coast is an extensive shallow bay. Throughout the bay physical conditions vary considerably. Salinity varies from low (at the estuaries) to fully marine, there are gradients in wave action from sheltered to exposed, and strong tides sweep exposed headlands whilst other areas are sheltered from currents. There is a wide range of seabed types, including mud, sand and rock, although the majority of the seabed is sandy. The sediment supports a large number of species, including bivalve molluscs, worms, burrowing urchins, brittlestars and sand-stars.
- Salicornia and other annuals colonizing mud and sand: Carmarthen Bay and Estuaries in south Wales is selected as representative of pioneer glasswort *Salicornia* spp. saltmarsh in the south-west of the UK. It forms an integral part of the estuarine system, supporting extensive pioneer communities and contributing to a complete sequence of saltmarsh vegetation, including transitions to upper saltmeadow and to important sand dune habitats.
- Atlantic salt meadows: This extensive site in south Wales has a complete sequence of saltmarsh vegetation, from pioneer vegetation through to upper saltmarsh transitions. The grazed saltmarshes include upper margins with sea rush *Juncus maritimus* and marsh-mallow *Althaea officinalis*, which are a particularly distinctive ecological feature of this site. The area is also important for transitions from saltmarsh to sand dune and other habitats.

3.16 Annex II species that are a primary reason for selection of this site:

- Twaite shad – *Alosa fallax*: Twaite shad migrate through the waters of Carmarthen Bay and Estuaries cSAC to reach spawning sites in the Afon Tywi. The Taf-Tywi-Gwendraeth estuary is also an important nursery area for juveniles, and it is likely that twaite shad feed in the inshore waters of Carmarthen Bay.

3.17 Annex II species as a qualifying feature, but not a primary reason for site selection

- Sea Lamprey
- River Lamprey
- Allis shad
- Otter.

3.18 Conservation Objectives

- 3.19 To achieve favourable conservation status all the following, subject to natural processes, need to be fulfilled and maintained in the long-term. If these objectives are not met restoration measures will be needed to achieve favourable conservation status. These are set out in the Regulation 33 Advice Package (Countryside Council for Wales, February 2009⁵).

Habitat Features:

- Sandbanks which are slightly covered by seawater all the time
- Estuaries
- Mudflats and sandflats not covered by seawater at low tide
- Large shallow inlets and bays
- Atlantic salt meadows
- Salicornia and other annuals colonising mud and sand.

Range

- 3.20 The overall distribution and extent of the habitat features within the site, and each of their main component parts is stable or increasing.

Structure and Function

- 3.21 The physical biological and chemical structure and functions necessary for the long-term maintenance and quality of the habitat are not degraded. Important elements include:

- geology,
- sedimentology,
- geomorphology,
- hydrography and meteorology,
- water and sediment chemistry,
- biological interactions

- 3.22 This includes a need for nutrient levels in the water column and sediments to be:

- at or below existing statutory guideline concentrations
- within ranges that are not potentially detrimental to the long-term maintenance of the features species populations, their abundance and range.

- 3.23 Contaminant levels in the water column and sediments derived from human activity to be:

- at or below existing statutory guideline concentrations
- below levels that would potentially result in increase in contaminant concentrations within sediments or biota
- below levels potentially detrimental to the long-term maintenance of the features species populations, their abundance or range.

- 3.24 For Atlantic salt meadows this includes the morphology of the saltmarsh creeks and pans.

⁵ <https://naturalresources.wales/media/673515/Carmarthen%20Bay%20R33%20Advice%20February%202009.pdf>

Typical Species

- 3.25 The presence, abundance, condition, and diversity of typical species is such that habitat quality is not degraded. Important elements include:
- species richness's
 - population structure and dynamics,
 - physiological health,
 - reproductive capacity
 - recruitment,
 - mobility
 - range
- 3.26 As part of this objective, it should be noted that:
- populations of typical species subject to existing commercial fisheries need to be at an abundance equal to or greater than that required to achieve maximum sustainable yield and secure in the long term.
 - the management and control of activities or operations likely to adversely affect the habitat feature, is appropriate for maintaining it in favourable condition and is secure in the long term.
- 3.27 Species Features; otter, shad, river lamprey, and sea lamprey.

Populations

- 3.28 The population is maintaining itself on a long-term basis as a viable component of its natural habitat. Important elements are population size, structure, production, and condition of the species within the site. As part of this objective, it should be noted that; Contaminant burdens derived from human activity are below levels that may cause physiological damage, or immune or reproductive suppression.

Range

- 3.29 The species population within the site is such that the natural range of the population is not being reduced or likely to be reduced for the foreseeable future. As part of this objective, it should be noted that:
- Their range within the SAC and adjacent inter-connected areas is not constrained or hindered.
 - There are appropriate and sufficient food resources within the SAC and beyond.
 - The sites and amount of supporting habitat used by these species are accessible and their extent and quality is stable or increasing.

Supporting Habitats and Species

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

As part of this objective, it should be noted that:

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

Species Records

Desk Based Records

- 3.30 The desk-based assessment completed in October 2022 for the proposed works included a data request to the Aderyn Local Biodiversity Records Centre (ALERC) - the Local Environmental Records Centre for Carmarthenshire for protected or conservation priority species within 1km of the proposed scheme.
- 3.31 The desk-based assessment identified six individual records of otter within 1km of the survey corridor. The nearest and most recent otter record (dated 2018) was recorded 364m from the site and is described as '*3 otters playing at the water's edge*'. A historic record (dated 2004-2006) of a potential otter natal den was returned during the data search. This record is located approximately 210m north of the closest works area on the western side of the river.
- 3.32 No records of any fish species were returned during the desk-based assessment.
- 3.33 This data will be used to determine potential impacts on qualifying species with regards to the identified impact pathways and whether progression to Stage 2 of the HRA (Appropriate Assessment) will be required.

Habitat and Survey Data

- 3.34 The original baseline survey (extended phase 1 habitat survey) was undertaken in October 2022. The extended phase 1 habitat survey also included a habitat suitability assessment for both otter and water vole. The habitats identified during the phase 1 survey included both improved and poor semi-improved grassland with marginal vegetation and intertidal mud present associated with the river.
- 3.35 A single fresh otter spraint was identified on the western bank of the River Tywi approximately 100m north of the proposed works.
- 3.36 A water vole survey was carried out on the ditches due to be impacted on 15th May 2023. These ditches connect and eventually flow into the River Tywi SAC.

- 3.37 The ditch on the western side of the river is a tidal watercourse with steep banks (2m+) and extensive mud banks. Although the watercourse retains a freshwater flow, the tidal influence extends its whole length. No evidence of water voles, their burrows, latrines or feeding stations were noted along the watercourse.
- 3.38 On the eastern side of the river are a network of ditches which flow into the River Tywi. All the ditches are influenced by the tide with the area known for prolonged period of flooding of the flood plain. During the survey all three of these ditches were dry for significant reaches with only occasional standing water in deeper sections. All three ditches are dominated by common reed and hemlock water dropwort. They are generally 1 - 1.5m deep with the lower 0.5m exposed mud bank, the substrate in all ditches is mud/silt deposits from tidal influence⁶.
- 3.39 No evidence of water vole burrows, latrines or feeding stations were noted on any of the ditches. It should be noted that American mink and otter are known to be present on the river⁷.
- 3.40 Extended periods of dry watercourses/ditches are recognised as a significant impact on the viability of a ditch system in sustaining water voles due to high predation and the impact of a dry watercourse on the natural escape mechanism of water voles. As such, although the physical and vegetative structure of the ditches would provide for a viable water vole population, the regular inundation/flooding of the flood plain and the extended periods of dry ditches reduces the areas suitability to support water voles considerably. The presence of American mink and lack of records received during the desk study would support this conclusion.
- 3.41 A pre-commencement ecological walkover of the working area was completed on 15th May 2023. During this walkover, otter prints were noted on the mud banks of the main river. No other evidence of otter was recorded on either side of the river during the pre-commencement walkover.

⁶ The presence of silt/mud was a health and safety concern.

⁷ Surveyors' local knowledge

4.0 Test of Likely Significant Effect (TOLSE)

- 4.1 The following table (Table 5) provides Stage 1 of the Habitats Regulations Assessment - the Test of Likely Significant Effects (TOLSE) for each of the NSN sites to be assessed.
- 4.2 Due to the proposed development type, the following potential impact pathways have been identified that could potentially affect the conservation status of the identified NSN sites, which will be further assessed:
- Potential pollution of hydrologically linked watercourses and downstream impact on SAC qualifying habitats during the construction phase (Afon Tywi / River Tywi SAC);
 - Potential pollution of supporting habitats of qualifying species during the construction phase (Afon Tywi / River Tywi SAC);
 - Disturbance to qualifying species during the construction and operational phase (Afon Tywi / River Tywi SAC).
 - Potential pollution of hydrologically linked watercourses and downstream impact on SAC qualifying habitats during the construction phase (Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC: 1.7km South);
 - Potential pollution of supporting habitats of qualifying species during the construction phase (Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC: 1.7km South), and
 - Disturbance to qualifying species during the construction and operational phase (Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC: 1.7km South).

Table 5 - Test of Likely Significant Effect

Designated Site (inc. distance)	Impact & Pathway	Assessment	Stage 2 (Appropriate Assessment)?
Afon Tywi / River Tywi SAC: On-site			
Afon Tywi / River Tywi SAC: On-site	Pollution of hydrologically linked watercourses and downstream impacts on qualifying habitats	<p>Ground Contaminants</p> <p>There is the potential of encountering unforeseen anthropogenic contamination within excavations during both open-cut trenching and horizontal directional drilling (HDD) techniques, and these being washed into watercourses which flow eventually into the SAC.</p> <p>Sediment Run-off</p> <p>There is potential for mobilisation of sediments as a result of ground disturbance.</p> <p>Direct impacts/disturbance of sediments on watercourses</p> <p>Above ground works are within 50m of the Afon Tywi / River Tywi SAC with the pipeline passing under it. The pipeline route also crosses a ditch which forms part of the Afon Tywi / River Tywi SAC.</p>	<p>NO (alone and in-combination).</p> <p>The proposed development is situated within the Afon Tywi/River Tywi SAC and upstream of Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC.</p> <p>As part of industry standard measures any potentially contaminated materials will be sampled and analysed to determine whether potential contaminants are present. Disposal will then be determined based on analysis results.</p> <p>Horizontal Directional Drilling (HDD) will be the preferred construction method for the watercourse crossing of the Afon Tywi. The connection pits will be set back c.45m from the watercourse. A small shallow connecting ditch (c.50m²) on the east side of the river and within the designated site (but non qualifying habitat) will be impacted on a temporary basis through the creation of an open cut trench and then restored upon completion.</p> <p>NRW have confirmed that SSSI assent will not be required for the works to proceed.</p> <p>Furthermore, the use of industry standard pollution prevention measures, within the appointed contractors Construction Environmental Management Plan (CEMP), includes best practice methods on how to prevention pollution, the use of sediment barriers/silt fences and emergency procedures in the event of pollution incident.</p> <p>Therefore, it can be evaluated that there would not be a significant impact on the conservation status of the habitats and species associated with the Afon Tywi / River Tywi SAC.</p>

Designated Site (inc. distance)	Impact & Pathway	Assessment	Stage 2 (Appropriate Assessment)?
Afon Tywi / River Tywi SAC: On-site	Pollution of supporting habitats of qualifying species	<p><u>Sediment Run-off</u></p> <p>There is potential for mobilisation of sediments, including ground contaminants, as a result of ground disturbance, to impact on supporting aquatic habitats which provide foraging, commuting, breeding habitat for qualifying fish species and otter.</p> <p><u>Direct impacts/disturbance of sediments on watercourses</u></p> <p>Above ground works are within 50m of the Afon Tywi / River Tywi SAC with the pipeline passing under it. The pipeline route also crosses a ditch which forms part of the Afon Tywi / River Tywi SAC.</p>	<p>NO (alone and in-combination)</p> <p>The proposed development is situated within the Afon Tywi/River Tywi SAC and upstream of Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC which support qualifying fish species and otter.</p> <p>HDD will be the preferred construction method for the watercourse crossing of the Afon Tywi. The connection pits will be set back c.45m from the watercourse. A small shallow connecting ditch (c.50m²) on the east side of the river and within the designated site (but non qualifying habitat) will be impacted on a temporary basis through the creation of an open cut trench and then restored upon completion.</p> <p>NRW have confirmed that SSSI assent will not be required for the works to proceed.</p> <p>Furthermore, the use of industry standard pollution prevention measures, within the appointed contractors Construction Environmental Management Plan (CEMP), includes best practice methods on how to prevention pollution, the use of sediment barriers/silt fences and emergency procedures in the event of pollution incident.</p> <p>Therefore, it can be evaluated that there would not be a significant impact on the conservation status of the habitat and species associated with the Afon Tywi / River Tywi SAC.</p>

Designated Site (inc. distance)	Impact & Pathway	Assessment	Stage 2 (Appropriate Assessment)?
Afon Tywi / River Tywi SAC: On-site	Disturbance of qualifying species through increased noise and light levels	<p>Fish species: Twaite shad, allis shad, sea lamprey, brook lamprey, river lamprey and bullhead are either primary reasons for selection/ qualifying features of the SAC. No records of these species were returned with 1km of the site.</p> <p>No works are proposed within the main river and the installation of the pipe through HDD would be at sufficient depth (c.10m below the riverbed) and of minimal timescale (Approx. 1 week, between hours of 9am - 3pm and for no longer than 40 mins per hour), not to cause disturbance to fish species within the river. The small section of ditch on the eastern bank to be crossed via open cut trench is generally shallow (c. 0.2m) except at high tide and is therefore unlikely to be used by the qualifying fish species⁸.</p> <p>Several records of otter, including a potential natal den (dated 2006), were returned within 1km of the site. Fresh otter spraint was identified on the western bank of the river approximately 100m to the north of the works area during the October 2022 extended phase 1 habitat survey. Otter prints were also identified on the riverbank during a pre-commencement survey in May 2023.</p> <p>The western side of the river is unlikely to support holts or resting places as it is disturbed by dog walkers along the public footpath. The eastern side of the river is quieter, and the public right of way is less well used. Although the areas of scrub/young plantation along the side of the railway and road embankments provide potential areas for resting no mammal pathways were identified leading to these areas during the October 2022 survey nor during the pre-commencement survey in May 2023. No works are proposed around the hours of dawn or dusk, when otters are considered most active.</p> <p>No additional temporary or permanent lighting is required for the project.</p>	<p>NO (alone and in-combination)</p> <p>The proposed development is situated within the Afon Tywi/River Tywi SAC which support qualifying fish species and otter.</p> <p>With the exception of works within a small shallow connecting ditch (c.50m2) on the east side of the river and a temporary access track alongside the Tawelan Brook (which is created using bog mats) all other works will be a minimum of 40m away from the main river.</p> <p>NRW have confirmed that SSSI assent will not be required for the works to proceed.</p> <p>Furthermore, the use of industry standard general precautionary working measures, within the appointed contractors Construction Environmental Management Plan (CEMP), includes best practice methods to minimise disturbance to otter.</p> <p>Therefore, it can be evaluated that there would not be a significant impact on the conservation status of the species associated with the Afon Tywi / River Tywi SAC.</p>

⁸ Discussions held between the client and NRW Specialist Advisor, Fish and Fisheries has confirmed no further assessment in regard to noise/vibration impact on fish is required.

Designated Site (inc. distance)	Impact & Pathway	Assessment	Stage 2 (Appropriate Assessment)?
Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC: 1.7km South			

Designated Site (inc. distance)	Impact & Pathway	Assessment	Stage 2 (Appropriate Assessment)?
Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC: 1.7km South	Pollution of hydrologically linked watercourses and downstream impacts on qualifying habitats	<p><u>Ground Contaminants</u></p> <p>There is the potential of encountering unforeseen anthropogenic contamination within excavations during both open-cut trenching and horizontal directional drilling (HDD) techniques, and these being washed into watercourses which eventually flow into Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC.</p> <p><u>Sediment Run-off</u></p> <p>There is potential for mobilisation of sediments as a result of ground disturbance.</p> <p><u>Direct impacts/disturbance of sediments on watercourses</u></p> <p>Above ground works are within 50m of the Afon Tywi / River Tywi SAC with the pipeline passing under it. The pipeline route also crosses a ditch which forms part of the Afon Tywi / River Tywi SAC. The main river then flows into Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC.</p>	<p>NO (alone and in-combination)</p> <p>The proposed development is situated within the Afon Tywi/River Tywi SAC and upstream of Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC.</p> <p>As part of industry standard measures any potentially contaminated materials will be sampled and analysed to determine whether potential contaminants are present. Disposal will then be determined based on analysis results.</p> <p>Horizontal Directional Drilling (HDD) will be the preferred construction method for the watercourse crossing of the Afon Tywi. The connection pits will be set back c.45m from the watercourse. A small shallow connecting ditch (c.50m²) on the east side of the river and within the designated site (but non qualifying habitat) will be impacted on a temporary basis through the creation of an open cut trench and then restored upon completion.</p> <p>Furthermore, the use of industry standard pollution prevention measures, within the appointed contractors Construction Environmental Management Plan (CEMP), includes best practice methods on how to prevention pollution, the use of sediment barriers/silt fences and emergency procedures in the event of pollution incident.</p> <p>Therefore, it can be evaluated that there would not be a significant impact on the conservation status of the habitats and species associated with the Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC.</p>

Designated Site (inc. distance)	Impact & Pathway	Assessment	Stage 2 (Appropriate Assessment)?
Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC: 1.7km South	Pollution of supporting habitats of qualifying species	<p><u>Sediment Run-off</u></p> <p>There is potential for mobilisation of sediments, including ground contaminants, as a result of ground disturbance, to impact on supporting aquatic habitats which provide foraging, commuting, breeding habitat for qualifying fish species and otter.</p> <p><u>Direct impacts/disturbance of sediments on watercourses</u></p> <p>Above ground works are within 50m of the Afon Tywi / River Tywi SAC with the pipeline passing under it. The pipeline route also crosses a ditch which forms part of the Afon Tywi / River Tywi SAC. The main river flows into Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC.</p>	<p>NO (alone and in-combination)</p> <p>The proposed development is situated within the Afon Tywi/River Tywi SAC and upstream of Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC which support qualifying fish species and otter.</p> <p>HDD will be the preferred construction method for the watercourse crossing of the Afon Tywi. The connection pits will be set back c.45m from the watercourse. A small shallow connecting ditch (c.50m²) on the east side of the river and within the designated site (but non qualifying habitat) will be impacted on a temporary basis through the creation of an open cut trench and then restored upon completion.</p> <p>Furthermore, the use of industry standard pollution prevention measures, within the appointed contractors Construction Environmental Management Plan (CEMP), includes best practice methods on how to prevention pollution, the use of sediment barriers/silt fences and emergency procedures in the event of pollution incident.</p> <p>Therefore, it can be evaluated that there would not be a significant impact on the conservation status of the habitat and species associated with the Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC.</p>

Designated Site (inc. distance)	Impact & Pathway	Assessment	Stage 2 (Appropriate Assessment)?
Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC: 1.7km South	Disturbance of qualifying species through increased noise and light levels on Functionally Linked Land ⁹ .	<p>Fish species: Twaite shad, allis shad, sea lamprey, and river lamprey are either primary reasons for selection/ qualifying features of the SAC and the River Tywi provides supporting habitat for essential life cycle process of the diadromous fish species of Carmarthen Bay and Estuaries SAC, and contributes a proportion of the whole estuary/bay population of the diadromous fish species. No records of these species were returned with 1km of the site.</p> <p>No works are proposed within the main river (considered to be functionally linked land) and the installation of the pipe through HDD would be at sufficient depth (c10m below the riverbed) not to cause disturbance to fish species within the river. The small section of ditch on the eastern bank to be crossed via open cut trench is generally shallow (c. 0.2m) except at high tide and is therefore unlikely to be used by the qualifying fish species.</p> <p>Several records of otter, including a potential natal den (dated 2006), were returned within 1km of the site. Fresh otter spraint was identified on the western bank of the river approximately 100m to the north of the works area during the October 2022 extended phase 1 habitat survey. Otter prints were also identified on the riverbank during a pre-commencement survey in May 2023.</p> <p>The western side of the river is unlikely to support holts or resting places as it is disturbed by dog walkers along the public footpath. The eastern side of the river is quieter, and the public right of way is less well used. Although the areas of scrub/young plantation along the side of the railway and road embankments provide potential areas for resting no mammal pathways were identified leading to these areas during the October 2022 survey nor during the pre-commencement survey in May 2023.</p> <p>No additional temporary or permanent lighting is required for the project.</p>	<p>NO (alone and in-combination)</p> <p>The proposed development is situated within the Afon Tywi/River Tywi SAC which support qualifying fish species and otter.</p> <p>With the exception of works within a small shallow connecting ditch (c.50m2) on the east side of the river and a temporary access track alongside the Tawelan Brook (which is created using bog mats) all other works will be a minimum of 40m away from the main river.</p> <p>Furthermore, the use of industry standard general precautionary working measures, within the appointed contractors Construction Environmental Management Plan (CEMP), includes best practice methods to minimise disturbance to otter.</p> <p>Therefore, it can be evaluated that there would not be a significant impact on the conservation status of the species associated with the Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC.</p>

⁹ Functionally Linked Land is generally considered to be areas of land or sea occurring outside a designated site which is considered to be critical to, or necessary for, the ecological or behavioural functions in a relevant season of a qualifying feature for which a Special Areas of Conservation (SAC)/ Special Protection Area (SPA)/ Ramsar site has been designated.

In-Combination Assessment

- 4.3 Regulation 102 of the Habitats Regulations 2018 requires an Appropriate Assessment where *“a land use plan is likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and is not directly connected with or necessary to the management of the site”*.
- 4.4 Therefore, as well as considering the likely effects alone on European sites, it will also be necessary to consider whether there may be significant effects in combination with other plans or projects.
- 4.5 A search for major projects was undertaken within a 5km radius of the site that met any of the following criteria:
- Planning applications not yet determined
 - Applications which have been refused and are subject to appeal.
 - Projects granted permission but not yet started.
 - Projects started but not yet completed.
- 4.6 The projects identified in Table 6 those which meet the above criteria.

Table 6 - Projects within 5km of the Project

Reference	Description	Location and Distance from Site	Planning Status	Comment
PL/00435	Proposed new manufacturing/w arehousing facility with ancillary office accommodation and associated infrastructure works	Plot C1, Parc Pensarn, Carmarthen, SA31 2NF 0.5km east	Granted (10/09/2021)	No impacts on NSN sites or supporting habitats identified.
PL/01905	Proposed solar farm and associated works	Land west of St David's Park, Carmarthen 1.6km southeast	Granted (17/08/2021)	Site adjacent to a watercourse which is hydrologically linked to the Afon Tywi / River Tywi SAC. No direct impacts anticipated. Use of CEMP recommended to avoid pollution during construction.

Reference	Description	Location and Distance from Site	Planning Status	Comment
PL/04717	Residential development (21 houses) including works to increase the width of the highway pavement across the frontage of the site	Former Cattle Breeding Centre, Travellers Rest, Johnstown, Carmarthen, SA31 3RS 1.7km west	Awaiting decision (Validated 20/10/2022)	No impacts on NSN site identified.
PL/04627	Residential development of 93 dwellings and associated landscaping and infrastructure	Land at Frondeg, Carmarthen West, Carmarthen, SA31 3EA 1.8km west	Awaiting decision (Validated 12/09/2022)	The site is within 2km of the River Twyi SAC and bordered by a hydrologically connected watercourse: Holding objection - HRA required.
PL/04306 (outline application); AP-7521 (appeal)	Outline planning permission for up to 23 dwellings and associated works including off-site highway improvements (resubmission of PL/01879)	Vacant land off St Annes Lane, Cwmffrwd, Carmarthen, SA31 2LZ 2.5km southeast	Refused (28/10/2022); Appeal lodged (19/04/2023)	No impacts on NSN site identified.
W/38125 (outline application); AP-7110 (appeal)	Proposed development of 36 residential dwellings and associated works	Land to the south of Dol y Dderwen, Llangain, SA33 5BE 3.6km southwest	Initially refused (20/11/2019); Appeal allowed (11/12/2020)	No impacts on NSN site identified.

- 4.7 In regard to application PL/04627, based on NRW and LPA Ecologist comments, it is assumed that a HRA and CEMP will be required to conclude no significant effects on the SACs will occur. Therefore, none of above projects have identified significant impacts on a NSN designated sites.
- 4.8 Consideration was also given to the Carmarthenshire Local Development Plan (adopted 2018, under review in March 2022).

- 4.9 No projects or plans identified that could have a significant in-combination impact with the proposed development works on a NSN designated site.

Appropriate Assessment

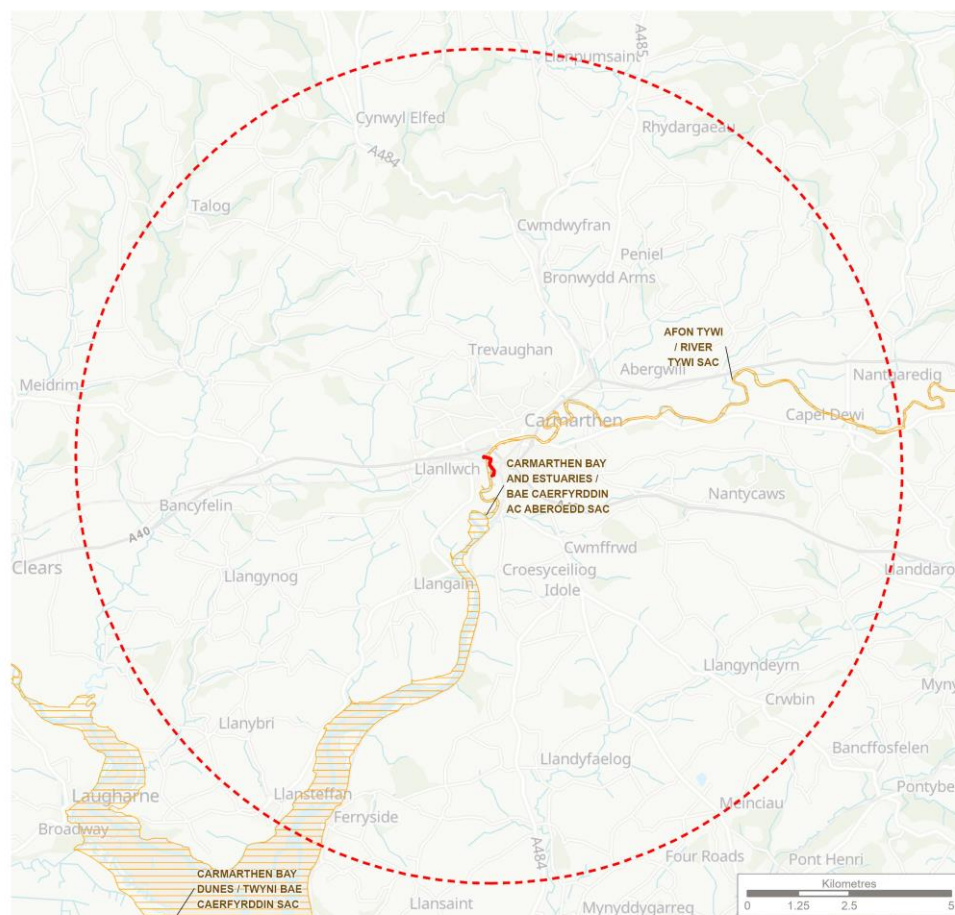
- 4.10 The Appropriate Assessment stage of the HRA focuses on those impacts judged likely at the screening stage to have a significant effect and seeks to conclude whether they would result in an adverse effect on the on the integrity of the qualifying features of a NSN site(s), or where insufficient certainty regarding this remains.
- 4.11 The integrity of a site depends on the site being able to sustain its 'qualifying features' across the whole of the site and ensure their continued viability.
- 4.12 Following the TOLSE (Stage 1 screening), it is considered that the proposed development will not have a significant effect, without mitigation, on either the conservation interests of the Afon Tywi /River Tywi or Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC, either alone or in combination with other projects/ plans.
- 4.13 Therefore, progression through to Stage 2 (Appropriate Assessment) will not be required.

5.0 Conclusions

- 5.1 A Habitats Regulations (HRA) Stage 1 Screening Assessment has been prepared in support of the HW021 Gas Pipeline Diversion project.
- 5.2 This screening report was informed by ecological surveys, review of available information and a desk-based survey undertaken by TEP.
- 5.3 The first part of this assessment took the form of a Test of Likely Significant Effect or "TOLSE". Due to the proposed development type, the following potential impact pathways have been identified that could potentially impact the identified Natura 2000 sites:
- Potential pollution of hydrologically linked watercourses and downstream impact on SAC qualifying habitats during the construction phase (Afon Tywi / River Tywi SAC);
 - Potential pollution of supporting habitats of qualifying species during the construction phase (Afon Tywi / River Tywi SAC);
 - Disturbance to qualifying species during the construction and operational phase (Afon Tywi / River Tywi SAC).
 - Potential pollution of hydrologically linked watercourses and downstream impact on SAC qualifying habitats during the construction phase (Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC: 1.7km South);
 - Potential pollution of supporting habitats of qualifying species during the construction phase (Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC: 1.7km South), and
 - Disturbance to qualifying species during the construction and operational phase (Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC).
- 5.4 This assessment concludes that, without mitigation, there will not be a significant effect on the habitats or species associated with the Afon Tywi /River Tywi SAC both alone and in combination, from the construction phase or operational use. Therefore, progression through to Stage 2 (Appropriate Assessment) will not be required.
- 5.5 This assessment concludes that, without mitigation, there will not be a significant effect on the habitats or species associated with the Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC, both alone and in combination, from the construction phase or operational use. Therefore, progression through to Stage 2 (Appropriate Assessment) will not be required.

DRAWINGS

G9663.002 - Internationally Designated Sites within 10km



Key

- Site boundary
-  Site boundary - 10km buffer
-  Special Areas of Conservation (SAC)

Sites searched for were as follows:

- Ramsar
- Special Protection Areas (SPA)
- Special Areas of Conservation (SAC)

TEP | **THE ENVIRONMENT PARTNERSHIP**

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Project
HW021 Gas Pipeline Diversion

Title
Internationally Designated Sites Within a
10km Buffer

Drawing Number
G9663.002

Scale	Date
1:115,000 @ A4	28/10/2022

Drawn AR	Checked MK	Approved AE
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