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LLA Tidal Flap (0366)

Habitat Regulations Assessment (HRA)





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1. INTRODUCTION

1.1 ASSESSMENT BACKGROUND

- 1.1.1 This document provides information to support an Appropriate Assessment under The Conservation of Habitats and Species Regulations 2017 (hereafter referred to as the 'Habitats Regulations') for scheduled maintenance the LLA Tidal Flap (0366) on behalf of Network Rail (NR).
- 1.1.2 Under the requirements of the European Council Directive 92/43/EEC 'The Habitats Directive', it is necessary to consider whether projects or plans may have significant effects upon areas of nature conservation importance designated/classified under the Directives. This requirement is translated into UK law through the 'Habitats Regulations'.
- 1.1.3 EcoVigour Ltd have been commissioned to produce these documents for MGroup Ltd (Rail Division), the principal contractor, working on behalf of Network Rail, the client.
- 1.1.4 The project is scheduled to begin at the earliest opportunity upon receipt of the Marine License. The works will require several days to a week, over the next several months to complete the remedial works. Timing will be limited by tidal windows aligning with available railway line blocks.
- 1.1.5 In addition to serving the Appropriate Assessment (AA) requirements, this document will also serve notice of activities in proximity to a SSSI (S28G Notice). This assessment will be submitted to the competent authority Natural Resources Wales (NRW) due to the structure spanning or marking the legislative boundary of adjacent designated sites.
- 1.1.6 As the works necessitate repairs to a marine defence seaward of Mean High-Water Spring (MHWS) limits of a Tidal Flap, a Band 1 License is required.
- 1.1.7 The main statutory designated site which requires consideration under the Habitats Regulations has been identified as:
 - ◆ Carmarthen Bay and Estuaries - Special Area of Conservation (SAC).
- 1.1.8 Also requiring consideration in relation to seeking Site of Special Scientific Interest (SSSI) Assent for the works from NRW is:
 - ◆ Burry Inlet and Loughor Estuary SSSI
- 1.1.9 Downstream statutory designated sites include:
 - ◆ Burry Inlet – Special Protection Area (SPA)
 - ◆ Burry Inlet – RAMSAR
- 1.1.10 Following review and consensus, this document will form part of the working methodology for the project, supporting working within a designated site.
- 1.1.11 Under the requirements of the European Council Directive 92/43/EEC 'The Habitats Directive', it is necessary to consider whether projects or plans may have significant effects upon areas of nature conservation importance designated/classified under the Directives. This requirement is translated into UK law through the 'Habitats Regulations'.
- 1.1.12 In addition to the above the assessment has been compared with the Welsh Nation Marine Plan (WNMP) documentation, which can be found within Appendix D.



1.2 PROJECT BACKGROUND

- 1.2.1 The tidal flap and culvert are located along the western shore of the Loughor Estuary. The Carmarthen Bay and Estuaries SAC and Burry Inlet and Loughor Estuary SSSI lie on the eastern boundary of the proposed works area, which will encroach on the designated site boundaries. Please see figures 1 & 2 below for further context.



Figure 1: Site Location and Designated Site Boundary.



Figure 2: Damaged Tidal Flap.



2. LEGISLATIVE CONTEXT

2.1 OVERVIEW

- 2.1.1 This document provides information to support an Appropriate Assessment under the Habitats Regulations of the proposed works by (MGroup) on behalf of Network Rail.
- 2.1.2 The Habitats Directive, transposed into UK legislation through the Conservation of Species and Habitat Regulations (2017) (Article 6 of European Council Directive 92/43/EEC), any plan or project not directly connected with, or necessary to, the management of a European designated site but likely to have a significant effect, either alone or in combination with other plans or projects, shall be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives.
- 2.1.3 If the Appropriate Assessment concludes that the proposed works may have an adverse effect on the integrity of a European Site, or that such an effect cannot be ruled out (in line with the recognised precautionary principle) avoidance and mitigation measures to avoid such an effect must be considered.
- 2.1.4 If it cannot be concluded that the proposed works will not have an adverse effect upon the integrity of the site(s), further measures and assessments would be required. Potentially in the form of compensation.

3. METHODOLOGY

3.1 OVERVIEW

- 3.1.1 This assessment has been produced in-line with Habitats Regulations guidance published by the JNCC (2010), English Nature (now Natural England) (2001) and the Countryside Council for Wales (now Natural Resources Wales) (2008).
- 3.1.2 The asset is situated on the border of the Carmarthen Bay and Estuaries SAC and Afon Burry Inlet and Loughor Estuary SSSI.
- 3.1.3 Additionally, the Burry Inlet RAMSAR and SPA are situated within 2km of the project, which will be discussed in further detail within the scoping section below.
- 3.1.4 This HRA will focus on the potential likely significant effects (LSE) of the rail asset maintenance on the Carmarthen Bay and Estuaries - Special Area of Conservation (SAC), Burry Inlet – Special Protection Area (SPA) and Burry Inlet – RAMSAR.



4. DESCRIPTION OF THE PROPOSED ACTIVITIES

4.1 SITE CONTEXT

- 4.1.1 The work site focuses on the failing areas of wall masonry and the damaged tidal flap on the seaward facing side of the culvert. Access to the asset will be gained from Pencoed Isaf Road, with the seaward-facing section accessed via a Network Rail level crossing to the south of the culvert.

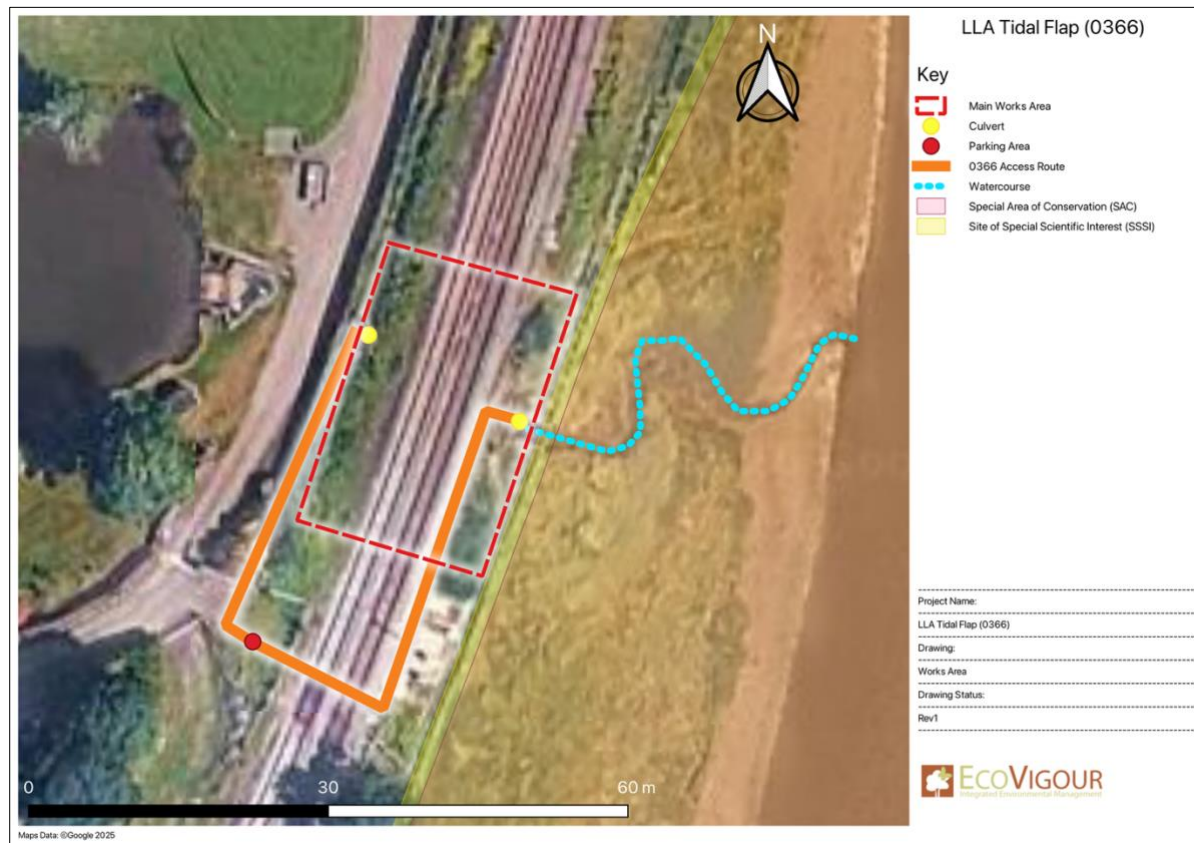


Figure 3: Abutment Sections.

- 4.1.2 The maintenance works will consist of the summarised tasks described in the section below.



4.2 METHOD OVERVIEW – MASONARY WALL REPAIRS AND ASSET MAINTENANCE

- 4.2.1 Works are scheduled to commence at the earliest opportunity following receipt of the Band 1 Marine License. Maintenance will take approximately 2 weeks. Specific dates will be dictated by available line blocks and weather conditions. The longer license period is requested to account for poor weather conditions and limited available light, as the determination of the license will likely take until autumn.
- 4.2.2 Works periods will be scheduled around daytime shifts primarily. Maintenance to the seaward facing side of the tidal asset during the night is not envisaged.
- 4.2.3 The project works will be monitored by an Environmental Clerk of Works (ECoW) to ensure abidance to the HRA conditions, undertaking supervision duties when required and undertaking audits throughout the duration of the works. The ECoW has the authority to abort site operations in the event works are causing disturbance to bird species. E.g., during sensitive early morning foraging periods.
- 4.2.4 Mixing equipment will consist of a 110v paddle mixer, 3.5kVa generator and mixing buckets. The pieces of equipment can be moved by hand when required.
- 4.2.5 Localised clearance of vegetation will be carried out where necessary to access the culvert and allow for temporary de-watering to enter the inland barrel of the culvert, to implement repairs.
- 4.2.6 Pointing materials will be mixed in accordance with manufacturer's instructions. Where possible, mixing of material will occur within the rail corridor or on stable sections of the defence assets. However, some mixing may need to occur at ground level.
- 4.2.7 Operatives will place polythene protection to base of asset, affixed to the wall by the operative, at the areas of works, in order to capture any arisings from the maintenance.
- 4.2.8 Existing loose mortar will be removed using hand tools and collected where possible. Water flow from the section of wing wall scour to be repaired will be temporarily diverted using sand bags.
- 4.2.9 Operatives will document each section of works, on completion of pointing rope access operatives collect dropped pointing materials and remove from the working area.
- 4.2.10 Any obstructing vegetation growth will require removal to better ascertain the condition of these areas. Loose material will be moved by hand and set into position using target use of mortar or securing pins. As with the masonry works, any minor repairs will be like for like. Vegetation clearance will only occur on the sea defences and 3m (maximum) from the toe of the defence as to not impact the adjacent designate habitat features.
- 4.2.11 This is specific to the rail corridor habitat and inland area and not the lower habitat with the tidal reach/statutory site. There will be no removal of Annex I habitat from the designated sites.



4.3 SUPPORTING WORKS

Site Welfare - Delivery/Setup

- 4.3.1 No formal compound is required to support the works. Welfare will be provided using mobile welfare vans. These will be moved to suitable locations as the project requires. A small compound will be set up at the access location on Pencoed Isaf Road.

Access

- 4.3.2 Access to the structure will be on foot or using rail mounted equipment only, with no vehicles entering the estuarine environment.

Emergency Plans

- 4.3.3 The contractor will ensure that emergency pollution control plans (superseding the standardised spill control plan) are prepared prior to the commencement of the project.

Emergency Plan Fundamentals:

- ◆ Any disabled or malfunctioning equipment within or near the channel environment will be immediately checked for any potential release of hydrocarbons, and if discovered, spill kits and trays will be used immediately.
- ◆ The on-call emergency engineer provider will be requested to attend site in the event that the fault cannot be resolved by the operator. As all equipment is accrued by hand, any faulty equipment will be carried out of the marine environment.
- ◆ NRW and the on-call Environmental Clerk of Works will be contacted immediately and made aware of the emergency and risk of a pollution event.



4.4 SITE IMAGES



Figure 4: Scour Damage to culvert wingwall.



Figure 5: Watercourse beneath culvert.



Figure 6: Small channel connecting to River Lougher.



Figure 7: Damaged tidal flap.



Figure 8: Vegetation surrounding culvert (East side).



Figure 9: Vegetation surrounding culvert (West side).



5. HRA METHODOLOGY OBJECTIVES

5.1.1 Habitats Regulation Assessment is an assessment of the potential effects of a proposed project / maintenance activity on a European site(s) (alone and/or in combination with other plans and projects). The Habitats Regulations promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the project should aim to avoid significant adverse effects by identifying potential measures to avoid these effects.

5.1.2 Where adverse effects remain, mitigation measures should be applied to a point where these effects are no longer significant. If sufficient mitigation measures cannot be applied, the project should not be taken forward in its current form. In such a scenario, the project will require an assessment to identify alternative solutions that deliver the project in a form that avoids any significant adverse effects.

5.1.3 Where significant adverse effects remain, compensatory measures will be required if the project is to proceed. However, the application of such measures will only be permitted if no alternative solutions exist and the project is required for imperative reasons of overriding public interest (the 'IROPI' test).



6. DESIGNATED SITES WITHIN PROXIMITY TO SITE

6.1.1 There are several statutory designated sites interfacing or within proximity to the asset. Directly concerned with the remedial works are:

6.1.2 Site of Special Scientific Interest:

- ◆ Burry Inlet and Loughor Estuary SSSI

6.1.3 Special Area of Conservation:

- ◆ Carmarthen Bay and Estuaries - Special Area of Conservation (SAC).
- ◆ Burry Inlet – Special Protection Area (SPA)

6.1.4 RAMSAR's

- ◆ Burry Inlet – RAMSAR

6.1.5 The SSSI contains overlapping features and therefore will be viewed in combination with the SAC in terms of mitigation highlighted in the latter sections within this document.

6.1.6 The SAC, SPA and RAMSAR will be detailed within the same sections as the SPA & RAMSAR Ornithological features are reliant on the in-situ features present within the SAC.

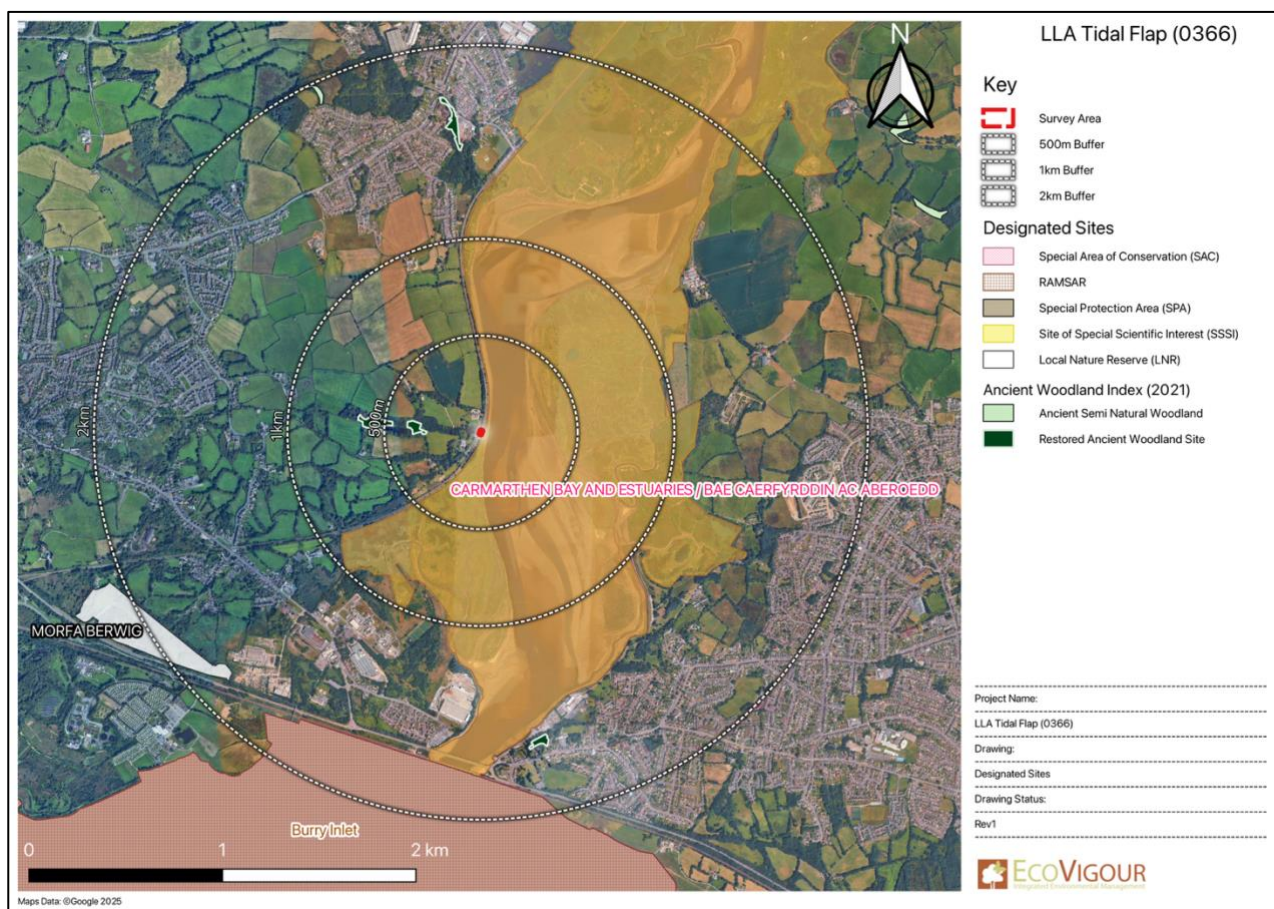


Figure 10: Designated Sites within 2km of Works Area



7. CARMARTHEN BAY AND ESTUARIES - SPECIAL AREA OF CONSERVATION (SAC) & BURRY INLET (SPA & RAMSAR)

7.1 SAC OVERVIEW

- 7.1.1 Within NRW documentation, Carmarthen Bay and Estuaries SAC is noted for its large area encompassing the estuaries of the Rivers Loughor, Tâf and Tywi (coastal plain estuaries) and the Gwendraeth (a bar-built estuary) including extensive areas of intertidal mudflats and sandflats with large areas of these flats dominated by bivalves. Complete sequences of saltmarsh vegetation, from pioneer vegetation through to upper saltmarsh transitions is present, which is essential for transitions from saltmarsh to sand dune and other habitats.
- 7.1.2 Carmarthen Bay is an extensive shallow bay with a variety of seabed types, including mud, sand and rock, although the majority of the seabed is sandy. The site 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.
- 7.1.3 Consequently, the SAC is a multiple interest site which has been selected for the presence of ten interest features that qualify under Annex I and Annex II of the Habitats Directive.
- 7.1.4 The table below details the qualifying habitats and species of the SAC, which is considered to be one of the best areas in the UK for:

Table 1: Annex I & II features of the SAC.

EU Code	Feature
Annex I habitats that are a primary reason for selection of this site	
1110	Sandbanks which are slightly covered by sea water all the time
1130	Estuaries
1140	Mudflats and sandflats not covered by seawater at low tide
1160	Large shallow inlets and bays
1310	Salicornia and other annuals colonizing mud and sand
1330	Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)
Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site	
	Not Applicable
Annex II species that are a primary reason for selection of this site	
1103	Twaiite shad <i>Alosa fallax</i>
Annex II species present as a qualifying feature, but not a primary reason for site selection	
1095	Sea lamprey <i>Petromyzon marinus</i>
1099	River lamprey <i>Lampetra fluviatilis</i>
1102	Allis shad <i>Alosa alosa</i>
1355	Otter <i>Lutra lutra</i>



7.2 SPA & RAMSAR FEATURES

- 7.2.1 In conjunction with the Annex features outlined in the previous section, this site also qualifies as a Wetland of International Importance by regularly supporting, during winter, over 20,000 waterfowl. Over a five-year period (1985/86 to 1989/90) an average peak of 48,100 birds was recorded, comprising 12,500 wildfowl and 35,600 waders.
- 7.2.2 Furthermore, the site qualifies for its elevated status by supporting internationally or nationally important wintering populations of the following species of migratory waterfowl.
- 7.2.3 The Ornithological features present within the SPA are listed below:
- ◆ Curlew (*Numenius arquata*)
 - ◆ Dunlin *Calidris (Alpina alpina)*
 - ◆ Grey plover (*Pluvialis squatarola*)
 - ◆ Knot (*Calidris canutus*)
 - ◆ Oystercatcher (*Haematopus ostralegus*)
 - ◆ Pintail (*Anas acuta*)
 - ◆ Redshank (*Tringa tetanus*)
 - ◆ Shelduck (*Tadorna tadorna*)
 - ◆ Shoveler (*Anas clypeata*)
 - ◆ Teal (*Anas crecca*)
 - ◆ Turnstone (*Arenaria interpres*)
 - ◆ Wigeon (*Anas penelope*)
- 7.2.4 The table below indicates the current condition assessment of species from the NRW SPA Indicative Site Level Assessment 2018 – Report No: 236.

Table 2: Indicative condition assessments for Burry Inlet SPA

Common Name	Latin Name	Indicative Condition Assessment	Confidence in Assessment
Oystercatcher (wintering)	Haematopus ostralegus	Unfavourable	High
Knot (wintering)	Calidris canutus	Favourable	High
Turnstone (wintering)	Arenaria interpres	Unknown	High
Pintail (wintering)	Anas acuta	Favourable	High
Shoveler (wintering)	Anas clypeata	Unfavourable	High
Teal (wintering)	Anas crecca	Favourable	High
Wigeon (wintering)	Anas penelope	Unfavourable	High
Dunlin (wintering)	Calidris alpina	Favourable	High
Curlew (wintering)	Numenius Arquata	Unfavourable	High
Grey plover (wintering)	Pluvialis squatarola	Favourable	High
Redshank (wintering)	Tringa totanus	Favourable	High
Shelduck (wintering)	Tadorna tadorna	Unfavourable	High
Waterbird assemblage (wintering)	Not applicable	Favourable	High



7.2.5 In relation to Monitoring, the project is situated within the DB002 of the BTO Research Report No.467 monitoring areas (see figure below).

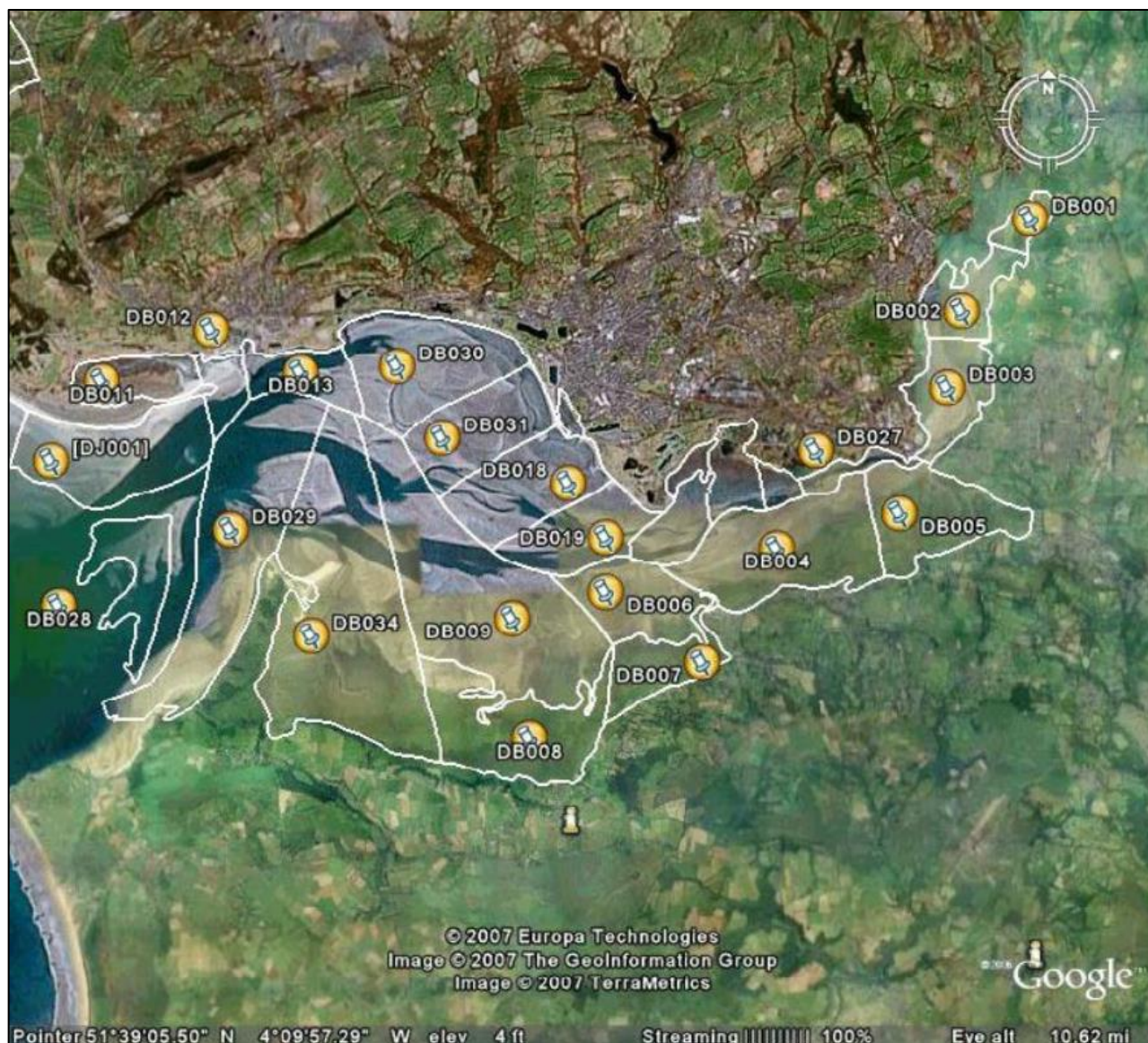


Figure 11: BTO Monitoring Areas.

7.2.6 In relation to this assessment, DB001 and DB003 are also considered, given the upstream and downstream connectivity. Within both reports, DB002 did not yield significant numbers, with some occasions being an absence of oystercatchers being observed.

7.2.7 However, during both the 2007 and 2014 assessments, feeding was observed in DB001 & 003, suggesting that the wider context of these sections is a component of foraging and supporting the wider SPA downstream. Limiting roosting appears to occur within this section (002). The works location is at the transition between 002 & 003.



8. BURRY INLET AND LOUGHOR ESTUARY SSSI

8.1 OVERVIEW

- 8.1.1 Noted as the largest estuarine complex within old West Glamorgan county and Borough of Llanelli. The SSSI is comprised of extensive areas of grazed saltmarsh, sand and mud flats, the area is internationally significant for its wader and wildfowl populations with overwintering totals averaging in excess of 46,000 birds, therefore is SPA and RAMSAR designation.
- 8.1.2 The Burry Inlet exhibits a particularly wide tidal range (approx. 8m) with its estuarine form deriving from the effects of glacial processes.
- 8.1.3 Whilst fine sands comprise the bulk of the sediments within the estuary, smaller particle sizes predominate in more sheltered areas where tidal velocities are reduced. The saltmarshes formed in areas where plants have subsequently been able to colonise are the most extensive in Wales and cover an area more than 1600 ha.

8.2 SITE MANAGEMENT STATEMENT

- 8.2.1 The competent authorities (NRW & NE) both produce Site Management Statement's (SMS's), which outline the features that inform the overall status of a designated site. The features that inform the site in question are:
- ◆ Saltmarsh
 - ◆ Geomorphology consisting of a range of sediment deposition including the formation of intertidal mudflats and sandflats
 - ◆ Brackish swamps, reedbeds and grassland
 - ◆ Important numbers of wildfowl and waders
 - ◆ Intertidal features
- 8.2.2 In addition to the highlighted features of importance. The SMS also outlines potential damaging vectors to a designated site features, summarised as Potentially Damaging Operations (PDO) lists. Below are the activities considered relevant to the proposed project (Table 2 below).

Table 3: PDO list from NRW Designated Site Finder Tool.

SMS Ref No:	Type of operation
19.	Erection and repair of sea defences or coast protection works, including cliff or landslip drainage or stabilisation measures.
21.	Destruction, construction, removal, rerouting, or regrading of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks, including soil and rock exposures.
22.	Storage of materials.
23.	Erection of permanent or temporary structures or the undertaking of engineering works, including drilling or the laying, maintenance or removal of pipelines and cables, above or below ground.
26.	Use of vehicles, or craft.



9. PHYSICAL PROCESSES

9.1 RELEVANT POLICIES WITHIN THE SHORE MANAGEMENT PLAN 2 (SMP2)

- 9.1.1 As part of the Appropriate Assessment, it is necessary to compare the proposed works against the long-term policies outlined within the Shore Management Plan 2 (SMP2). Within the SMP2 there are several policy units relevant to this section of coastline and estuary.
- 9.1.2 The structure is contained within Policy Unit PU12.6 - River Loughor West Bank (NTL, south of Pontardulais to Loughor Bridge).



Figure 12: SMP2 - Policy Units

- 9.1.3 Management units are defined within epochs, with epoch 1 referring to periods from present to 2026, epoch 2 referring to years between 2026-2055 and epoch 3, 2056-2105.
- 9.1.4 As part of the SMP2, the chosen policies are measured against the potential economic impacts and environmental impacts projected over the course of time.



9.1.5 Table 4 below describes the project habitat loss as a consequence of the long-term preferred policy.

Table 4: Relevant Policy Unit description.

Policy Unit		Policy Plan			
		Present to 2025	2026 2055	- 2056 2105	Comment
PU12.6	River Loughor West Bank (NTL, south of Pontardulais to Loughor Bridge).	NAI	NAI	NAI	
Key: HTL - Hold the Line, A - Advance the Line, NAI – No Active Intervention MR – Managed Realignment					

- 9.1.6 Regarding whether the proposed works are an infringement of preferred policy, this assessment deems the project as not challenging the current preferred policy units. All areas are within NAI zones.
- 9.1.7 However, the works fit within the definition of minor works, outlined with the recent Welsh Government position statement regarding coastal processes.
- 9.1.8 It is conceivable that the current structural tolerances and functions will need to be reviewed considering future increased occurrences of high energy weather events, combined with naturally higher tidal limits. In terms of managed realignment, this will be a topic of further discussion for any maintenance works projected to occur during 2026 onwards.
- 9.1.9 However, such engineering and long-term infrastructure considerations are beyond the scope of these remedial works and this Appropriate Assessment.



10. ASSESSMENT OF POTENTIAL IMPACTS RESULTING FROM SPECIFIC ACTIVITIES AND PROPOSED MITIGATION MEASURES – LLA TIDAL FLAP (0366)

This section outlines the receptors of potential damaging vectors as a result of the proposed works and proposes appropriate mitigative measures to ensure that there is not a significant likelihood of impacts.

10.1 ANNEX I HABITATS – IMPACTS & MITIGATION

Receptor	Affected Site	Potential Hazard	Mitigation Measures	Likelihood of Impact
Estuarine habitat	SAC/SSSI	Contamination of the estuary from spillage of hydrocarbons during refuelling of equipment or due to equipment failure. Or, Confirmation as a result of repointing of Masonry or targeted repairs, such as the void identified in section E.	All works set up and audited on a regular basis by the Environmental Clerk of Works (ECOW). A refuelling procedure will be implemented, whereby plant nappies will be placed beneath fuelling apertures during fuelling and refuelling will only be undertaken by designated, trained individuals. NR have a spillage plan and specialised contractor in place to respond to and clean up spills. The Contractor will develop and implement an Emergency Awareness and Response Plan. GPP5 Guidance for Pollution Prevention - Works and maintenance in or near water, will be referenced to. These will include: ◆ GPP 5 - Works and maintenance in or near water ◆ GPP 7 - Safe storage – The safe operation of refuelling facilities, ◆ GPP 21 - Pollution incident response planning, ◆ GPP 22 - Dealing with spills This will describe how spills will be contained and cleaned up. The emergency plan will appoint an Incident Coordinator, define roles and responsibilities during an incident, detail response procedures and contain an inventory of response equipment to be maintained on site. As much as practically possible, the mixing of mortar material will be undertaken within the rail corridor (track side). If there is no safe distance between the running rail and the works location, mixing will occur at beach/ground level. No mixing equipment, plant or machines will be used without a supply of spill kits, plant nappies and pre-works checks.	Negligible likelihood of significant impacts.



Receptor	Affected Site	Potential Hazard	Mitigation Measures	Likelihood of Impact
			All mixing to occur will be undertaken within the rail corridor and not within the saltmarsh intertidal area. Spill kits, drip trays and plant nappies will be placed below and near the 110v generators during operation. Plastic screening will be placed on the base of the wall to capture material broken off from the sea defences during masonry repairs. Every practical effort will be made to collect all loose broken mortar material arising from the wall repairs and remove them from the designated site environment. Should the paddle mixer not be of sufficient volume to readily repair the void noted within the scoping reports, then grout or cement will be pumped from a source situated outside of the marine environment. All hand tools for vegetation clearance will be checked prior to use and stored in secure areas and on spill mats when not in use. Equipment will be fuelled at the layby areas indicated prior to use. No refilling is permitted within or adjacent to the Salt Marsh habitats.	
Intertidal mudflats & sand flats (also part of estuarine habitat)	SAC/SSSI	Contamination of the estuary from spillage of hydrocarbons during refuelling of equipment or due to equipment failure.	See comments above under estuarine habitat.	Negligible likelihood of significant impacts.
Salt marshes (also part of estuarine habitat)	SAC/SSSI	Contamination of the estuary from spillage of hydrocarbons during refuelling of equipment or due to equipment failure.	Salt Marsh is present along the edges of the working area. The contractor will ensure measures such as placement of tarps, covers any vulnerable areas of salt marsh habitat to limit the potential for contamination. See comments above under estuarine habitat.	Negligible likelihood of significant impacts.
Rocky shores (also part of estuarine habitat)	SAC/SSSI	No impact	See comments above under estuarine habitat.	Negligible likelihood of significant impacts.
Reedbeds/ swamps	SAC/SSSI	No impact	See comments above under estuarine habitat	No impact



Receptor	Affected Site	Potential Hazard	Mitigation Measures	Likelihood of Impact
Neutral grassland	SAC/SSSI	No impact	See comments above under estuarine habitat	No impact
Estuarine Habitat	SAC/SSSI	Loss of Habitat as a result of vehicle movement.	It is expected that any disturbed sand flat or shingle habitat will be temporary, with sediment material remobilising following incoming tides and will quickly be deposited into its previous alignment.	Negligible likelihood of significant impacts.
Estuarine Habitat	SAC/SSSI	Loss of Habitat as a result of structure repairs.	The repairs will not cause an increase in the horizontal footprint of the defences in such a manner which could cause direct habitat loss as a result of an enlarged defence footprint. In terms of long-term impact. The repairs represent maintenance as outlined in the Welsh Government position statement on coastal squeeze and does not deviate from the Shore Line Management Plan 2 – preferred policy of Hold the Line.	Negligible likelihood of significant impacts.



10.2 ANNEX II SPECIES – IMPACTS & MITIGATION

Receptor	Affected Site	Potential Hazard	Mitigation Measures	Likelihood of Impact
Aggregations of bird species	SSSI / SPA / RAMSAR	Noise disturbance / Visual Disturbance.	Maintenance work will result in a period of noise and visual disturbances. However, noise levels are unlikely to exceed those currently generated by trains and road traffic currently utilising the rail network. Works will be undertaken predominantly during the day, at low tide conditions. Works above or seaward of MHWS during high tide is not permitted as part of the works. A single night shift will be required, to lift out the old tidal flap and replace it, due to the weight of the component. Some supporting works during high tide may occur within the boundary of the rail corridor, such as mobilisation or demobilisation of equipment or offloading of material to be closer to working locations. Paddle mixture equipment will use low nose electric motors to mix the required material. The 11v generator will only run when required and will be placed in such a way that noise emissions are intercepted by structures such as wall, or barriers to deaden noise further. Toolbox talks will be provided by the Environmental Clerk of Works prior to works commencing. This will identify potential impacts and direct localised mitigation where required. The assessment acknowledges the proximity of the works to the BTO monitoring units and the importance of wider site during latter winter and challenging weather conditions. As such, during poor weather conditions during spring, works will be avoided. This will both serve a safety critical component while also ensuring the bird assemblage is not unduly disturbed when looking for shelter during winter storms. In terms of visual buffers, DB002/003 is a relatively narrow unit, assuming similar SPA visual guidelines to other sites. It is very likely that a 200m buffer from significant portions of the projected bird assemblages can be maintained, as when the water levels encroach on the working areas, teams will demobilise. During peak low-tide, the vast majority of these monitoring units will be undisturbed.	Negligible likelihood of significant impacts.



Receptor	Affected Site	Potential Hazard	Mitigation Measures	Likelihood of Impact
Fish Assemblage	SAC/SSSI	Contamination of the estuary from spillage	See comments under estuarine habitat	Negligible likelihood of significant impacts.
Vascular plant assemblage associated with salt marsh (part of estuarine habitat)	SAC/SSSI	No impact	See comments under estuarine habitat	Negligible likelihood of significant impacts.
Otter (Lutra Lutra)	SAC/SSSI	Noise disturbance / Visual Disturbance / Habitat Destruction.	Otter populations are known to be present along the Loughor Estuary. Toolbox Talks (TBTs) will inform site personnel on identifying the Annex II Species. No otter holts have been noted to date within proximity to the structure and are unlikely to be found during works on the seaward facing wall sections. Habitat impact is limited, and it is not anticipated that these works will have an impact on the wider population and Otter policy objectives of the Core Management Plan. A pre-works assessment ahead of works will be undertaken in relation to Otters, to ensure no changes since the initial surveys have been accounted for. Night working is to avoided for all actives, excluding tidal flap replacement, which must be undertaken during a nighttime possession. During these works, lighting controls will be essential, with light spill into the wider estuary to be prevented. Additionally, no equipment will be left in such a manner that an animal could become snared and trapped within the working area. Should an Otter be encountered during works, personnel will temporarily stand down until the animal has vacated the immediate area under its own volition. The contractor will abide by the Gwynedd Marine Code of Conduct.	Negligible likelihood of significant impacts.



Receptor	Affected Site	Potential Hazard	Mitigation Measures	Likelihood of Impact
			Salmon and other species of the assemblage, which are a prey of Otter will not be prevented from travelling up the estuary during the project. Although there will be an elevated human presence around the defences, it is unlikely that this will present a significant determinantal impact to salmon and other species of fish migrating to spawn during the coming winter months. If night working is required, directional lighting measures will be implemented to limit disturbance. Task specific lighting will be used, and the use of flood lights will be prohibited. Steps should be undertaken to ensure that otters, mammals and birds do not become trapped within working and storage areas (e.g., small pieces of equipment, or stowed away ropes are likely to be left on site on a semi-regular basis).	
Fish Assemblage	SAC/SSSI	Noise Disturbance / Visual Disturbance / Habitat Destruction.	Work will be undertaken during generally favourable conditions within the spawning season for migratory fish such as salmon, trout and eel (mid Oct – Mid April) but will fall within the spawning season for several species of fish which are offered protection under the Natural Environment and Rural Communities Act. Spawning periods for these species are generally between March and July. No works within the designated sites will occur until formal assent has been granted by Natural Resources Wales. Works will be undertaken within the estuary during the 2026 latter spawning seasons for protected and migratory fish. ◆ The works will not present a barrier to the permanent flowing portion of the estuary. During high tide, it will be possible for fish to migrate along vast majority of the estuary without coming into proximity to any tasks being undertaken at that particular moment. ◆ Works within the estuary during low tide at bed level will be localised and low impact and will not involve any deep excavation or dredging. No increase in structure footprint is envisaged.	Impact Not Likely to be Significant, with appropriate mitigation



Receptor	Affected Site	Potential Hazard	Mitigation Measures	Likelihood of Impact
			◆ The tidal flap and upper watercourse are not highlighted as a primary salmonid route, With limited upstream connectivity. ◆ Best practice will be used in terms of the construction methodology to limit this i.e., modern well silenced plant, use of manual tools to rake out masonry during repointing, working on the wall and embankments during low tide.	
Non-SAC Annex Features (Non-SPA Birds, etc)	NA – Localised	Noise disturbance / Visual Disturbance / Habitat Destruction.	The masonry sections have been designated as negligible for Bat Potential at the point of survey. The lower sections most requiring remedial work are below the average tidal lines and are unsuitable for roosting, while the upper sections of masonry are still well maintained with defects minor and not viable for roosting. Nesting birds were not found at the time of survey, however being a structure close to the estuary and semi-urban areas , there is the possibility of nesting inland within the adjacent woodland block. Works will be scheduled to commence at the start of the traditional nesting season. All work sites will be inspected by an Environmental Clerk of Works (ECOW), prior to any works commencing.	Negligible likelihood of significant impacts.



11. POTENTIAL IN-COMBINATION EFFECTS

11.1 OVERVIEW

- 11.1.1 It is necessary to consider the potential for significant effects from this project in-combination with other plans or projects.
- 11.1.2 In addition, the plan or project must have been subject to a HRA, which has confirmed that the plan or project is not likely to have a significant effect or demonstrates that the effects have been sufficiently assessed so as to be reasonably understood.
- 11.1.3 The assessment of in-combination effects must also focus on other projects that have the potential to cause the same types of effects as the proposed maintenance (so that these effects may occur in-combination) and where similar potential impact pathways may exist.
- 11.1.4 Therefore, this assessment has focused on other projects that could give rise to noise, visual or physical impacts on the SAC species and does not consider projects that could cause different effects.

12. KNOWN PROJECTS WITHIN THE WIDER AREA

- 12.1.1 There is currently no known large-scale project in a proximity to the proposed maintenance areas which could cause in combination effects.
- 12.1.2 However, should NRW have upcoming FRAP's or other Marine Licenses in place that are soon to be undertaken or currently being undertaken, then the maintenance will be undertake at a period that achieves the least in-combination impacts possible.



13. HRA CONCLUSION

- 13.1.1 This section will combine the key features and challenges highlighted in the CMP's and proposed to mitigation to ascertain whether likely significant impacts to the designated could occur.
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- 13.1.2 Limited working periods, during low tide predominately, during the day, reduces the intensity if the works, will also maintaining consideration for birds during challenging winter weather conditions, will ensure bird in a vulnerable position will not be unduly disturbed.
- 13.1.3 Localised SPA bird populations are likely habituated to the presence of moving trains, local fishers and walkers. Consequently, operatives access the site predominantly on foot will be unlikely to cause an excessive elevated level of normal activity.
- 13.1.4 It is envisaged that the works will have little impact on the protected areas and wildlife therein, with no determinantal impact to the current condition assessment of Annex features.
- 13.1.5 No repairs will occur during hightide, but equipment preparation of safety set up may occur ahead of a receding tide.
- 13.1.6 In terms of terms of the fish assemblage, the works will not create underwater noise, nor will works occur within the main river and estuary. There will be no alteration or impediment of normal migratory of foraging locations.
- 13.1.7 A pre-works assessment in relation to Otters will be undertaken to ensure no potential features not yet identified (e.g. holts) are impacted upon.
- 13.1.8 Refuelling and emergency response procedures as per Management Plan (MP) preparations. The implementation of this will be monitored and audited by a Project Managers from MGroup and Environmental specialist (EcoVigour).
- 13.1.9 Localised vegetation clearance at the structures will not remove any Annex I habitats from the designated sites.
- 13.1.10 The project does not represent a deviation from the current Shore Line Management Plan policy, and the scope of works is in concurrence with the Welsh Government Position Statement on coastal asset management.
- 13.1.11 The ECoW will undertake a precheck of the access route and immediate working areas.
- 13.1.12 From the available information and proposed mitigation measures, it is assessed that the high tide habitat below the rail corridor at the works site will not be significantly impacted, nor species or features relevant to the designated site as a whole.
- 13.1.13 The exact timing of the works will be agreed with NRW, dependent on whether there are further in combination impacts that require specific working dates.
- 13.1.14 In conclusion therefore, the proposed mitigation measures will ensure that no significant impact to the designated sites will occur as a result of the proposed works.



14. APPENDIX A - BIOSECURITY MANAGEMENT PLAN & RISK ASSESSMENT





15. APPENDIX B- WNMP SIGNPOST DOCUMENT

