



Foryd Bridge Resurfacing Initial Environmental Appraisal (IEA)

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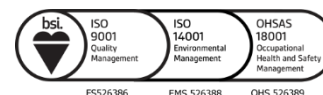
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Distribution

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Background:

YGC have been commissioned by Denbighshire Council to produce an Initial Environmental Appraisal (IEA) and associated recommendations for proposals to undertake waterproofing and re-surfacing works on the A458 Foryd Bridge, Rhyl.

The Foryd Bridge crosses the Afon Clwyd between Rhyl and Kinmel Bay, bordering the counties of Conwy and Denbighshire. The works are proposed to address surfacing defects on the main span of the bridge and will address any repairs required to the concrete deck of the bridge which may become evident following removal of the existing asphalt surfacing. The proposed remedial work will help maintain the structural integrity of the bridge.

The scheme involves the removal of existing surfacing by means of cold milling, any damage to the concrete deck will be investigated and repaired by breaking out any loose concrete and repairing with appropriate concrete repair products. Expansion joints shall be replaced with new expansion joints. Existing road surface drainage gully covers will be removed and replaced with new ironwork. Once concrete repairs have cured sufficiently and expansion joints replaced, resurfacing work will commence with a spray-on waterproofing system applied to the bridge deck followed by a new asphalt binder course and surface course.

The outline sequence of work is as follows:

1. Establish and implement diversion route and appropriate signage.
2. Full Closure of bridge to traffic.
3. Break out ironwork and road studs.
4. Cold milling of carriageway surfacing over the main span of the Foryd Bridge to 20mm above concrete deck to avoid milling of concrete as to not reduce cover to the deck steel reinforcement.
5. Remaining 20mm to be removed by hand or excavator bucket, no jackhammering.
6. Removal of existing expansion joints at both ends of the bridge and central joint.
7. Identify areas of concrete repair, break out any damaged/cracked/loose material.
Possible method would be by form of vacuum blasting to reduce dust pollution.
8. Apply suitable concrete repair, such as flowable cementous grout.
9. Install new gully cover ironworks.
10. Removal of one cable suspended streetlamp using a mobile extendable work platform (MEWP).
11. Erect height restriction signs on both approaches of bridge.
12. Install 3 new expansion joints.
13. Spray-applied waterproofing to concrete deck after sufficient curing time of any concrete repairs.
14. Lay surfacing after waterproofing layer has cured, approximate thickness of asphalt surfacing is 120mm (80mm Binder, 40mm wearing), to be confirmed.
15. Re-instate Road markings and road studs.

16. Install permanent diversion route signs to guide oversized vehicles due to new height restriction on bridge.
17. Re-open bridge to traffic.

The work is anticipated to be carried out under a full closure of the bridge with a diversion in place for traffic. Works are likely to be undertaken during daylight hours, although night time working may be needed dependent on the amount of concrete repair required. This is to be confirmed.

There will be no requirement for work to be undertaken away from the bridge deck itself, therefore no works will take place within the river channel or on the river bank.

This Initial Environmental Appraisal (IEA) report has been prepared to outline the environmental features and constraints in the vicinity of the study area. This will help inform scheme designs, in terms of considering the environmental impacts of the proposals and what mitigation measures need to be considered.

Appraisal Method:

The baseline information was gathered using Gwynedd Council's GIS Mapping System (Map Gwynedd), Data Map Wales and Archwilio (Welsh Historic Environment Record) on 27th January 2023. At the time of writing this report, the extent of concrete deck repair required is unknown, and no method of works are in place yet. It is recommended that the environmental assessment is reviewed once detailed plans and method statements are in place.

Environmental Topic, Observations & Recommendation

EIA Screening Requirement

Observations	Recommendations
The EIA Directive sets out a procedure that must be followed for certain types of project before they can be given consent. This procedure, known as Environmental Impact Assessment (EIA), is an assessment of a project's likely significant environmental effects. This helps to ensure that the predicted effects, and the scope for reducing them, are understood by the public and the relevant authority before it makes its decision. As the works are wholly maintenance in nature, the proposals are not likely to be defined as Schedule 2 development under the Town and Country Planning (EIA) Regulations 2017 or Marine Works EIA Regulations 2007 (as amended).	EIA screening is not likely to be required as the proposals involve maintenance works only.

Air Quality

Observations	Recommendations
Due to the nature of the works, there is a potential to cause dust pollution during the construction period. Dust pollution measures will need to be implemented and adhered to throughout to protect the surrounding water environment and designated sites that are located downstream. Contractors should outline what dust mitigation measures are to be implemented within a Construction Environment Management Plan (CEMP).	Design: N/A Tendering: It is recommended that contractors are informed of the need to produce a Construction Phase Environmental Management Plan (CEMP)., which will need to include dust mitigation method statement.
Relevant compliance obligations (if applicable):	

Environmental Protection Act 1990, Part III, Section 80	Construction: Standard good practice and good housekeeping would need to be implemented and adhered to during construction to minimise construction dust and emissions. Successful contractors would need to submit a Construction Environmental Management Plan (CEMP), which shall detail how they would minimise dust emissions during construction.
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Cultural Heritage

Observations	Recommendations
Pont Foryd is Grade II listed. Denbighshire Council's Conservation Officer will need to be consulted and listed building consent may be required There are no other cultural heritage features nearby that are likely to be affected by the proposals.	Design: Consult with Denbighshire Council's Conservation officer and apply for listed building consent if required. Ensure materials and finishing match existing as much as possible.
Relevant compliance obligations (if applicable): • Historic Environment (Wales) Act 2016 • The Register of Landscape of Historic Interest in Wales • Ancient Monuments and Archaeological Areas Act 1979	Tendering: Inform the contractor of any restrictions placed due to listed building status and include any specific conditions outlined within listed building consent if applicable. Construction: Contractor to adhere to any restrictions and specific conditions outlined within listed building consent if applicable.

Landscape¹

Observations	Recommendations
The proposals are not located within a sensitive landscape. Since the proposals involve maintenance to the bridge deck only, no landscape impacts are envisaged during construction or operation.	Design: N/A Tendering: N/A
Relevant compliance obligations (if applicable): Planning (Listed Buildings and Conservation Areas) Act 1990.	Construction: N/A

¹ Including any TPO's and built environment designations such as 'Conservation Areas'

Biodiversity

Observations		Recommendations
Protected and Notable Habitats (e.g. European, National, Section 7 and LBAP)	Habitats within the study area broadly include intertidal mudflats and river estuary habitat. The works are restricted to the existing bridge deck, which supports the busy A548 in an urban location. Rivers are listed as a priority habitat on Section 7 of the Environment (Wales) Act 2016. The proposal shall avoid the removal of habitat features where possible. The scheme will not involve any tree removal.	Design: Undertake survey of existing bat boxes to confirm potential presence of roosting bats. Survey shall take place end of April – early May. Consult with NRW regarding Reasonable Avoidance Measures RAM's for bats. Design shall aim to avoid any impacts to the river bank and underside of the bridge. If works to the underside of the bridge is proposed and roosting bats / evidence of roosting bats is recorded then a potential NRW EPS licence would be required for the works to progress. Tendering:
Protected and Notable Species (e.g. European, National, Section 7 and LBAP)	As noted above, The works are restricted to the existing bridge deck only. <u>Bats</u>	

	There are bat boxes present under the western abutment of the bridge. Although no works are due to take place at this location under the bridge, there is potential for roosting bats to be disturbed. It is therefore recommended that these boxes are surveyed for presence of roosting bats. A survey of the bat boxes should take place end of April – early May. Recommended avoidance measures should include no night time working and no additional lighting. NRW should be consulted once survey results are available. If works to the underside of the bridge is proposed and roosting bats / evidence of roosting bats is recorded then a potential NRW EPS licence would be required for the works to progress. <u>Otter</u> Otters are likely to be present at times within the estuary habitat beneath the bridge, however no otter habitat is likely to be affected by the works. The works are not likely to impact the river bank beneath the bridge deck as all works are confined to the bridge deck. Works should be scheduled to take place during daylight hours where possible, to avoid any potential disturbance impacts. <u>Birds</u> Feral pigeons are known to nest on the bridge supports	Construction: Works should be undertaken during daylight hours where possible to minimise potential impacts on nocturnal species such as otter and bats. No additional lighting to be used on the bridge during the works if possible. If additional lighting is required, these should be positioned as not to cause light to spill away from the bridge deck. If a bat is discovered during the works all works must cease and a licenced bat ecologist contacted for advice. A check for nesting birds within and immediately adjacent (within 10m) to the works should be completed prior to works commencing. If an active bird nest is discovered within the working area the works would need to be delayed until after the nesting activity has ceased. Adequate pollution prevention controls should be in place during construction to prevent any potential contamination of the water environment.
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	and this species is known to nest all year round. The location of the works will not affect known nesting sites for pigeons and, considering the nature of the works and regular disturbance from passing traffic and people it is unlikely that nesting birds would be disturbed. A check for nesting birds within and immediately adjacent (within 10m) to the works should be completed prior to works commencing. Note that if birds were nesting within the working area the works would need to be delayed until after the nesting activity has ceased. <u>Fish</u> The marine / estuary / river habitat within the study area is likely to support fish species, including migratory species which travel up the river for spawning. As the works are confined to the bridge deck only no impact on fish species are expected. Pollution prevention measures will need to be adhered to throughout to protect the surrounding water environment.	Contractors are to supply a Construction Phase Environmental Management Plan (CEMP) detailing how they will implement measures to protect environmental / biodiversity features during construction
Relevant compliance obligations (if applicable): Conservation of Habitats and Species (EU Exit) Regulations 2019The Wildlife and Countryside Act 1981, as amended Environment (Wales) Act 2016		

Nature Conservation Sites

Observations		Recommendations
International Sites ²	The proposed works are approximately 900m upstream from the Liverpool Bay Special Protection Area (SPA), which has its nearest boundary as the mean low water mark offshore. Considering the distance upstream from the SPA and the restricted scale of the work on the A548 bridge deck only, it is not expected that the works would result in any adverse effects downstream on the Liverpool Bay SPA or its features.	Design: N/A Tendering: N/A Construction: N/A
National Sites ³	None present	
Local Sites (within 500m) ⁴	Kinmel Dunes Local Nature Reserve (LNR), is located approximately 500m north-west. This site would not be affected due to its location and the nature of the works.	
Relevant compliance obligations (if applicable): The Conservation of Habitats and Species Regulations 2017, as amended The Wildlife and Countryside Act 1981, as amended Environment (Wales) Act 2016		

² Natura 2000 and Ramsar sites within 2km of the proposal, and 25km and 30km respectively for Otters and Lesser Horseshoe Bats (if these species are likely to be affected)

³ Nationally designated sites within 500m of the proposal, extending to 2km dependant on features of interest *i.e.* wetlands

Invasive Non-Native Species⁵

Observations	Recommendations
The works are restricted to the bridge deck of the existing A548 Pont Foryd road bridge. Invasive non-native species are therefore not considered likely to be present or at risk of being brought to the site.	Design: N/A Tendering: N/A Construction: N/A
Relevant compliance obligations (if applicable): The Wildlife and Countryside Act 1981 (as amended) The Environmental Protection Act 1990 Additional Sources of Information: http://www.nonnativespecies.org/home/index.cfm	

⁴ E.g Local Wildlife Sites, Local Nature Reserves and Ancient Semi-Natural Woodland

⁵ Those listed on Schedule 9 of the Wildlife and Countryside Act 1981, as amended.

Geology & Soils

Observations	Recommendations
There are no geological designations present in close proximity to the study area that could potentially be impacted by the proposed works. The desk based search did not indicate the presence of any historic landfills within the study area. Due to the works being confined to the existing bridge deck, the potential to encounter contaminated land can be ruled out.	Design: N/A Tendering: N/A. Construction: N/A
Relevant compliance obligations (if applicable): Not applicable	

Materials (including Life Cycle considerations)

Observations	Recommendations
Where possible, the design should identify all opportunities to implement the principles of the waste hierarchy. Whilst all measures shall be taken to minimise waste during construction, all relevant regulations that governs the transfer of waste and material shall be adhered to in full. See below a list of the most relevant regulations / legislation. All material that need to be sought, should be obtained from a reputable supplier and source, and only the amount of material needed shall be order to reduce the risk of waste.	Design: Investigate the use and sourcing of materials that are sensitive to the appearance of surrounding landscape. Consider ways of minimising waste within the design process, implementing the waste hierarchy principles. Tendering: N/A Construction: Materials should be re-used on site where possible.
Relevant compliance obligations (if applicable): The Well-being of Future Generations Act 2015 The Environmental Permitting (England and Wales) Regulations 2016 The Waste (England and Wales) Regulations 2011 The Hazardous Waste (England and Wales) Regulations 2005 Towards Zero Waste, Welsh Government, 2012 Construction and Demolition (C&D) Sector Plan, Welsh Government, 2012 Planning Policy Wales, edition 10 Welsh Government, 2018	Waste excavation materials and building waste should be disposed of at a suitably permitted facility, using registered waste carriers. Duty of care waste transfer notes need to be retained for two years.

Noise & Vibration

Observations	Recommendations
The proposed construction works are likely to generate noise and vibration levels that are above the existing levels. There are businesses and residential properties in close proximity to the proposal that could potentially be affected by increases in noise and vibration levels.	Design: Inform and consult residents of nearby properties, surrounding businesses / organisations of the proposed work and programme.

Increases in noise and vibration levels will be confined to the construction phase, and are likely to return to normal on completion of the works.	Tendering: Specify noise and vibration limits within the contract documents. Construction: Best practice guidelines in relation to noise and vibration, along with limits specified within contract documents, should be adhered to during construction.
Relevant compliance obligations (if applicable): Environmental Protection Act 1990, Part III BS5228:2009 Noise and Vibration Control on Construction and Open Sites (+A1:2014 Part 2 Vibration (BS5228-2))	

Population & Human Health⁶

Observations	Recommendations
The works are located on the A548 Pont Foryd road bridge, which connects Rhyl with Kinmel Bay and other coastal settlements. The works will require a road closure on the bridge whilst maintenance takes place. Due to the importance of this route for local residents, visitors and businesses alike it is recommended that temporary road closures are timed to take place when traffic volume and demand for the road bridge is lowest.	Design: Time works to be undertaken during least sensitive times for traffic access across the bridge, e.g. avoiding holiday and peak tourist season. Tendering: N/A Construction: N/A
Relevant compliance obligations (if applicable): The Well-being of Future Generations (Wales) Act 2015. Construction (Design and Management) Regulations 2015 DMRB – LA112 Population & Human Health	

⁶ Including; private property, community assets, development land, agricultural land, walkers, cyclists and horse riders, health outcomes.

Road Drainage and the Water Environment

Observations	Recommendations
The proposals are located on the A548 Pont Foryd bridge deck, above the MHWS limit of the Afon Clwyd. No works within the Afon Clwyd will occur. The Afon Clwyd is designated a Main River. Proposals to construct, alter or improve any works within the UK marine licensing area over the sea require a marine licence. Consultation should take place with NRW's marine licensing team and a marine licence application submitted if required. The carrying out of any work or alteration or repair on any structure in, over or under a main river may require a Flood Risk Activity Permit (FRAP) from NRW. However, if the works require a Marine Licence, then it will not require a FRAP in addition (<i>Flood Risk activity exclusion 4</i> – refer to NRW guidance document GPG 222). If NRW confirm that a Marine Licence is not required, the works may be subject to Flood Risk Activity Exclusion 8 (minor works on or affecting bridges and culverts). Key conditions set out in NRW's GPG222 document must be adhered to in order for the works to be carried out under this FRAP exclusion. If these conditions set out in FRAP exclusion 8 cannot be met, it is likely a FRAP application will be required. Adequate pollution prevention measures will need to be implemented during construction to safeguard the water environment, and the designated sites that are located downstream. All surface water drainage pathways are to be identified and covered, to ensure that the bridge deck is encapsulated during the works to prevent pollution of the water environment below. Consideration should also be given to future maintenance requirements during detailed design, given the sensitive location of the proposals.	Design: Consult with NRW regarding Marine Licence / FRAP requirements. Consider future maintenance requirements during detailed design. Tendering: Ensure all conditions associated with Marine Licence/FRAP are included in tender documents. Construction: Measures should be implemented to safeguard the water environment from any potential spillages or polluting run-off during construction. These measures should be incorporated into a Construction Environment Management Plan (CEMP) to be submitted by the contractors. Equipment associated with the works should not be stored on the bed or banks of the watercourse. All surface water drainage pathways are to be identified and covered during works. Gully outlets to be covered to prevent debris entering the drainage system.

Equipment associated with the works should not be stored on the bed or banks of the watercourse.	
Relevant compliance obligations (if applicable): Environmental Permitting Regulations (England and Wales) 2010 Town & Country Planning Act 1990 The Water Environment (Water Framework Directive) (England and Wales) (Amendment) Regulation 2016 Water Framework Directive http://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/ https://www.grwparfordirolgorllewincymru.cymru/page/smp2/main-document	

Climate Change

Observations	Recommendations
All opportunities to minimise the impact on climate change should be actioned. There could be a small amount of greenhouse gas emissions emitted from site vehicles during the construction phase. However, this would only be a small and short-term impact.	Design: Build clever – considering the use of low carbon solutions (materials and products) to minimise resource consumption during all project phases. Tendering: Where possible tender documents should include requirements for local suppliers of resource and material to be used. Construction: Contractors should use local reputable suppliers of site materials and resources. This will minimise the journey distances to the project site, therefore reducing the carbon impact required to transport materials to site.

Cumulative Effects

Observations	Recommendations
Due to the nature and location of the works significant cumulative effects are not considered likely.	N/A

Summary of Recommendations & Actions

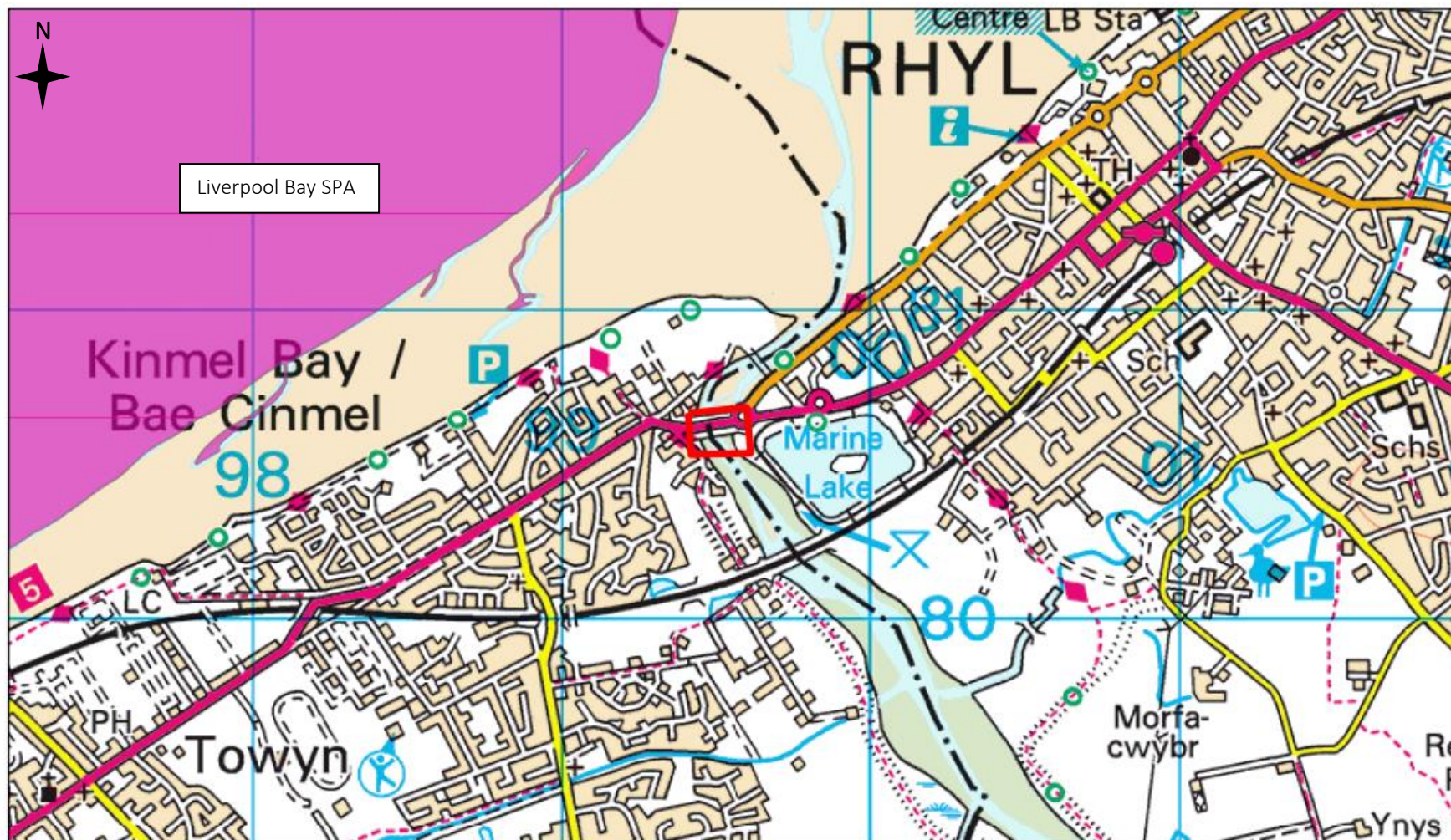
Below is a provisional list of environmental actions and recommendations highlighted at this early stage. As the scheme develops and on completion of any recommended actions (e.g. surveys and consultations), this list will need to be updated and included as an Environmental Action Plan for the tender and construction stage. All conditions stipulated in any required consents and licences will need to be incorporated into the Action Plan.

Action		Responsibility
Design Stage	Consult with Denbighshire Council's Conservation officer and apply for listed building consent if required.	Designer / Client
	Ensure materials and finishing match existing as much as possible.	Designer / Client
	Undertake survey of existing bat boxes to confirm potential presence of roosting bats. Survey shall take place end of April – early May.	Designer / Client
	Consult with NRW regarding Reasonable Avoidance Measures RAM's for bats. Design shall aim to avoid any impacts to the river bank and underside of the bridge.	Designer / Client
	If works to the underside of the bridge is proposed and roosting bats / evidence of roosting bats is recorded then a potential NRW EPS licence would be required for the works to progress.	Designer / Client
	Investigate the use and sourcing of materials that are sensitive to the appearance of surrounding landscape.	Designer / Client
	Consider ways of minimising waste within the design process, implementing the waste hierarchy principles.	Designer / Client
	Inform and consult residents of nearby properties, surrounding businesses / organisations of the proposed work and programme.	Designer / Client
	Time works to be undertaken during least sensitive times for traffic access across the bridge, e.g. avoiding holiday and peak tourist season.	Designer / Client

	Consult with NRW regarding Marine Licence / FRAP requirements.	Designer / Client
	Consider future maintenance requirements during detailed design.	Designer / Client
	Build clever – considering the use of low carbon solutions (materials and products) to minimise resource consumption during all project phases.	Designer / Client
Tendering Stage	It is recommended that contractors are informed of the need to produce a Construction Phase Environmental Management Plan (CEMP)., which will need to include dust mitigation method statement.	Designer / Client
	Inform the contractor of any restrictions placed due to listed building status and include any specific conditions outlined within listed building consent if applicable.	Designer / Client
	Specify noise and vibration limits within the contract documents.	Designer / Client
	Ensure all conditions associated with Marine Licence/FRAP are included in tender documents.	Designer / Client
	Where possible tender documents should include requirements for local suppliers of resource and material to be used.	Designer / Client
Construction Stage	Standard good practice and good housekeeping would need to be implemented and adhered to during construction to minimise construction dust and emissions. Successful contractors would need to submit a Construction Environmental Management Plan (CEMP), which shall detail how they would minimise dust emissions during construction.	Contractor
	Contractor to adhere to any restrictions and specific conditions outlined within listed building consent if applicable.	Contractor
	Works should be undertaken during daylight hours where possible to minimise potential impacts on nocturnal species such as otter and bats.	Contractor
	If a bat is discovered during the works all works must cease and a licenced bat ecologist contacted for advice.	Contractor
	No additional lighting to be used on the bridge during the works if possible. If additional lighting is required, these should be positioned as not to cause light to spill away from the bridge deck.	Contractor
	A check for nesting birds within and immediately adjacent (within 10m) to the works should be completed prior to works commencing. If an active bird nest is discovered within the working area the works would need to be delayed until after the nesting activity has ceased.	Contractor
	Adequate pollution prevention controls should be in place during construction to prevent any potential contamination of the water environment.	Contractor
	Contractors are to supply a Construction Phase Environmental Management Plan (CEMP) detailing how they will implement measures to protect environmental / biodiversity features during construction	Contractor
	Materials should be re-used on site where possible.	Contractor

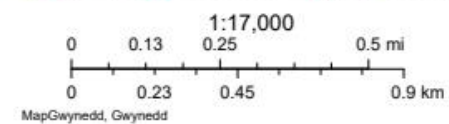
	Waste excavation materials and building waste should be disposed of at a suitably permitted facility, using registered waste carriers. Duty of care waste transfer notes need to be retained for two years.	Contractor
	Best practice guidelines in relation to noise and vibration, along with limits specified within contract documents, should be adhered to during construction.	Contractor
	Measures should be implemented to safeguard the water environment from any potential spillages or polluting run-off during construction. These measures should be incorporated into a Construction Environment Management Plan (CEMP) to be submitted by the contractors.	Contractor
	Equipment associated with the works should not be stored on the bed or banks of the watercourse.	Contractor
	Gully outlets to be covered to prevent debris entering the drainage system.	Contractor
	Contractors should use local reputable suppliers of site materials and resources. This will minimise the journey distances to the project site, therefore reducing the carbon impact required to transport materials to site.	Contractor

Appendix A – Constraints plans



January 30, 2023

Figure 2: Location of SPA (shaded pink) in relation to the proposed maintenance work (outlined red).



Appendix B – Site photographs



1. Eastern side of the bridge deck. (Source: Google)



2. Western extent of bridge deck. (Source: Google)

