



JBA Consulting

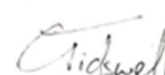
Black Pool Mill - Redi-Rock Retaining Wall Installation

Environmental Method Statement

Document Ref. A9563-3

Issue Record

This document has been issued as follows:

Version	Description	Date	Issued by	Signed
1	First Issue	12/11/2024	G. Tidswell	
2	Second Issue	03/12/2024	G. Tidswell	
3	Third Issue	03/12/24	G. Tidswell	

Contents Amendment Record

This document has been amended as follows:

Version	Amendment
1	First Issue
2	Second Issue. Responded to comments received 28/11/24.
3	Third Issue. Responded to comments received 03/12/24

Edwards Diving Services Ltd.
Unit G15 • Main Avenue
Treforest Industrial Estate • Pontypridd • CF37 5YL
Tel. 029 2086 2020

Edwards Diving Services Ltd. has prepared this document in accordance with the instructions of our client, JBA Consulting, for their sole and specific use. Any other persons who use any information contained herein do so at their own risk.

Project roles, responsibilities and contacts

Contract Title & Address	Black Pool Mill Redi-Rock Retaining Wall Installation
Client Name, Address and Contact Details	Bluestone Resorts Limited The Grange, Canaston Wood, Narberth, Pembrokeshire Liz Weedon, Head of Projects
Client Project Manager Name, Address and Contact Details	Bluestone Resorts Limited Address as above Patrick Swann, Project Manager pswann@bluestonewales.com
Principal Designer Name, Address and Contact Details	JBA Consulting King Chambers, 8 High Street, Newport, NP20 1FQ Jonathan King Jonathan.King@jbaconsulting.com 01633 980024
Principal Contractor	TBC
Principal Contractor Key Personnel	TBC
EMS prepared by	Gabriel Tidswell, Graduate Projects Engineer (Edwards Diving Services)

This Outline Construction Environmental Management Plan will be added to, reviewed and updated as the project develops, further information is received, details of the confirmed programme are developed, unforeseen circumstances or variations to planned circumstances arise or where the operations management team deem it is necessary.

Contents

Contents	1
1 Introduction	2
<i>Intent and purpose</i>	<i>2</i>
<i>Responsibilities</i>	<i>2</i>
<i>Supporting Documents</i>	<i>2</i>
2 Project Information	3
2.1 Project description and scope of work	3
2.2 Project location	4
3 Environmental Location	6
3.1 Designated Sites	6
3.2 Habitats and Protected Species	6
3.3 Legal and Regulatory Requirements	8
3.4 Site Specific Consents and Permission	8
4 Site Specific Environmental Controls	8
4.1 Emissions	8
4.2 Contamination & Spillages	8
4.3 Waste Management & Storage of Materials	10
4.4 Traffic Management	11
4.5 Fire Control	11
4.6 Dust & odours	11
4.7 Noise, vibration & lighting	11
4.8 Landscape: Excavations, vegetation clearance and visual disturbance	12
4.9 Invasive Species	12
4.10 Changes to the Watercourse, Flood risk, drainage and dam safety	12
5 Environmental Risk Assessment	15

1 Introduction

Intent and purpose

The following Environmental Method Statement (EMS) has been produced to outline how the construction works will be planned, managed and carried out to avoid, minimise or mitigate effects on the environment and surrounding area. It highlights the key activity specific risks, details control measures, and refers to all associated forms and registers where required. All items specifically required by the Client in the EMS are covered.

In summary, the purpose of the method statement is to:

- Identify and highlight stakeholder requirements.
- Ensure that the construction works comply with current environmental legislation.
- Ensure that construction works follow the recommendations of the Preliminary Ecological Appraisal (PEA), Habitat Regulations Assessment (HRA) and other environmental documentation provided to the Principal Contractor.
- Detail the mitigation committed to within the environmental statement and how it will be implemented on site.
- Ensure that any adverse effects are minimised during construction.
- Describe any site-specific method statements required.

Responsibilities

The following Environmental Method Statement (EMS) has been produced prior to the appointment of a Principal Contractor to undertake the construction works. It aims to identify all measures that should be undertaken by the Principal Contractor to mitigate effects on the environment and address site specific risks. The appointed Principal Contractor will produce their own Method Statement (RAMS) and Construction Environmental Management Plan (CEMP) ahead of the construction phase to outline how they plan to undertake the works and to demonstrate a planned and systematic approach to implementing environmental policy through an effective environmental management system.

The Principal Contractor's project team will comply with the requirements of this plan as well as their own RAMS and CEMP. The appointed Site Manager shall be responsible for implementing and adhering to any measures on site to effectively mitigate effects on the environment as a result of construction works.

Supporting Documents

The following method statement has been informed by ecological records, surveys and findings provided ahead of the works by the Principal Designer for the pre-construction phase (JBA Consulting). In particular, information found the following documents have been used to inform the site information and site / activity specific measures outlined in this document:

- LTU-JBA-XX-XX-RP-BD-0001-S3-P03-Preliminary_Ecological_Appraisal (November 2024)
- LTU-JBA-XX-XX-AS-EN-0001-S3-P01-HRA_Screening_and_Assessment (November 2024)
- LTU-JBA-XX-XX-AS-EN-0002-S3-P01-WFD_Assessment (November 2024)

This document is intended to focus on the activities associated with delivery of the works, their potential impact on the environment and the mitigation measures to be implemented by the Principal Contractor. For further information on the works environment, the Principal Contractor should refer to the documents listed above and / or any further ecological records provided by the Principal Designer ahead of the construction phase.

2 Project Information

2.1 Project description and scope of work

Following failure and collapse of the riverbank wall at Black Pool Mill, emergency works were carried out (Nov. 2023) to stabilise the wall with 48 no. 2 tonne Salix Aqua Rock Bags (Figure 1). The Client (Bluestone Resorts Ltd) has since commissioned the permanent design of a Redi-Rock modular gravity retaining wall to replace the Rock Bags.



Figure 1 – Emergency stabilisation works using 48 no. Salix Aqua Rock Bags carried out 28/11/23 – 29/11/23.

The proposed solution will replace the rock bag wall with a permanent Redi-Rock gravity retaining wall. In summary, the proposed construction works involve the following key activities:

- Underpinning of the adjacent store building.
- Removal of existing emergency works (48 no. 2t Salix Aqua Rock Bags).
- Creation of temporary cofferdam using the removed Aqua Rock Bags.
- Installation of new Redi-Rock gravity retaining wall including the foundation and tie in with the Mill.
- Repair / replacement of the existing access steps.
- 2 no. roof drainage pipes from the adjacent store building to outfall through the retaining wall.
- 1 no. unknown drainage pipe adjacent to the Mill building to outfall through the retaining wall.
- Repaired bank top finished with hard standing area.
- Security railings installed at the crest of the retaining wall.

The Client will assume responsibility for the following items including those that are required under the Health and Safety at Work Act 1974 and the CDM Regulations 2015:

- Planning permission.
- Provision of environmental and ecology surveys and watching briefs.
- Provision of archaeological watching brief, if required.

2.2 Project location

The location for the proposed works is Black Pool Mill, Narberth (SA67 8BL). An overview of the site location and area for the works is shown in Figure 2 with further details provided in Table 1. Access to the site from the A40 (Canaston Bridge Roundabout) is via the A4075 (signposted Black Pool Mill). There are two access gates providing access to the mill off the main road. Construction traffic is to use the southern entrance only, pictured below in Figure 3.

Entering the site through the southern entrance provides access to the Mill carpark. The carpark provides sufficient space for two articulated lorries (up to 40ft in length) to park and unload. A section of the carpark is also to be used for a site compound though details of this are to be agreed with the Principal Contractor prior to starting the works.



Figure 2 - Site location plan and access.

Table 1 – Detailed site location.

Location:	Black Pool Mill Car Park
Grid Reference:	SN059144
What3Words:	///behave.smirking.dolls
Nearest Postcode:	SA67 8BL



Figure 3 – Southern entrance to Black Pool Mill to be used by construction traffic.

3 Environmental Location

3.1 Designated Sites

The site sits within the administrative boundary of the Pembrokeshire Coast National Park Authority and located within the following protected areas:

- Pembrokeshire Marine/Sir Benfro Forol Special Area of Conservation (SAC).
- Milford Haven Waterway Sites of Special Scientific Interest (SSSI).)

The Afonydd Cleddau / Cleddau Rivers SAC and Afon Cleddau Dwyreiniol / Eastern Cleddau River SSSI are both located approximately 40 metres upstream of the site location. A map showing the designated areas (SACs and SSSIs) around the working area is shown in Figure 4. Further details and key features of these designated areas are to be provided in the Preliminary Ecological Appraisal produced by JBA Consulting.

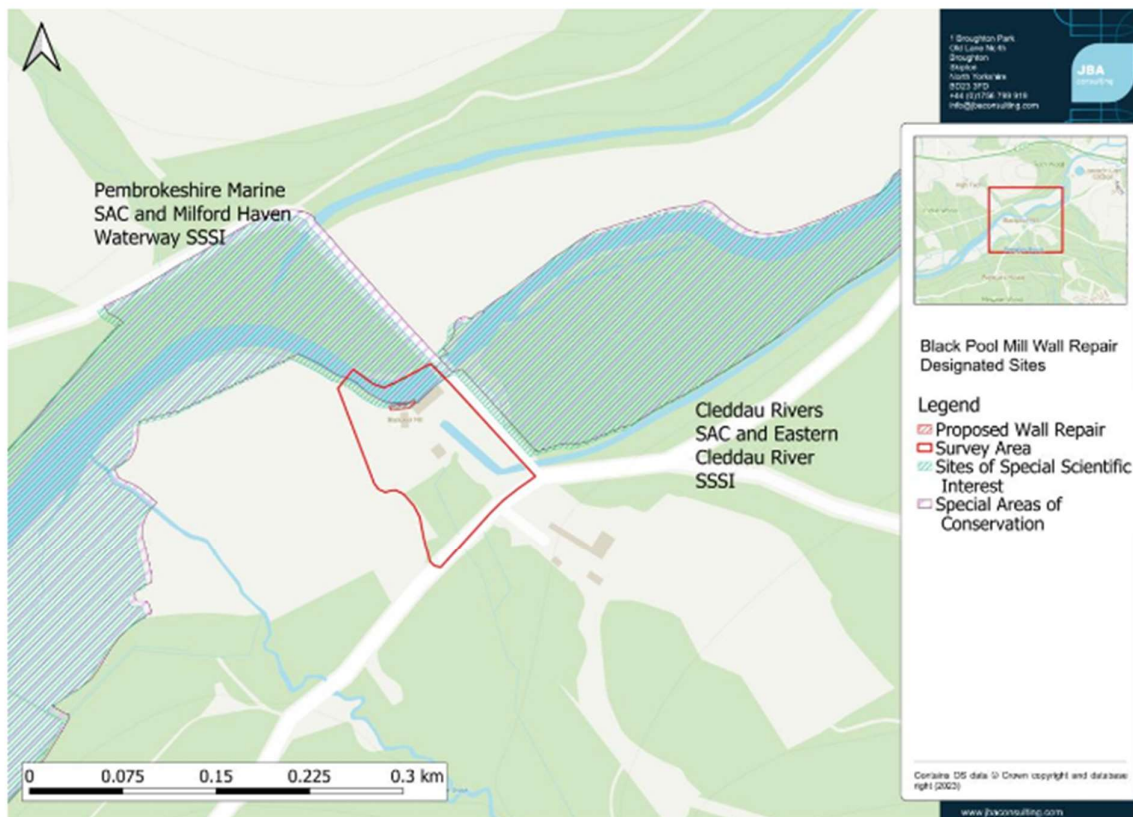


Figure 4 – Map of designated areas (SACs and SSSIs) around the working area.

3.2 Habitats and Protected Species

3.2.1 Fish

Fish species are a protected feature of the adjacent designated sites (Pembrokeshire Marine SAC/SSSI and Cleddau Rivers SAC/SSSI), species such as Sea lamprey *Petromyzon marinus*, River lamprey *Lampetra fluviatilis*, Allis shad *Alosa alosa*, Twaite shad *Alosa fallax* and otter *Lutra lutra* are the primary reason for selection.

Works within the river are not considered to have a detrimental impact on the river flow. Control measures will be deployed to ensure pathways/migratory corridors for species migration remains intact. It is not envisaged works will have a significant impact on the features of the Statutory Designated sites. The following activities are to take place directly within the river.

- Removal of existing emergency works (48 no. 2t Salix Aqua Rock Bags).
- Creation of temporary cofferdam using the removed Aqua Rock Bags.
- Installation of new Redi-Rock gravity retaining wall including the foundation and tie in with the Mill.

When carrying out these activities, the most likely sources of environmental disturbance that could impact local fish species include contamination and run-off, and the possibility for entrapment when constructing the temporary cofferdam. When planning these activities, extra care shall be taken to ensure suitable mitigation measures have been implemented. Details of mitigation measures for run-off as well as changes to the watercourse are given in Sections 4.2 and 4.10, respectively.

3.2.2 *Birds*

Within the vicinity of the works there are several habitats that are likely to support a range of bird species and offer nesting opportunities for breeding birds. The Preliminary Ecological Appraisal (PEA) has ruled the potential impact of the planned construction activities on birds as minimal however, suitable measures should be implemented, particularly relating to any vegetation clearance works that might take place (see Section 4.8). Should vegetation clearance be required between March and September then a check from a suitably qualified ecologist will be required prior to any clearance works.

Suitable fire mitigation and control measures shall also be implemented to reduce the risk of habitat loss in the event that a fire breaks out on site (see Section 4.5).

3.2.3 *Bats*

Records show that several species of bat have been identified in the surrounding area, with numerous roosting locations identified. Further details are provided in the bat method statement (*Method Statement – Bats*) and bat mitigation strategy (*Bat Mitigation Strategy*) that were carried out prior to initial ground investigation works.

Roosting bats have been identified in the annexes on the gable ends of the main building and measures have already been implemented to ensure access for bats as per previous planning conditions.

Other areas near to the works, including the adjacent store building and nearby woodlands, also provide potential habitats for roosting bats. Personnel should therefore remain vigilant for signs of bats / bat roosts and implement suitable mitigation measures accordingly.

To reduce disturbance due to noise and light, works shall not be carried out at night to avoid the need for artificial light. No lighting of the main building will be required so that bats can enter and leave undisturbed (see Section 4.7). Works shall be carried out under the appropriate licencing as required. Further details of the consents and licensing to be obtained by the Principal Contractor prior to carrying out the works are outlined in Section 3.4.

3.2.4 *Badgers and Otters*

The adjacent river banks and surrounding area provide a suitable habitat for both badgers and otters, with the likelihood of individuals being present near the working area. Though a direct impact of the works on badgers and otters has been considered unlikely impacts shall generally be reduced through managing impacts on the surrounding landscape and through good housekeeping, particularly when leaving the site unattended outside of working hours (see Section 4.8). Measures to reduce the impact on badgers and otters due to noise and light shall also be implemented (see Section 4.7).

To prevent habitat loss due to fire suitable fire mitigation and control measures shall be implemented (see Section 4.5).

3.2.5 Reptiles and Amphibians

The PEA concluded that habitats suitable for reptiles and amphibians will not be directly impacted by the works and as such impacts to these species are not anticipated.

3.2.6 Invasive Non-Native Species (INNS)

The presence of any invasive non-native species has not been notified within the vicinity of the works however, it is still the responsibility of the Principal Contractor to ensure that suitable procedures are followed to prevent contamination. Details of INNS procedures to be followed by the Principal Contractor are outlined in Section 4.9.

3.3 Legal and Regulatory Requirements

The Principal Contractor shall carry out the works in accordance with the following environmental legislation.

- The Wildlife and Countryside Act (WCA) 1981 (as amended)
- Conservation of Habitats and Species Regulations 2017
- The Environmental Permitting (England and Wales) Regulations 2016.

3.4 Site Specific Consents and Permission

Prior to commencing the works, the Principal Contractor shall seek to obtain all necessary consents and permissions. These are to include:

- Marine License

It should be noted that a Flood Risk Activity Permit (FRAP) or SSSI assent will not be required to undertake the works.

4 Site Specific Environmental Controls

4.1 Emissions

The main source of emissions during the works is expected to be mechanical plant and other machinery (generators, power packs etc) required to carry out the works with the, nearest sensitive receptors identified as the statutory designated sites, and the nearby Mill. The impact of these shall be reduced by minimising the amount of time that plant and vehicles are left idling. Other equipment such as generators and power packs shall only be left running as required and switched off outside of working hours.

A maintenance regime will also be maintained with daily pre-use checks of all plant and equipment. Vehicles driven to site shall be well maintained and checked on a regular basis.

4.2 Contamination & Spillages

Liquid storage

Preventative measures will be deployed to prevent polluting materials entering the environment. This will include measures to prevent silt escaping from stockpiled materials and other measures to reduce run-off into the adjacent river as well as the wider environment. The river running through the working area (Cleddau River), is considered the main receptor for this and is part of the Pembrokeshire Marine SAC/SSSI (see Section 3.1). It is therefore of critical importance to prevent pollution and run-off to the river and surrounding areas to prevent contamination of these key areas. Cleddau Rivers SAC/SSSI is considered to be at little to no risk of contamination as this lies

upstream of the working area. As such there is no realistic pathway for any run-off or spillages to enter this designated area.

The surrounding area is at risk of both fluvial and tidal flooding. The site compound should be placed outside of tidal flood risk areas, however, due to the location of the works it will not be possible to avoid fluvial flood risk zones. This shall be taken into account when designating areas for the storage of plant and equipment as well as oils and fuels which present a risk of contamination.

All oils and fuels will be stored in compliance with The Water Resources (Control of Pollution) (Oil Storage) (Wales) Regulation 2016. The below controls will be deployed;

- Fuel shall be in the site compound away from the watercourse and tidal flood risk areas.
- Fuel shall be stored in dedicated bunded, impervious storage areas, away from drains and raised up to reduce the risk of contamination in the event of fluvial flooding.
- Fuelling of plant/equipment to take place at least 10 metres from the watercourse.
- Drums over 200 litres shall be stored on drip trays capable of holding 25% of the drum's maximum capacity.
- Fuel tanks shall be stored within a bund capable of holding 110% of their capacity. All pipes and gauges shall be within the wall of the bund.
- Bowsers shall be double skinned and shall be stored in a bund capable of holding 110% of the volume of the bower.
- Small mobile plant shall be placed on drip trays.
- Spill kits will be available at the site welfare facility and within the plant (excavators and dumpers).
- COSHH Assessments available within the site management file.

Silt and run-off

Activities within the river have the potential to disturb large quantities of silt / sediment, thus impacting the quality of the watercourse. The river will be continuously monitored to ensure no diffuse pollution occurs and further measures, such as a silt curtain downstream of the working area, shall be implemented as required to control silt and run-off.

Solids

Spillages of dry and dusty materials will be avoided by good housekeeping methods. Skips will be covered where there is a risk of material becoming airborne. Vehicle wheels will be cleaned onsite if required, access roads will be cleaned as required. Timber bog mats and track mats will be used to protect any ground and service crossings, which will reduce the risk of tracking of mud and debris onto surrounding routes.

Plant, equipment and materials left within the cofferdam present a risk of contamination to the watercourse. These shall be removed from the river at the end of each shift and stored within the site compound away from the watercourse (see Figure 2).

Weather forecast shall be monitored on a regular basis. Should a risk of heavy rainfall and flooding be identified, all plant, equipment and materials should be moved to an area outside of the nearby flood risk zones. Details of this are to be included in the flood response plan to be produced as part of the Principal Contractor's CEMP.

Dealing with spills

Spill kits will be located in the welfare unit and within the plant (excavators and dumpers). In the event of a spill the following plan should be followed:

- Stop work to contain the spill.
- All possible ignitions will be extinguished if the spilt material is flammable.
- Ensure nearby surface water drains are sealed, to avoid surface water contamination.
- Use the contents of the spill kit to contain and mop up the spill.
- The source will be identified and sealed as practical.
- The Site Manager will be informed of the spill and record made through the Principal Contractor's environmental incident reporting system. This is to include the following key details relating to the incident;
 - Incident type (i.e. spillage, equipment failure, emergency event etc.)
 - Location
 - Date and time of detection
 - Cause
 - Impact
 - Actions taken and need for further action
 - Follow-up / measures to prevent re-occurrence
- If the spill enters the watercourse the Compliance Director must be contacted immediately who will notify Natural Resources Wales.

Inform the Contract Administrator and **Bluestone Resorts Limited** of the breach.

The granular material, pads, socks and any containment items will be treated as hazardous waste and disposed of accordingly.

4.3 Waste Management & Storage of Materials

Waste generated at site will be monitored and recorded within the site documentation. Copies of waste transfer notes (WTNs) shall be stored within the site file. Non-hazardous WTNs will be retained for 2 years, and hazardous WTNs for 3 years, in line with statutory requirements.

All waste will be handled and disposed of in line with current "Duty of Care" Regulations. It is the responsibility of all persons on site to dispose of waste in the correct receptacles and to report any waste being stored incorrectly or escaping from the site area.

Opportunities to minimise waste will be documented in the Construction Phase Plan. Reuse of materials on site should be encouraged where practicable to avoid waste transfer to landfill.

A waste management area will be created within the boundaries of the site and away from any high flood risk areas. Stockpiling shall be kept to a minimum, with regular removal of waste from site to prevent the risk of run-off and contamination in the event of flooding.

It will be the responsibility of site personnel to correctly dispose of waste in the correct receptacles. Opportunities to minimise waste through the planning phase will be considered and actions taken where identified. The project aims to minimise the amount of waste generated, seeking opportunities to reuse and recycle to minimise environmental impacts.

The Environmental Risk Assessment will highlight the potential environmental impacts and how they will be effectively mitigated. Complaints will be retained in the site file and be shared with the Compliance Department.

4.4 Traffic Management

The Principal Contractor will be responsible for producing a site Traffic Management Plan. This should outline how traffic movements plan to be managed and attempt to minimise disturbance to nearby receptors – visitors/users to Black Pool Mill as well as local wildlife. The Contractor's Traffic Management Plan will also direct all loading and unloading of vehicles and deliveries around the area of the works in addition to the parking of other staff / personnel vehicles.

Traffic movements will be limited to the agreed site working hours. Traffic and vehicles arriving and leaving site will be managed to minimise impacts on the local community. Furthermore, those vehicles using the Mill carpark as a temporary laydown area should be aware of members of the public using the nearby footpath and restaurant facilities (Figure 3).

Works should avoid tracking / spillage of mud; soil etc by construction vehicles onto public roads. Where this does occur, measures are to be taken to clear up excessive spillage/tracking. Any vehicles leaving the site compound as per the Traffic Management Plan should be wheel-washed, if required, to prevent the spread of any mud and dust on to public areas. The compound will be kept clean and tidy to prevent mud and dust accumulating.

4.5 Fire Control

Fire Extinguishers will be carried within all vehicles provided by the Principal Contractor and in the welfare units on site. A fire will be tackled only if it is safe to do so. The fire and emergency procedures shall be reviewed at regular intervals throughout the project's duration or following any incident and communicated during site induction. Regular workplace fire inspections shall be carried out by the Site Manager.

In the event that a fire occurs, the alarm will be raised and communicated to the team who will leave the area immediately in an orderly manner via the nearest safe egress location and convene at the designated fire assembly point. The alarm signal will be verbal signals or using hand-held radios (where suitable). The call 'Fire-Fire-Fire' will be sounded, and the working party will respond with an acknowledgement by returning the same call. The Site Manager will be responsible for ensuring that the emergency services are called, and rescue procedures (if required) invoked. All measures, where safe to do so, will be taken to prevent the spread of the fire and to protect the workforce and public until the emergency services arrive and take control of the situation.

4.6 Dust & odours

Dust as a fugitive emission is a potential, however, due to the scale of the works significant levels of dust are not anticipated.

Low level construction dust may be generated by plant movements, notably when moving materials from designated lay down areas to the locations of the works. This is likely to be exaggerated in hot / dry weather conditions.

To prevent unacceptable levels of dust generations controls on site, measures could include dampening down of dusty surfaces, controlling the speeds of mobile plant traffic and vehicles, covering dusty material deliveries, dampening of road surfaces.

Should site activities give rise to unacceptable levels of dust at the nearest sensitive receptor, the activity giving rise to the emission will be modified, suppression controls deployed, or activities suspended until conditions have been resolved.

4.7 Noise, vibration & lighting

Some noise and low-level vibration related to the use of standard construction machinery (excavator, dumpers etc.) can be expected and is unavoidable in carrying out the works. Any such noise will be kept to within the agreed working hours and Monday – Fridays. Construction working hours will be determined by the available tidal windows. Works will generally be carried out within daylight hours to avoid the need for lighting and minimise

disturbance to local wildlife (bats, otters etc) as well as the public. Standard working hours will be followed where possible. Where the tidal window does not allow this, then the mitigation measures outlined within this EMS will be applied throughout the standard working hours and any hours outside of these if required.

Well maintained and good quality construction equipment will be utilised, with low-vibration options chosen where available. Plant will not be left idling when not in use.

4.8 Landscape: Excavations, vegetation clearance and visual disturbance

The project will take measures to control the impact due to changes in the surrounding landscape as well as any visual impact of the works, where reasonably practicable.

Excavations will only be carried out under a permit to dig and in locations as agreed with the Client Project Manager. At the end of each working day, all excavations will be covered to prevent falling or entrapment. Prior to any vegetation clearance, either by hand or by mechanical means, the project ecologist should be consulted and approval gained in order to prevent the loss of protected habitats and species. During clearance works, personnel shall remain vigilant for any signs of wildlife and cease clearance works if any wildlife is encountered. If any vegetation clearance is to take place between March and September, checks shall be undertaken by a suitably qualified ecologist to prevent disturbance to nesting birds.

Good housekeeping arrangements will be maintained on site. Secure site boundaries shall be setup to prevent wildlife from entering the site and to protect the general public. The site will be kept in a tidy manner to prevent accidental releases of litter and accumulation of mud on access and public roads. Any pipes that are not in use shall be covered to prevent entrapment. Daily site monitoring will be undertaken to ensure controls are suitable.

Throughout the works and where possible, existing ground surfaces shall be protected with appropriate matting where:

- Area is used for access.
- Area has plant, materials or vehicles stored on.
- Area has plant or vehicles working/moving/operating on.

On project completion, all construction materials, and plant will be removed from site and the site will be left clean and tidy and in accordance with the pre-commencement survey.

4.9 Invasive Species

The site and surrounding area presents minimal risk from contamination by invasive non-native species (INNS). Nonetheless, suitable measures shall be taken to reduce the risk of contamination.

Principal Contractor appointed operatives will be experienced in contamination prevention procedures and fully briefed of site-specific controls before works commence. Any plant or equipment brought onto site needs to have been cleaned prior to coming onto site. Likewise, clothing shall be checked, cleaned and dried prior to entering or leaving the site. Should INNS be identified during the works, the project risk assessment and method statement should be revised and site / species specific control measures implemented to prevent the risk of contamination.

4.10 Changes to the Watercourse, Flood risk, drainage and dam safety

Flood risk assessment has shown that the site is located on the edge of a high-risk Flood Zone 3 and low risk Flood Zone 2. Flooding in these areas is driven by both tidal and fluvial flooding. The site compound (Figure 2) shall be setup away from tidal flood risk areas, however, due to the location of the works, areas at risk of fluvial flooding are unable to be avoided. As such, the appointed Principal Contractor shall provide a detailed Flood Response Plan, outlining the roles and responsibilities for emergency flood response, as well as procedures for the evacuation of workers, equipment and any other temporary construction item from the working area to mitigate the effects of flooding. As part of this Flood Response Plan, a safe location outside of the flood risk zones should be identified

for all evacuated people and items. This safe location is likely to be nearby, further inland from the river as shown in Figure 5.

Constant monitoring of the weather and upcoming forecast shall be carried out to identify the potential for any flood events and allow early implementation of the Principal Contractor's flood response plan.



Figure 5 – (left) Fluvial flood risk map (darkest blue = high risk). (right) Coastal flood risk map (darkest green = high risk). Provided as part of PCI.



Figure 6 – Reservoir flood risk map. Provided as part of PCI.

It is not anticipated that the watercourse (Cleddau River) will need to be blocked and / or main river flows over-pumped during the works. The greatest obstruction to the river will be the cofferdam to be constructed around the area for the wall repair using 2t Salix Aqua Rock Bags. This should extend no further than 1/3 of the way into the river channel and should be built to a height so that it will easily overtop in the event of high river levels so as to not increase the risk of flooding.

To carry out the works there shall be the requirement to dewater the area within the cofferdam. This shall be carried out with fish-friendly pumps with a fish rescue carried out prior to dewatering if deemed necessary following consultation with a suitably qualified ecologist and in accordance with the fish rescue licence. Water will be discharged further downstream where pollution control measures shall be placed (hay bales and sediments) to prevent contamination of the watercourse. Any pollution control measures placed downstream of the works should be placed so as to not impede flows or hinder fish passage.

It is likely that some pumps will need to be left running during working hours to over-pump any seepage through the cofferdam. These shall be switched off outside of working hours and the cofferdam allowed to flood. Before switching off pumps, all plant, equipment and materials shall be removed from the cofferdam and stored within the site compound. A final walkover of the area within the cofferdam will then be carried out to prevent solids from entering the river.

Should heavy rainfall be forecast with risk of flooding, the top layer of bags shall be removed to further reduce the effects on flow within the watercourse. During the works the weather forecast and water levels will be closely monitored in accordance with the Principal Contractors Risk Assessment Management Plan (RAMS). Works will cease if water levels increase to a point where the safety may be compromised or if the water levels affect the works.

5 Environmental Risk Assessment

No.	Item	Hazard	Source(s)	Pathway	Receptor	Control Measure
1	Emissions					
2.1	Emissions from plant / equipment	Pollutant	Plant / vehicles Generators & power packs	Air/ground	Atmosphere / Mill residents/visitors	Fuels to be stored within the site compound, in bunded containers, away from the river and other receptors. Idling of machines, discouraged at site. Machines/Generators left running only when required.
2	Contamination & Spillages					
2.1	Oil/ fuel	Pollutant	Oil/fuel stores Plant & machinery	Seepage through ground/embankments. Direct into watercourse	Watercourse (Cleddau River) Ground	Fuels to be stored within the site compound, in bunded containers, away from the river and other receptors. Raised up to prevent risk of contamination due to flooding. Refuelling activities to take place at least 10 metres away from watercourse. Biodegradable hydraulic oil to be used in machinery.
2.2	Other chemicals	Pollutant	Chemical substances / materials used in works	Seepage through ground/embankments. Direct into watercourse	Watercourse (Cleddau River) Ground	Control of Substances Hazardous to Health (COSHH) assessment to be undertaken for all chemicals and control measures applied. Specific monitoring regimes to be implemented as required.
2.3	Silt run-off	Pollutant	Stockpiled materials Disturbance from construction activities	Direct into watercourse from embankments	Watercourse (Cleddau River) Ground	Measures to be deployed to prevent run-off onto the site access tracks and into the river. Establish Access/Egress track for river entry. Provision of silt fences. Daily site monitoring of conditions. Stockpiled materials to be positioned away from the river.
2.4	Dust	Pollutant	Plant / vehicle movements Cutting, breaking & moving materials	Air	Watercourse (Cleddau River) Ground	Site traffic to access the site via existing roads, with track mats deployed along any unpaved access routes. Daily site monitoring of conditions. Dust suppression methods to be deployed if required.

2.5	Mud on plant and vehicle wheels	Pollutant	Plant / vehicles	Plant / vehicles	Watercourse (Cleddau River) Ground	Deliveries to be restricted to area around Mill car park, before transfer to working areas by construction personnel, reducing mud deposition. Existing roads and access routes used where possible with track mats to cross unpaved areas. All deliveries and plant movements to be monitored. Cleaning operations/wheel wash to be implemented if required. Daily site monitoring of main roads adjacent to site access.
3	Waste Management & Storage of Materials					
3.1	Construction waste + materials	Contamination Visual disturbance Wildlife entrapment	Deliveries Excavations + ground works	Direct (river flows / flooding)	Ground Watercourse (Cleddau River)	Stored within designated, boundaries. Good housekeeping to be followed at all times. Stockpiling of materials kept to a minimum. All excess material and waste to be removed from site by licenced waste carrier. Any materials within cofferdam removed from river at end of each shift.
3.2	Food/General waste	Contamination Visual disturbance Harm to wildlife	Personnel (eating + drinking) Site welfare	Direct (river flows / flooding)	Ground Watercourse (Cleddau River)	Segregated bins to be provided with site welfare facilities for disposal of food waste and packaging. Kept in site compound away from flood risk areas. All waste to be removed from site. In line with new Welsh workplace recycling law.
4	Traffic Management					
4.1	Works traffic movements	Noise disturbance	Plant movements Deliveries Works vehicles	Air	Wildlife Public	Traffic Management Plan to be produced to outline traffic movements / routes and minimise disturbance. Traffic movements limited to agreed working hours.
4.2	Works traffic movements	Physical disturbance	Plant movements Deliveries Works vehicles	Direct	Wildlife Public	All vehicle movements to be banked and carried out in accordance with contractors Traffic Management Plan. Drivers to remain vigilant for members of the public and / or wildlife in vicinity of access routes.

4.3	Mud spillage	Pollutant / contamination	Plant movements Deliveries Works vehicles	Air	Ground	Vehicles to be wheel washed when leaving site. Surfaces to be cleaned or protected to prevent accumulation / spread of material.
5	<i>Fire Control</i>					
5.1	Fire	Habitat loss Harm to wildlife	Flammable substances Plant / machinery	Ground Air	Wildlife Surrounding habitats Public	Fire extinguishers to be carried on all works vehicles and within welfare unit. Hot works controlled via Permit works, to include Fire Watch requirements. Personnel to be trained in emergency procedures and response plan to be included as part of project risk assessment and method statement (RAMS).
6	<i>Dust & Odours</i>					
6.1	Dust	Pollutant	Plant / vehicle movements Cutting, breaking & moving materials	Air	Watercourse (Cleddau River) Ground	Site traffic to access the site via existing roads, with track mats deployed along any unpaved access routes. Daily site monitoring of conditions. Dust suppression methods to be deployed if required.
7	<i>Noise, Vibration & Lighting</i>					
7.1	Construction noise & vibrations	Disturbance	Plant / machinery	Air	Wildlife Public	Works kept within standard working hours. Low noise / vibration options chosen for plant and equipment where possible. Noise / vibration monitoring implemented if required.
7.2	Lighting	Disturbance	Site / task lighting	Air	Wildlife (bats, badgers & otters, fish) Public	Use of site lighting avoided unless absolutely necessary. If required, directional cowls to be fitted. Avoid light spilling onto watercourse and surrounding embankments.
8	<i>Landscape: Excavations, Vegetation Clearance & Visual Disturbance</i>					
8.1	Excavations	Habitat loss	Earthworks & plant operations	Direct	Surrounding habitats Trees	All excavations carried out under permit to dig and in areas agreed with Client PM. Tree obligations and method statements adhered to. Carried out under direction of ecologist as required.

8.2	Open excavations	Entrapment Harm to wildlife	Earthworks & plant operations	Direct	Wildlife (badgers & otters) Public	Working area secured with fencing to keep wildlife and members of the public out. All excavations will be backfilled on the same day to avoid the risk of Otter falling in, or all open excavations over 600mm in depth will be covered at night. If this is not possible, a means of escape for small animals will be provided; and Should an Otter be encountered on site during the works, all works will cease immediately.
8.3	Vegetation clearance	Habitat loss	Hand / machine clearance activities	Direct	Surrounding habitats	Carried out under direction / approval of project ecologist. Personnel to remain vigilant for signs of wildlife and cease clearance if any encountered.
9	<i>Invasive Non-Native Species (INNS)</i>					
9.1	Invasive species	Contamination Spread of INNS	INNS present on site	Plant, Equipment & Tools	Local wildlife & habitats	Team briefed on INNS procedures and to remain vigilant for any invasive species within the working area. If encountered, ecologist to be notified and species-specific disposal / mitigation measures to be employed. CLEAN CHECK DRY method to be followed: 'Check, Clean and Dry' Guidance states: CHECK: Check your equipment, boat and clothing after leaving the water for mud, aquatic animals or plant material. Remove everything that you find and leave it at the site. CLEAN: Clean everything thoroughly as soon as you can, paying attention to areas that are damp or hard to access. Use hot water if possible. DRY: Dry everything for as long as you can before using elsewhere as some invasive animals and plants can survive for more than two weeks in damp conditions.
10	<i>Changes to the Watercourse, Flood Risk & Dam Safety</i>					
10.1	Construction of cofferdam in watercourse	Flooding	Rock bag cofferdam	River	Local wildlife & habitats Public	Cofferdam to extend no further than 1/3 into watercourse. Weather conditions constantly monitored. Height of

						cofferdam reduced to allow over-topping if high flows anticipated. Allowed to overtop at end of each shift. Principal contractor to produce flood response plan.
10.2	Pollution control measures	Flooding Impede fish passage	Sedimats Haybales	Direct	Fish	Placed so as not to block the watercourse or hinder fish passage. Removed following completion of the works. Principal contractor to produce flood response plan.
10.3	Pumping	Harm to fish	Submersible pumps	Direct	Fish	Consultation with suitably qualified ecologist. Fish rescue carried out prior to dewatering if deemed necessary. Fish friendly pumps with coarse screens to be used. Fish rescue licence will be obtained prior to works and complied with.

Edwards Diving Services Ltd.
Unit G15 • Main Avenue
Treforest Industrial Estate • Pontypridd • CF37 5YL
Tel. 029 2086 2020

© **Edwards Diving Services Ltd 2024**