



Pennant Walters Ltd

Trecelyn Wind Farm

Outline Construction Environmental Management Plan
(CEMP)



November 2023



Report for

Meryl Lewis

Pennant Walters
Greenwood House
Westwood Business Park
Coventry
CV4 8PB

Main contributors

Scott Quinn
Jacob Hall

Issued by

.....
Jacob Hall

Approved by

.....
David Kenyon

WSP UK Limited

Doc Ref.

Copyright and non-disclosure notice

The contents and layout of this report are subject to copyright owned by WSP (© WSP UK Limited 2022) save to the extent that copyright has been legally assigned by us to another party or is used by WSP under licence. To the extent that we own the copyright in this report, it may not be copied or used without our prior written agreement for any purpose other than the purpose indicated in this report. The methodology (if any) contained in this report is provided to you in confidence and must not be disclosed or copied to third parties without the prior written agreement of WSP. Disclosure of that information may constitute an actionable breach of confidence or may otherwise prejudice our commercial interests. Any third party who obtains access to this report by any means will, in any event, be subject to the Third Party Disclaimer set out below.

Third party disclaimer

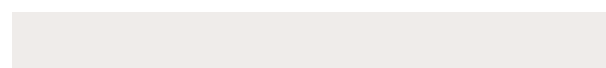
Any disclosure of this report to a third party is subject to this disclaimer. The report was prepared by WSP at the instruction of, and for use by, our client named on the front of the report. It does not in any way constitute advice to any third party who is able to access it by any means. WSP excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage howsoever arising from reliance on the contents of this report. We do not however exclude our liability (if any) for personal injury or death resulting from our negligence, for fraud or any other matter in relation to which we cannot legally exclude liability.

Management systems

This document has been produced by WSP UK Limited in full compliance with our management systems, which have been certified to ISO 9001, ISO 14001 and ISO 45001 by Lloyd's Register.

Document revisions

No.	Details	Date
1	Draft	Nov 2023



Executive summary

This Outline Construction Environmental Management Plan (CEMP) sets out the specific environmental management requirements and relevant guidance for contractors working on the proposed Trecelyn Wind Farm.

The CEMP will remain a live document throughout the pre-construction and construction processes and some provisions may extend into the operational phase. The CEMP consolidates all appropriate embedded measures, and additional mitigation and enhancement strategies where required, and clearly outlines what should be implemented, where, and by whom.

The CEMP will be the master document for consolidating all environmental requirements and undertakings that relate to the Site. As such it aims to ensure that construction activities for the proposed wind farm are carried out in accordance with legislation and best practice for minimising the effects of construction on the environment and local communities.

The objectives of the CEMP are to:

- Provide a mechanism for delivering many of the embedded environmental measures described in the Environmental Statement.
- Ensure compliance with legislation through setting out the need for consultation with 'consultation bodies' (see Regulation 2 in the EIA Regulations 2017), and by obtaining necessary consents and licences from relevant bodies.
- Provide a framework for monitoring and compliance auditing and inspection to ensure the environmental measures included in the Environmental Statement are being implemented.
- Ensure environmental best practices are adopted throughout the construction stage.
- Provide a framework for dealing with adverse effects as they occur.
- Ensure a prompt response should unacceptable adverse effects be identified during the works.

Contents

1.	Introduction	6
1.1	Purpose of this Report	6
1.2	Overview of the Project	6
1.3	CEMP: Aims and Objectives	7
2.	Environmental Policies, Corporate Responsibilities and Emergency Procedures	8
2.1	Introduction	8
1.4	Appointed Contractor	8
1.5	Overall Responsibilities for Pennant Walters Site Management Team	8
1.6	Emergency Procedures	9
	Spillage Control	9
	Flood Emergency Response	9
	Other Environmental Incidents	10
3.	Construction Environmental Issues	11
3.1	Introduction	11
3.2	Timing of Works and Contingency Plans	11
3.3	Site Environmental Monitoring Processes	11
	Monitoring Schedule	11
3.4	Site Waste Management	12
3.5	Details of Track maintenance, Oil Storage and Lighting Columns	14
	Track Maintenance	14
	Oil Storage	14
	Lighting Columns	15
3.6	Details for Post-Construction Restoration/Reinstatement of Temporary Working Construction Areas Not Required During the Operation of the Development	16 15
3.7	Construction SuDS	16
3.8	Water Abstraction	16
3.9	Public Safety and Access	16
4.	Topic Specific Management Plans	17
4.1	Dust Management	17
	General Requirements	17
4.2	Noise Management	18
4.3	Water Management Plan	19
4.4	Soil Storage and Management	19
	Topsoil and Subsoil Storage	19
	Subsoil Handling During Replacement	20
	Topsoil Handling During Replacement	20
4.5	Ecological Management	20
	ECoW	20

	Ecology Method Statements	21
	General Ecology Mitigation	21
4.6	Archaeology & Cultural Heritage Management	21
	Site Specific Constraints	22
	General Archaeology Requirements	22
	Human Remains	22
	Treasure	22 ²³
5.	Site Environmental Inspection and Auditing Procedures	24
5.1	Site Environmental Inspections	24
5.2	Environmental Audits	24
6.	Document Control and Environmental Nuisance Complaints	25
6.1	CEMP Document Control	25
6.2	Register for Environmental Nuisance Complaints	25
7.	Re-Instatement Measures	26
<hr/>		
	Table 3.1 Monitoring Schedule	10
	Table 4.1 Summary of the embedded environmental measures related to noise	18
	Table 7.1 Project Completion Requirements	26
	Table 7.2 Audit Record	27
<hr/>		
	Figure 3.1 Waste Hierarchy	13 ⁷
<hr/>		
	Appendix A Site Plans	
	Appendix B: Water Management Plans	
	Appendix C: Environmental Inspection Form	
	Appendix D: CEMP Control Revision Register	
	Appendix E: Register for Environmental Nuisance Complaints	

1. Introduction

1.1 Purpose of this Report

- 1.1.1 This Outline Construction Environmental Management Plan (CEMP) relates to the proposed construction and operation of the Trecelyn Wind Farm near Abercarn and accompanies the Draft ES for statutory consultation.
- 1.1.2 A CEMP is a tool for managing the environmental impacts of a development during the post consent phase and is often produced at the request of a planning authority or Planning and Environmental Decisions Wales (PEDW) as a condition of planning consent.
- 1.1.3 This document has been produced to accompany the application for a Development of National Significance (DNS) and as such is not the product of a formal request. This Outline CEMP has been produced to demonstrate that Pennant Walters understands the potential impacts of the works, which have been assessed as part of the Environmental Impact Assessment (EIA) process and to put in place a mechanism to ensure that the commitments made in the ES are implemented appropriately.
- 1.1.4 Revisions to this CEMP shall be agreed and approved by and recorded by Pennant Walters. The plan shall be continually reviewed to take into account additional environmental information encountered during the design and construction phases. It shall also allow for the inclusion of requirements and amendments that arise from the granting of a DNS or legitimate concerns of Third Parties. All personnel and sub-contractors working on the project shall perform their duties in accordance with the requirements of the CEMP. The Site Team shall report regularly to the Project Manager on the status and effectiveness of its implementation.

1.2 Overview of the Project

- 1.2.1 The Trecelyn Wind Farm development (hereafter referred to as 'the Wind Farm') comprises of the following:
- up to four wind turbines;
 - substation and transformer housing;
 - temporary contractor's compound;
 -
 - crane pads and cabling; and
 - improvements to existing access, together with improvements to the internal access road and new and improved access tracks to the turbines.
- 1.2.2 The Site lies mainly within the Caerphilly County Borough Council (CCBC) administrative boundary,. The settlement of Hafodyrynys lies 443m to the north west of the Northern Parcel's site boundary. The outskirts of Newbridge lie 1.5km to the west of the Central Parcel's site boundary. The outskirts of Abercarn are approximately 600m to the west from the Southern Parcel's site boundary.
- 1.2.3 The Proposed Development is a wind farm consisting of a maximum of four wind turbines, each with a three-bladed rotor with a maximum height to blade tip of 145m.

- 1.2.4 The Applicant has accepted a firm grid connection offer from National Grid (NG), as the Distribution Network Operator (DNO). The Site substation will connect the wind farm into the national distribution system on site (to be via a 132kV connection in the substation compound). There is no requirement for a grid corridor as the substation will be situated directly underneath the 132kv Overhead line which traverses the Site.
- 1.2.5 The Site Layout is shown in **Appendix A**. Through the EIA process, the majority of environmental impacts will be avoided, minimised, and mitigated through a careful iterative design process. However, as identified in the Draft ES, there are potential impacts that cannot be mitigated through design and therefore further mitigation measures are required to be put in place during the construction of the Wind Farm.

1.3 CEMP: Aims and Objectives

- 1.3.1 This CEMP is intended to provide the contractor and client with a useful and essential project specific tool to manage on-site construction activities that may impact on the environment. The key aims of the CEMP are to:
- Ensure all environmental commitments are met and that all requirements of relevant statutory legislation, standards, and guidance are fulfilled;
 - Ensure that disturbance to the physical environment from the Wind Farm is avoided, or where this is not possible, that disturbances are minimised and appropriately mitigated;
 - Ensure that impacts on transport, tourism, historic sites, and cultural heritage are avoided, or where this is not possible, that impacts are minimised and appropriately mitigated;
 - Ensure that the agreed site restoration is achieved on completion of the construction of the wind farm; and
 - Ensure effective engagement with key stakeholders is undertaken as appropriate, in the delivery of the required mitigation.
- 1.3.2 Compliance with the CEMP will be a contractual requirement for all personnel and contractors involved in the construction of the Wind Farm.

2. Environmental Policies, Corporate Responsibilities and Emergency Procedures

2.1 Introduction

- 2.1.1 The overall responsibility for implementation of this CEMP lies with Pennant Walters and its appointed contractor for the construction works: the successful implementation of the CEMP will ensure that all relevant environmental commitments and responsibilities are adhered to. Pennant Walters is also responsible for auditing the implementation of environmental mitigation measures on site and ensuring an audit plan is developed prior to construction commencing.
- 2.1.2 These documents, together with adherence to key legislation and good practice guidance, represent the environmental requirements and standards which all personnel must comply with when working on behalf of Pennant Walters. This CEMP fully accords with all legislative requirements.

2.2 Appointed Contractor

- 2.2.1 The appointed contractor for the construction of the Wind Farm (working on behalf of Pennant Walters) will be responsible for:
- Implementing the requirements of this CEMP in compliance with standard and site-specific Environmental Management Systems (EMS). The EMS must comply with ISO 14001;
 - Managing the environmental performance of all sub-contractors on site, including weekly monitoring to ensure that all sub-contractors comply with the requirements of the CEMP and ISO 14001;
 - Weekly monitoring of the environmental aspects of site works, ensuring compliance with the CEMP and ISO 14001, including regular inspections, audits, and appropriate procedures for addressing urgent matters; and
 - Training of site staff, including all sub-contractors, in general environmental awareness on specific environmental protection issues.
- 2.2.2 The appointed contractor will also be responsible for ensuring, through the incorporation of the provisions outlined in this document, that all relevant planning consent conditions, licences, and mitigation commitments that apply to site work are satisfactorily discharged. This will ensure that the environmental impact of construction activities is kept to a practicable minimum.

2.3 Overall Responsibilities for Pennant Walters Site Management Team

- 2.3.1 Overall day to day responsibility for ensuring that all standard and site-specific environmental actions are adhered to rests with the appointed Site Management Team and the Ecology Clerk of Works (ECoW).

- 2.3.2 The appointed Site Management Team will undertake regular meetings and site inspections to ensure that all site-based personnel are aware of the environmental commitments as referenced or detailed in this document.
- 2.3.3 Under the direction of the appointed contractor all personnel and any sub-contractors working on this project must take all reasonable precautions and undertake all reasonable measures within their control to ensure that all legal requirements are complied with and that no unnecessary damage, disturbance, or pollution results from undertaking the proposed construction works.

2.4 Emergency Procedures

- 2.4.1 All environmental incidents must be reported to the Site Management Team who will decide whether the incident is reportable to NRW or other Regulators.
- 2.4.2 NRW should be contacted by the Site Management Team within 2 hours where an incident results in direct pollution of a watercourse. This should allow for inspecting the incident, taking immediate actions to control/mitigate impacts and enable NRW to inform third parties and to take further mitigation steps if required.
- 2.4.3 In addition to notification of any environmental incident via the Natural Resources Wales number 0800 807060), the local NRW Office (Abergavenny, Monmouthshire) must be contacted (0300 065 3000; et.newportcaerphilly&blaenaugwent@cyfoethnaturiolcymru.gov.uk) and informed.
- 2.4.4 All emergency response arrangements will be included in the construction site induction and communicated to the relevant regulatory bodies if required.

Spillage Control

- 2.4.5 For plant/equipment leaks:
- STOP the source of the spill or leak if possible;
 - CONTAIN the spill using spill kits, sand or soil;
 - DIVERT the spill away from drains and watercourses;
 - CLEAN up the spill. Put all used spill kit materials and contaminated soil in a waste bag and dispose of as hazardous waste;
 - REPORT the spill to your supervisor;
 - REPLENISH spill kit after use; and
 - ANY pollution of a watercourse to be reported immediately to the appointed contractor's Project HSSE Manager.
- 2.4.6 Should there be any incidents then these would need to be reported to the appointed contractor's site manager via the following 24hr emergency contact line on 07977287061.

Flood Emergency Response

- 2.4.7 If there are flood alerts in the vicinity of the construction site:
- CONTACT NRW flood warning line on **0345 988 118**;
 - OBTAIN as much information as possible from NRW i.e., what timescales are involved and what level of flooding is expected;

- If flooding is IMMEDIATE ensure that fuel, oil, and other potential contaminants are moved out of danger or stored as securely as possible; and
- If the extent of the flooding becomes serious and an EVACUATION of the site is deemed necessary, a decision to evacuate will be made by a senior person on site – the appointed contractor’s Project, Site or HSSE Manager.

Other Environmental Incidents

- 2.4.8 If there is any other type of environmental incident, stop what you are doing and report it to your supervisor. These may include:
- Complaints from third parties e.g., noise, dust, light pollution;
 - Discovery of suspected contaminated land;
 - Discovery of protected animals, birds, or reptiles;
 - Damage to trees and hedgerows and/or sites designated for nature conservation reasons;
 - Discovery of archaeological or historic remains; and
 - Near misses – where events could have led to a minor or major incident.
- 2.4.9 The appointed contractor’s Site Management Team should be notified immediately.

3. Construction Environmental Issues

3.1 Introduction

3.1.1 This section of the CEMP identifies key environmental issues which may require to be addressed during the construction process, together with appropriate environmental management actions.

3.2 Timing of Works and Contingency Plans

3.2.1 The timing of the construction works will be very important. Where possible, the works will be planned to avoid periods of high rainfall and also the winter months, given that the winter months are generally windier and wetter, which makes the schedule of turbine lifts difficult, and creates additional challenges with managing run off and storm events. Further guidance on surface and groundwater management can be found at **Appendix B**.

3.2.2 Hours of working will be limited to take place between 07:00 to 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays, with no working taking place on Sundays or bank holidays. Works will be limited to daylight hours only between the months of April-September to avoid impacts to bats during their main roosting/active season. Works will continue beyond daylight hours with temporary lighting used between the months of Oct and March as bats will be/have moved to their hibernation sites.

3.2.3 There are various contingency plans in place in this CEMP and appendices covering emergency procedures for various aspects including pollution prevention, flooding, waste management etc. These various measures are all considered to amount to suitable and appropriate contingency plans for the construction of the Wind Farm.

3.3 Site Environmental Monitoring Processes

Monitoring Schedule

3.3.1 Where required on the project, environmental monitoring will be carried out in accordance with the appointed contractor's relevant HSSE Procedures and Guidance Notes.

3.3.2 The following monitoring will be carried out throughout the duration of the construction:

Table 3.1 Monitoring Schedule

Item	Details	Staff Responsible
Daily Monitoring	Local access tracks and the A472 and hardstanding areas for mud/debris needing to be cleaned.	Site Manager
	Aggregate and sand delivery vehicles to be appropriately sheeted	Site Manager
	Access tracks inspected for dust arisings and dampened down	Site Manager

Item	Details	Staff Responsible
	Site inspected for litter	Site Manager
	Clearance of litter	All site staff
Weekly Monitoring	Storage containers and bunds in temporary compound checked for leaks / damage	Site Manager
	Waste removed from storage areas	Site Manager
	Fences around sensitive environmental areas checked for correct position and for damage	ECoW (for ecological areas) Site Manager
	Signage and fences/gates around rights of way checked to ensure they are readable, in the correct position and not damaged	Site Manager
Monthly Monitoring	Position and direction of lighting	Site Manager
	Condition of access tracks, including adjacent verges and drainage channels	Site Manager
	Operation of wheel wash and condition of drainage serving this	Site Manager
As required	Servicing of vehicles and machinery	Site Manager

3.4 Site Waste Management

3.4.1 The following good site waste management practices will be implemented by the appointed contractor for the construction works:

Ordering

- Do not over order materials;
- Minimise ordering standard lengths as opposed to the 'real' lengths as this will increase potential for waste; and
- Think about delivery times.

Storage – Good Housekeeping

- Incorrect storage could lead to damage or contamination - replacement items are then required;
- Check shelf life and storage instructions on packaging;
- Segregate waste types – inactive, active, special, and then material types – metals, wood, concrete, plastic etc.;
- Recycle and reuse materials wherever possible e.g., timber, plastics, cardboard, tyres etc. Money can even be made from this!

- Waste must not be kept in a corroded or worn container;
- Ensure that any container is secure, where necessary, so as to prevent accidental spillage, leakage etc;
- Waste must be kept in a manner that prevents it from falling from containers while in storage or in transit;
- Waste must be protected in an appropriate manner to prevent scavenging from animals; and
- Do not allow waste storage containers to overflow.

Delivery and Handling

- Avoid damage during unloading;
- Unload in designated areas, where possible, to minimise double handling;
- Do not accept incorrect deliveries; and
- Be aware that repetitive handling leads to damage.

Waste Sorting, Storage and Recycling

- 3.4.2 Fully enclosed skips and other smaller containers will be used for all wastes on site. Waste materials will be sorted into separate skips to allow segregation of waste materials for recycling or recovery.
- 3.4.3 All the legal documents to ensure the Duty of Care for waste will be kept at the appointed contractor’s site management office during the construction of the Wind Farm.
- 3.4.4 All waste leaving the Site will be accompanied with a Waste Transfer Note (WTN) (for non-hazardous material) or Hazardous Waste Consignment Note (HWCN).

Waste Hierarchy

- 3.4.5 Further to the above, the appointed contractor will be required to undertake waste management in accordance with the waste hierarchy to help ensure that the amount of waste generated is minimised, and where possible, recycled. **Figure 3.1** below sets out the waste hierarchy which will be used during the construction process.

Figure 3.1 Waste Hierarchy



Source: [Corporate cover and copyright page for consultations \(gov.wales\)](https://www.gov.wales)

Sewage

- 3.4.6 All sewage will be captured in an enclosed self-contained tank, which will be emptied by a visiting tanker.

3.5 Details of Track maintenance, Oil Storage and Lighting Columns

- 3.5.1 Detailed Construction Method Statements will be prepared by the site team for each element of the works prior to commencement however the following sections provide an overview of the working methodologies which will be employed on the site during the construction period for these details.

Track Maintenance

- 3.5.2 A regular maintenance regime will be established to prevent water ponding and excessive build up on the track surface. This will generally be carried out by:
- Regular grading of the tracks to remove any slurry;
 - Topping the track with graded stone to ensure minimal ponding; and
 - Using an observational technique which will highlight areas that require additional maintenance.
- 3.5.3 Reinstatement of the sides of the access tracks will be undertaken where possible as the construction progresses. This will be dependent on a number of factors such as weather conditions, the programme, permanent cable location and the site track layout.
- 3.5.4 On completion of the access tracks, it is envisaged that any further disturbed ground would be reinstated.
- 3.5.5 A further reinstatement period will also be required at the end of the project to complete works to the site compound areas. Typically, turves and topsoil removed in the original excavation will be re-used in the restoration to ensure natural regeneration.

Oil Storage

- 3.5.6 A Water Management Plan (WMP), has been prepared in support of the CEMP and is attached at **Appendix B**.
- 3.5.7 The following general requirements will be followed on site:
- Spill Stations will be located at each work area where refuelling is carried out or any risk of spillage is identified. Positions will be reviewed continually and relocated to suit ongoing/programmed works;
 - Spill Response Instructions will be kept on prominent display at fuel storage areas, spill stations and in the site office;
 - Oil and fuel storage tanks will be self-bunded and will be physically protected by spill trays. All valves and tank couplings will be located within the tank bund, and a spill kit will be held beside the bulk storage tank;
 - Mobile plant and vehicles will be refuelled beside relevant tanks. Filler handles will be auto-shut-off trigger-spring type, i.e., as per garage pumps. They will be stored within the bund at all times. Static plant will be refuelled at their operational location using a mobile bunded fuel bowser or jerry cans (all static plant to have spill tray/plant nappy);

- All fuel and oil containers will be locked in a secure store to prevent theft and vandalism;
- Where fuel is to be transported in small quantities, only fuel-type marked 'jerry cans' 5/10/20 litre will be used. All bunds and settlement areas will be checked daily for evidence of pollutants. Adequate oil absorbent and containment materials must be held in signposted 'spill stations' and staff briefed on how to use spill equipment effectively; and
- Oil contaminated water from bunded areas, drip trays or plant nappies will be removed using oil-absorbent pads. Contaminated water or other materials will be disposed to an appropriate disposal site with the necessary paperwork in place in accordance with Site Waste Management arrangements (**Section [Error! Reference source not found.3.4](#)**).

Lighting Columns

- 3.5.8 Should there be a need to provide temporary illumination of working areas in the mornings and evenings and also if any night-work is required so as to ensure safe working, then this will be achieved through the use of mobile lighting units. Although the Site is generally remote from residential properties, temporary lighting will be positioned in such a manner that light 'spillage' is avoided. No permanent lighting columns would be installed on site.
- 3.5.9 Temporary lighting during the construction phase would avoid lighting ditches, ponds, hedges and woodland. Motion sensors would be used, minimising the use of light; spill limited so only the task area is lit using accessories (e.g., hoods) to shield or direct light to where it is required. Lighting would use narrow spectrum light sources emitting minimal ultraviolet light peaking higher than 550 nm, white lighting should be of a warm /neutral colour temperature.
- 3.5.10 Where lighting cannot be avoided during the spring/summer months, advice will be sought from the project ecologist in respect of protected species and their sensitivities.

Access Tracks

- 3.5.11 The track design resulted from the optimisation of the following criteria:
- track length is kept to a minimum and utilises existing access tracks where possible to reduce environmental impact, construction time and material quantities (imported stone);
 - new track gradients are to be kept to less than 8 percent (1 in 12.5) and radius curves to 50m where practicable to accommodate the requirements of delivery vehicles and also to allow construction plant to move safely around the Site;
 - track layout is designed to reflect contours and avoid cross slopes and deep cut and fill into existing terrain where possible; and
 - tracks are routed to avoid sensitive ecological, archaeological and hydrological features, where possible.

3.6 Details for Post-Construction Restoration/Reinstatement of Temporary Working Construction Areas Not Required During the Operation of the Development

- 3.6.1 There will be a number of temporary working areas that will need to be created during the construction works. Following completion of the construction works, the land used for temporary working construction areas will be returned to soft landscape elements to maximise biodiversity and appropriate to the overall land use as an area of upland grazing. These objectives are compatible with the Outline Landscape and Ecology Management Plan (LEMP) and should be considered in conjunction with this document. The LEMP will be produced for Final ES submission. Specific reinstatement requirements relating to soils and agricultural land will be detailed in the Soil Management Plan to be produced for Final ES submission (see **Section 4.4**).

3.7 Construction SuDS

- 3.7.1 Throughout the construction phase of the development, Sustainable Drainage Systems (SuDS) will be provided. This will help to ensure that contaminated surface water runoff, arising from earthworks, roads, drainage, compounds and any other associated infrastructure, do not pollute any watercourses. Further details are provided in **Appendix B**.

3.8 Water Abstraction

- 3.8.1 There will be no abstraction from watercourses. In the event that there is not enough mains water available on site for plant washing and dust suppression, water may be tankered to the Site.

3.9 Public Safety and Access

- 3.9.1 Appropriate signage and fencing as necessary will be put in place on site during the construction works to ensure that public safety is maintained. Should there be any need to restrict access during the construction works, then this will be kept to a minimum and will only be for areas where there are active works taking place.
- 3.9.2 An information board will be kept adjacent to the site compound and site access which will provide information on the timing of construction works and contact details for the appointed site manager in the event of any queries.
- 3.9.3 One Public Right of Way (PRoW) within the Site boundary has been identified for diversion. Advisory safety signs will be placed on PRoW routes advising users of the construction works and the diversions to the PRoW network in place.
- 3.9.4 Signage will be required where a PRoW crosses the Site to advise users of the construction works taking place and identify alternative PRoW routes also available should users wish to use PRoW further from site activities. Occasional temporary, short restrictions may be required when abnormal loads of high traffic loads are expected. Such temporary restrictions will be managed by site staff (banksman) at the access point. Site briefings will be used to alert construction workers to potential presence of grazing animals and walkers. Signage and appropriate speeds limit will also be implemented.

4. Topic Specific Management Plans

4.1 Dust Management

4.1.1 The main activities involved in this project which may cause dust emissions include the following:

- Construction vehicle movements;
- Cutting and grinding of concrete and blocks;
- Earthworks; and
- Stockpiles.

General Requirements

4.1.2 Particular care would be required to maintain dust emissions at a practicable minimum when working in the vicinity of residential properties and environmentally sensitive areas. Good practice mitigation would be required during dry conditions. The use of Best Practicable Means (as defined in Part III of the Environmental Protection Act 1990) would be employed. The appointed contractor will be responsible for undertaking and recording daily checks to manage dust emissions. The environmental measures to be implemented to control dust emissions during construction and decommissioning are:

- Check the local weather forecast at the start of the working day, to identify likely daily weather conditions;
- The use of dust suppression facilities on-site. This would include the provision of water bowsers with sufficient capacity and range to dampen down all areas which may lead to dust escape on-site;
- Any storage on-site of aggregate or fine material would be properly enclosed and screened so that dust escape is avoided. Adequate sheeting would also be provided for the finer materials which are prone to 'wind whipping';
- Wheel wash facilities would be installed for vehicles entering and exiting the Site where required. This facility would be able to automatically clean the lower parts of the HGVs, by removing mud, clay etc from the wheels and chassis in one drive through operation;
- HGVs entering and exiting the Site would be fitted with adequate sheeting to totally cover any load carried which has the potential to be 'wind whipped' from the vehicle;
- Good housekeeping or 'clean up' arrangements would be employed so that the Site is kept as clean as reasonably practicable. There will be daily inspections of the working areas and immediate surrounding areas to ensure that any dust accumulation or spillages are removed/cleaned up as soon as reasonably practicable;
- The appointment of a contact to whom complaints/ queries about construction dust can be directed. Any complaints to be investigated and action taken where appropriate.
- Undertake regular visual checks throughout the day to ensure dust at the above locations is being suppressed;

- Avoid the use of open skips wherever reasonably practicable;
- In the event that dust is being blown off-site, cease dust generating activities until wind conditions improve or dust is suitably managed;
- Undertake regular visual checks throughout the day of dust management during earthworks and regular movement of HGVs on tracks;
- Actively monitor dust management and where dust pollution is likely to affect neighbours, cease all activities until suitable management procedures can be implemented;
- A record will be kept on site of all dust related complaints and remedial actions taken;
- Complaints will be reported to the Appointed Contractor's Site Management Team and where required, a review of the dust management procedures will be undertaken; and
- Staff will be briefed on changes required to working practices to ensure the incident is not repeated.

4.1.3 In addition to the above daily checks, the following dust management procedures will be followed on site:

- All staff will be trained on the importance of dust management procedures;
- Activities on site will be planned to ensure risk of pollution from wind-blown dust is reduced to a **minimum**;
- The A467 in the vicinity of the site access will be monitored regularly and a road sweeper will be deployed along the A467 should that be deemed necessary by Caerphilly County Borough Council (CCBC) or the site manager.
- Only appropriate plant will be used, and all equipment will be regularly maintained; and
- Burning of materials is not permitted in any working area.

4.2 Noise Management

4.2.1 Whilst adverse effects from construction noise and vibration are considered very unlikely, the works to construct the site and associated connection will be undertaken in line with embedded measures identified below:

- All construction activities undertaken in accordance with good practice as set out in BS5228-1:2009+A1:2014.¹
- All employees on the construction site will be advised of quieter methods of operating plant and tools. Noise control measures (silencers, mufflers, any noise barriers, etc.) are to be subject to regular inspection and maintenance.
- Construction plant capable of generating significant noise and vibration levels will be operated in a manner to minimise noise emissions.

¹ British Standards Institution (2014). British Standard BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites, Part 1: Noise. BSI, London.

4.3 Water Management Plan

- 4.3.1 A Pollution Prevention Plan (PPP) and surface water and groundwater management measures are included within the Water Management Plan (WMP) in support of the CEMP and is provided at **Appendix B**.

4.4 Soil Storage and Management

- 4.4.1 A Soil Management Plan (SMP) will be produced for Final ES submission based on the findings of a Soil Resources Survey to be completed for the site prior to Final ES submission. This will detail the soil types present on the site, as confirmed by the Soil Resources Survey, and the soil handling and management measures to be applied to protect soils during construction. Outline soil management measures are provided below and these will be expanded in the SMP (which will then supersede this section of the CEMP).
- 4.4.2 Soil stripped from the temporary construction compound and the turbine foundation area and any other areas on site where soil has to be stripped, will be stored in temporary mounds alongside each area, for re-spreading, following completion of turbine installation. Soils stripped from the crane hardstandings, will be stored alongside each area for future use in reinstatement.
- 4.4.3 The following measures will be employed on site to store and manage soil during the construction works:

Topsoil and Subsoil Storage

- 4.4.4 Storage and handling of soil will be informed by the Defra (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites to avoid damage to soil structure and help to minimise soil compaction.
- 4.4.5 During topsoil stripping, machinery with low ground pressure will be used to minimise soil compaction, including during construction of the access tracks, the tracks will then be available for heavier vehicles to use to avoid impacts on other areas.
- 4.4.6 If ground conditions require it, a temporary trackway of either metal, wood, or plastic, would be used for vehicles to access the working areas. This would be removed once construction is complete.
- 4.4.7 If unexpected contamination or suspected contamination is detected, additional testing and risk assessment will be required to determine appropriate measures. Materials will be segregated, where possible, to prevent cross-contamination occurring and will only be reused if confirmed to be suitable for use and in accordance with other requirements of the Materials Management Plan (MMP).
- 4.4.8 Elements of the Proposed Development which require removal of topsoil during construction and where topsoil cannot be reinstated will be kept to the minimum footprint required for the Proposed Development
- 4.4.9 Where topsoil and subsoils are placed into storage, the following measures would be carried out to minimise the potential for compaction, especially in the bund core, and maintain biological activity:
- Topsoil will be stripped and stored in separate stockpiles to subsoil.

- The topsoil would be placed in stockpiles or storage bunds, no more than 5m in height, and would be seeded with a suitable grass seed mix if anticipated to be left in storage for longer than 6 months.
- 4.4.10 Where this is not possible, the topsoil would be placed in storage bunds no more than 3m in height and would be seeded with a suitable grass seed mix, if anticipated to be left in storage for the winter or longer than 6 months.
- Temporary storage of soils will be carried out in accordance with the MMP. This document will outline where excavated non-waste materials will be reused in line with the CL:AIRE Definition of Waste Code of Practice (DoWCoP). The MMP will include a declaration by a Qualified Person that the MMP has been completed in accordance with the DoWCoP and that best practice is being followed.
 - Permanently displaced soil will be reused within the Proposed Development application boundary where practicable in accordance with the MMP.

Subsoil Handling During Replacement

- 4.4.11 Where possible, and for much of the subsoil activity at the Site, the subsoil will be placed directly onto restored ground. This reduces the potential for soil degradation.
- 4.4.12 Before replacement of any topsoil, the subsoil layer will be lightly graded to provide a suitable bed for topsoil replacement.

Topsoil Handling During Replacement

- 4.4.13 Plant and machinery engaged in topsoil replacement operations shall only travel across previously replaced subsoil, via clearly marked access routes to avoid damage to any areas where topsoil has been restored.
- 4.4.14 The soil shall be replaced as a single unit by 'loose tipping' methods to ensure that a uniform restored, and uncompacted soil profile is achieved.
- 4.4.15 Following completion of the respreading of an area restored to topsoil, the surface will be lightly graded.

4.5 Ecological Management

ECoW

- 4.5.1 An Ecological Clerk of Works (ECoW) will be appointed prior to commencement of construction works on site. The ECoW will carry out pre-construction surveys and will advise on ecological and environmental matters during the construction of the wind farm and ensure compliance with the Ecological Construction Method Statement (ECMS) and NRW Development License(s) approved for the site.
- 4.5.2 Where necessary, Tool Box Talks (TBT) will be undertaken by the ECoW with the appointed contractor for the construction works and any sub-contractors, in order to ensure that there are no adverse impacts on any habitats or protected species.
- 4.5.3 The impacts that could arise during the Site enabling and construction phases are:
- Habitat loss/damage at work locations;
 - Disturbance/killing/injury to species; and

- Contamination from accidental spillages.

Ecology Method Statements

- 4.5.4 Ecology Method Statements will be prepared in support of this CEMP in the form of an ECMS and NRW Development Licence(s) where necessary. These outline those mitigation measures and procedures that must be followed where there is a potential for bats, great crested newt, reptiles, badger, nesting birds, and Section 7 'Priority species' to be affected by the construction works. They also explain the responsibilities of Pennant Walters and contractors, the legislative protection for these species, and the measures required to avoid/minimise impacts on them to minimise the risk of any criminal offences being committed.

General Ecology Mitigation

- 4.5.5 A number of general mitigation measures for ecology are required on site and include the following:
- All construction activity will be limited to clearly-defined working areas, vegetation clearance will be kept to a minimum;
 - Habitats which would be subject to temporary loss, will be re-vegetated and reinstated as soon as possible after construction.
 - Storage of materials will be confined to areas of hard standing and appropriately located away from sensitive features, such as those areas of known value to protected species and watercourses
 - Construction areas, including access tracks, site compounds and storage areas will be marked with signage/barriers or taped off at all times during construction activities. No access beyond these delineated boundaries is permitted without prior authorisation from the appointed contractor's site manager.
 - Periodic ecological inspections and supervision of any sensitive works or receptors will be carried out by the ECoW.
 - Tree protection fencing will be implemented around root protection zones when working near mature trees and hedges.
 - All site staff will be briefed on procedures to be implemented if any protected species are found within the working area. In the event that a protected species is encountered during the course of the works, all works will be stopped, and the sighting will be reported to the site management team, who will liaise with the ECoW.

4.6 Archaeology & Cultural Heritage Management

- 4.6.1 A Written Scheme of Investigation (WSI) for archaeological mitigation has been prepared and agreed with the Glamorgan-Gwent Archaeological Trust (GGAT) who advise Caerphilly County Borough Council, and this will help to ensure that any Archaeological or Cultural Heritage assets are not damaged.
- 4.6.2 The WSI sets out the agreed method statement for archaeological measures pertaining to the construction of the wind farm. This will include the protection and temporary fencing of known non-designated assets located within the Development Site in proximity to construction works. The WSI allows for observation on the archaeological resource by targeting key areas. The mitigation strategy (archaeological measures) has been devised

to be appropriately responsive to the potential nature of the archaeological resource and the character of the proposed works.

Site Specific Constraints

Designated Historic Assets

- 4.6.3 No designated historic assets are located within the Development Site and so none will be directly affected by the construction works.

Non-Designated Heritage Assets

- 4.6.4 Three non-designated historic assets are located within the Development Site that will not be subject to any direct impacts from the Proposed Development.
- 4.6.5 The WSI provides a mitigation strategy (appropriate fencing) to ensure that the construction works do not adversely impact on these non-designated assets.

General Archaeology Requirements

- 4.6.6 The following other general archaeology requirements should be followed:
- The Site Management Team and all site-based staff (including subcontractors) must take all reasonable actions to protect recognised cultural heritage assets. Staff must also be vigilant for potential archaeological discoveries; and
 - If suspected archaeological finds are made, these will be protected by fencing off the area until an Archaeologist is contacted.
- 4.6.7 If any human remains or treasure is found, then the following guidance should be followed:

Human Remains

- 4.6.8 In the event of human remains being encountered, work will cease, and the area made secure. Blaenau Gwent and Caerphilly local authorities will be informed, and a licence will be obtained from the Ministry of Justice (if required under the 1857 Burials Act) prior to any removal of human remains.

Treasure

- 4.6.9 The Treasure Act 1996² sets out a legal requirement that archaeological material which meets the statutory definition of treasure must be reported to the local coroner within 14 days. The definition of treasure as set out by the Act and modified by the Treasure (Designation) Order 2002 is:
- Any metallic object, other than a coin, provided that at least 10 per cent by weight of metal is precious metal (that is, gold or silver) and that it is at least 300 years old when found. If the object is of prehistoric date it will be treasure provided any part of it is precious metal;
 - Any group of two or more metallic objects of any composition of prehistoric date that come from the same find (see below);

² UK Government (1996). Treasure Act 1996. (Online) Available at: <http://www.legislation.gov.uk/ukpga/1996/24/contents>

- All coins from the same find provided they are at least 300 years old when found (but if the coins contain at least 10 per cent of gold or silver there must be at least ten of them);
- Only the following groups of coins will normally be regarded as coming from the same find:(a) hoards that have been deliberately hidden, (b) smaller groups of coins, such as the contents of purses, that may have been dropped or lost, and (c) votive or ritual deposits;
- Any object, whatever it is made of, that is found in the same place as, or had previously been together with, another object that is treasure³; and
- Any object that would previously have been treasure trove but does not fall within the specific categories given above. Only objects that are less than 300 years old, that are made substantially of gold or silver, that have been deliberately hidden with the intention of recovery and whose owners or heirs are unknown will come into this category.

³ An object or coin is part of the 'same find' if it is found in the same place as, or had previously been together with, the other object. Finds may have become scattered since they were originally deposited in the ground.

5. Site Environmental Inspection and Auditing Procedures

5.1 Site Environmental Inspections

- 5.1.1 Environmental inspections of the project will be carried out on a regular basis and the results recorded on form MS-HSSE-1201-4 (see **Appendix C**). Such inspections will vary according to the individual receptor. These inspections will consider the environmental aspects and potential construction impacts detailed above in Section 3. A suitably qualified ECoW will be appointed to supervise and inspect works as necessary. More detailed audits will be carried out by the Site Management Team periodically in accordance with Pennant Walters's protocol. Such audits will be undertaken in order to ensure compliance with the approved planning conditions and all other legal requirements.
- 5.1.2 Records of all training carried out at the Wind Farm (including inductions) will be retained and made available for viewing during environmental audits if required.
- 5.1.3 If a complete failure or absence of a required CEMP element is discovered during site audits, a major non-conformance will be raised. The project will have seven (7) days from the date of issue of the audit report to recover the situation and put measures in place to prevent its re-occurrence.
- 5.1.4 If an area of weakness is identified when an element of the system is not being carried out correctly, then a non-conformity will be raised, and the project will be given one month from the date of issue of the report to rectify the situation.

5.2 Environmental Audits

- 5.2.1 A planned programme of compliance audits will verify the integrity and effectiveness of the environmental management system used throughout this project and may include site visits. The purpose of any visit includes:
- Ensuring that this CEMP and all other environmental commitments are being adhered to and that the relevant documentation is being completed;
 - Ensuring that progress towards environmental objectives and targets is being monitored;
 - Ensuring that legislation and all other requirements are being complied with;
 - The audit report shall make recommendations for improvement and identify the appropriate personnel and timescales for completing these actions. The contents of the report shall, if necessary, be discussed at site HSSE meetings; and
 - Following the audit, if deemed necessary an investigation shall be instigated and corrective actions taken. The effectiveness of any resultant actions carried out will be assessed by the project at an appropriate time scale.

6. Document Control and Environmental Nuisance Complaints

6.1 CEMP Document Control

- 6.1.1 This CEMP is a working document. **Appendix D** contains a CEMP Revision Control Register which will be maintained by the appointed contractor's Environmental Management Team. The register will show any revision numbers, revision details and dates for the main CEMP and all Appendices.

6.2 Register for Environmental Nuisance Complaints

- 6.2.1 Should any complaints be received which are of an environmental nature, then these would be recorded on the complaint register (see **Appendix E**). This register will be maintained within the environmental file on site and made available during environmental audits if required. All environmental complaints will be discussed as part of regular environmental progress meetings.

7. Re-Instatement Measures

7.1.1 Any post construction requirements (for example re-instatement works) are to be confirmed with the appointed contractor for the construction works and agreed with Local Council/landowner/statutory bodies as appropriate. Any such requirements would be documented in the following table:

Table 7.1 Project Completion Requirements

Post Construction Requirements	Action	Responsibility

7.1.2 Whilst, as noted above, re-instatement measures will be confirmed with the appointed contractor in due course, reinstatement will occur as soon as the Wind Farm construction is finished to minimise topsoil storage time and potential for erosion. In addition, and set out below are some general re-instatement measures for the appointed contractor to follow:

- as each area of the Wind Farm is completed, that part of the site will be reinstated using selected excavated materials arising from the track, crane hardstanding and turbine foundation excavations;
- as far as practicable, and subject to environmental and hydrological considerations, such materials will be reused throughout the site for reinstatement and landscaping to minimise the requirement for importing/exporting material;
- site reinstatement of all peripheral areas of the site disturbed during construction will be restored, as far as is practicable, to their condition prior to commencement of the development using stripped and stored topsoil/subsoil;
- all temporary works and fences will be removed. Where necessary, stored topsoil will be spread, rolled and re-seeded and the area put back into its former use;
- wind turbine foundations will be backfilled and reinstated, subject to relevant drainage considerations, using stored excavated subsoil and topsoil and the surrounding land returned to its former use;

- the site tracks and crane hardstandings will be graded following completion of construction works;
- the site compound will be restored at the end of the construction period. Reinstatement will involve removing the imported material and underlying geotextile if installed. Stored subsoil and topsoil will be spread, rolled and re-seeded and the area put back into its former use; and
- upon completion, all construction plant will be removed from the site.

7.1.3 An audit will be undertaken to ensure that any project completion requirements have been satisfactorily completed and will be documented in **Table 7.2** below

Table 7.2 Audit Record

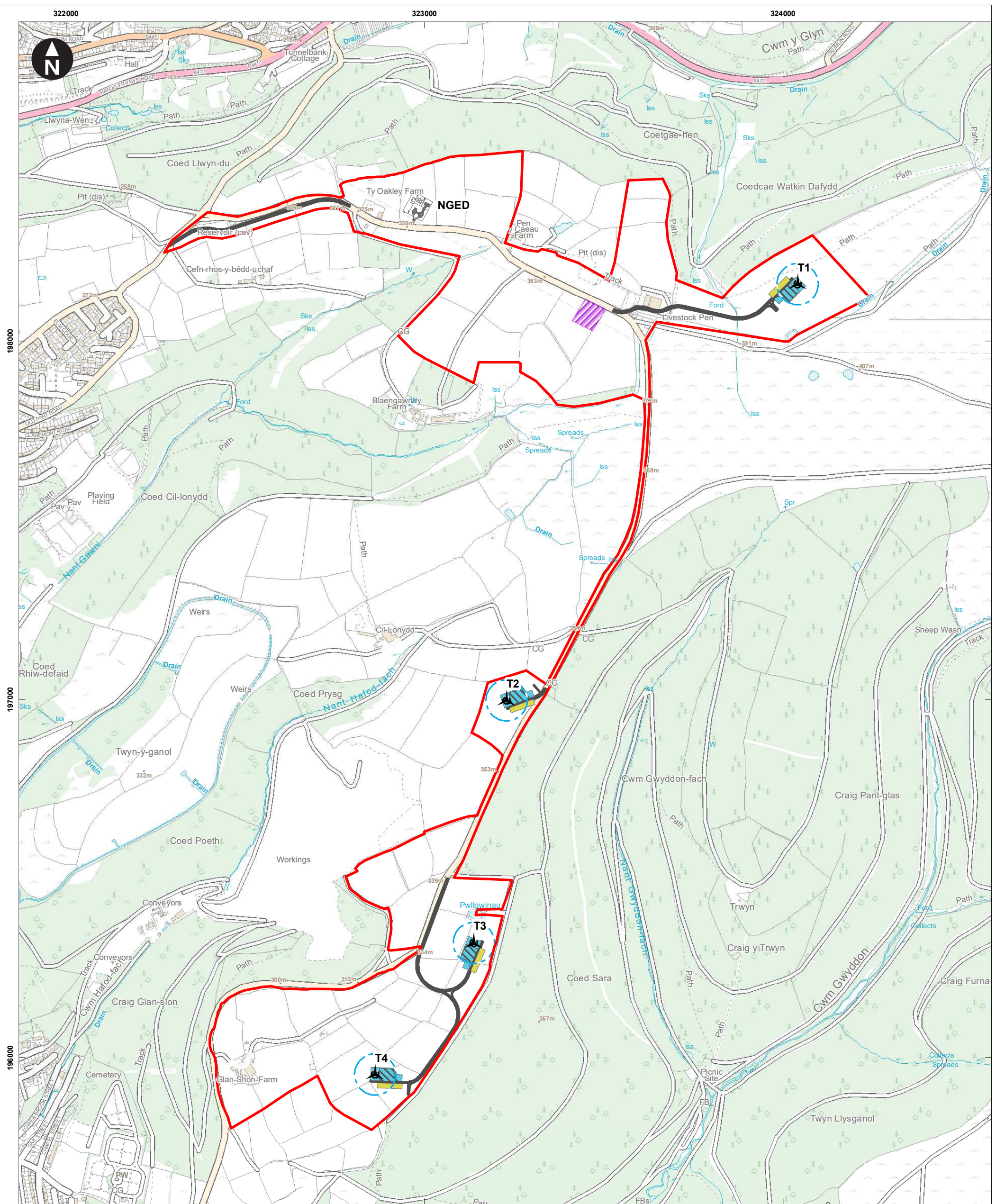
Audit	Date Undertaken	Summary of Findings	Responsibility

Appendix A

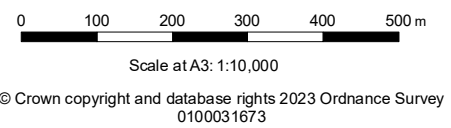
Site Plans

Note – page numbers in the header should be prefixed with the Appendix letter and must be manually edited for each Appendix section.

X:\UK\G5BR400-SAL\SAL-FS12-SHARED\Projects\807379-Mynydd Maen Wind Farm\Deliver Stage\Design TechnicalDrawings\GIS\MXD\807379-WOOD-FG-OP-00022_P01.1.mxd Originator: UKJXP782




Key	
	Site boundary
	Turbine location
	Track
	20 m foundation extent
	115 m blade diameter
	Crane pad
	Crane pad assembly
	Crane pad storage
	Temporary construction compound



Trecelyn Wind Farm
CEMP

Appendix A
Site layout

November 2023



Appendix B: Water Management Plans

Note – page numbers in the header should be prefixed with the Appendix letter and must be manually edited for each Appendix section.



Pennant Walters Ltd

Trecelyn Wind Farm

Draft Environmental Statement

Appendix B of Outline CEMP - Water Management Plan





Report for

Dale Hart

Pennant Walters
Pennant Walters
Hirwaun House
Hirwaun Industrial Estate
Hirwaun
Aberdare
CF44 9UL

Main contributors

Issued by

.....
Charlotte Edgeley

Approved by

.....
Ana Braid

WSP UK Limited

Canon Court West
Abbey Lawn
Shrewsbury SY2 5DE
United Kingdom

Copyright and non-disclosure notice

The contents and layout of this report are subject to copyright owned by WSP (© WSP UK Limited 2023) save to the extent that copyright has been legally assigned by us to another party or is used by WSP under licence. To the extent that we own the copyright in this report, it may not be copied or used without our prior written agreement for any purpose other than the purpose indicated in this report. The methodology (if any) contained in this report is provided to you in confidence and must not be disclosed or copied to third parties without the prior written agreement of WSP. Disclosure of that information may constitute an actionable breach of confidence or may otherwise prejudice our commercial interests. Any third party who obtains access to this report by any means will, in any event, be subject to the Third Party Disclaimer set out below.

Third party disclaimer

Any disclosure of this report to a third party is subject to this disclaimer. The report was prepared by WSP at the instruction of, and for use by, our client named on the front of the report. It does not in any way constitute advice to any third party who is able to access it by any means. WSP excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage howsoever arising from reliance on the contents of this report. We do not however exclude our liability (if any) for personal injury or death resulting from our negligence, for fraud or any other matter in relation to which we cannot legally exclude liability.

Management systems

This document has been produced by WSP UK Limited in full compliance with our management systems, which have been certified to ISO 9001, ISO 14001 and ISO 45001 by Lloyd's Register.

Document revisions

No.	Details	Date
1	Draft	November 2023

1. Introduction

1.1 Purpose of this Document

- 1.1.1 The objectives of this Technical Note are to set out working methods to protect surface water and groundwater from pollution and other adverse impacts including change to flow and water levels during the construction and operational phases of the Trecelyn Wind Farm (the 'Proposed Development'). This document forms an appendix to the Outline Construction Environmental Management Plan (CEMP).

1.2 Development Proposal

- 1.2.1 A summary description of Proposed Development is provided below. A more detailed description is provided in the Draft ES **Chapter 4: Description of the Proposed Development**. The Proposed Development includes:

- four wind turbines ;
- crane pads and foundations for each turbine;
- access tracks,
- underground power cables linking the turbines and the on-site substation;
- temporary construction compound (TCC); and
- On-site substation.

Site location

- 1.2.2 The Proposed Development Site lies within the Caerphilly County Borough Council (CCBC) administrative area. It is located approximately 443m to the southeast of the settlement of Hafodyrynys and 1.5km to the east of the outskirts of Newbridge.
- 1.2.3 The predominant land use across the Proposed Development Site is greenfield land (dominated by grassland and small areas of forest) with small areas of built development including farms and access tracks.
- 1.2.4 The entire Proposed Development area and the majority of the wider study area are located within the Afon Ebwy catchment. The Afon Ebwy flows within the wider study area to the west of the Proposed Development and a section of the Trosnant Brook flows within the wider study area to the north of the Proposed Development. Both watercourses are classified as Main Rivers whilst their tributaries are Ordinary Watercourses.

1.3 Structure of this Document

- 1.3.1 The document is structured as follows:
- Section 2 – provides a description of the proposed surface water management, groundwater management and required consents/permits during the construction phase of the Proposed Development.

- Section 3 – sets out mitigation measures designed to prevent the potential release of pollutants from the Proposed Development construction areas.

2. Water Management

2.1 Introduction

2.1.1 This Section provides a description of the proposed surface water management (**Section 2.2**), groundwater management (**Section 2.3**) and required consents/permits (**Section 2.4**) during the construction phase of the Proposed Development.

2.2 Surface Water Management

2.2.1 Flooding from surface water sources is a potential risk when the intensity of rainfall is greater than the local drainage and infiltration capacity, causing water to flow overland. Where low-points or barriers to flow are present, particularly deep areas of flooding may occur. It is therefore important to consider changes in surface water runoff patterns during the construction of the Proposed Development.

2.2.2 The creation of new hardstanding surfaces during construction and operational phases increases surface water runoff rates and volumes and modifies runoff pathways. Appropriate management of surface water will therefore be necessary to ensure risks to on-site and off-site (downgradient) third party receptors are appropriately addressed.

2.2.3 The following measures will be implemented by the Site Contractor to manage surface water runoff during the construction and operational phases of the Proposed Development:

- Surface water runoff from new areas of hardstanding will be collected in SuDS prior to discharge to ground. Further investigation of the viability of infiltration as a means by which surface water runoff could be discharged to ground will be undertaken post submission of the ES to inform final design for construction. In the case that the soakaway testing concludes that infiltration is not solely sufficient in managing runoff, and discharge to the watercourses is required, this will be subject to a Consent from NRW and from CCBC as the local SuDS Approval Body (SAB). Any discharge to surface water would be restricted to the greenfield runoff rate.
- Any temporary dewatering of excavations (most likely to comprise direct rainfall and surface runoff) would be suspended if a flood alert or flood warning is in place downstream (and the on-site discharges could feasibly contribute to the flood event).

2.3 Proposed SuDS Solution

2.3.1 The indicative SuDS solution proposed for the construction and operational phases of the Proposed Development is set out in **Table 2.1**.

Table Error! No text of specified style in document..1 Indicative proposed SuDS Solution

Proposed Development element	Indicative SuDS
Construction phase	
TCC	<p>Permeable sub-base (uncompacted Type 3 stone) to be used, with a minimum depth of 200mm, across the entire compound. If infiltration rates are favourable, then surface water will infiltrate at source, whilst being attenuated in the stone voids during severe storm events. If an outlet is required, then a perforated pipe will collect water within the stone and direct it towards the nearest open channel, alongside the access track.</p> <p>Runoff from the roof is proposed to be captured using a rainwater harvesting system for all on-site non potable water usage. Further details will be developed at detailed design stage.</p>
Crane Pads	<p>The crane pads will be exposed during the construction period, considered to be up to 6 months in duration. Attenuation is proposed in the form of a ditch downslope of the pad.</p>
Operational phase	
Access tracks	<p>Open channels will be installed on the downslope of the tracks to manage runoff from the tracks and where the land falls towards the tracks, a cut-off ditch will be provided. It is expected that gradients will vary across the Proposed Development Site, therefore it will be necessary to use check dams within the open channels to attenuate flows and promote infiltration. Cross drains would be provided beneath the access tracks surface to convey overland runoff before being discharged into a nearby watercourse. Where collapsed culverts have been identified, these will be replaced on a like-for-like basis unless there is justification for altering the existing flow regime.</p> <p>Where the existing ground becomes more level, the ditch sections can be locally widened, and longitudinal gradient slackened to create additional online attenuation. Flow control will be managed with the use of the check dams at suitable intervals along the length of the ditch.</p> <p>The access track leading to turbine 01 is traversed by an existing watercourse, which will require cross drainage (a culvert). This also results in the need to split the surface water catchment of the access, as the length of open channel on the high side will need to discharge into the watercourse if infiltration does not fully drain the runoff. A simple flow control such as a weir will be required at this discharge point to ensure flow rates are managed. The remaining length of open channel on the lower side of the watercourse will continue towards the existing track, where levels flatten out. It is expected that this will allow for better infiltration performance.</p> <p>The length of existing bridleway PRoW will be used as an access track and the existing drainage will be utilised to accommodate the runoff. Further surveys and assessment of the existing drainage system will be required at detailed design stage to ensure this has sufficient capacity to meet the design requirements.</p> <p>Where the track leads to turbine 03 and 04, the existing ground levels are steep and therefore the drainage system is to account for the steep gradient. As it may be difficult to ensure runoff remains within the open channel, it may</p>

Proposed Development element	Indicative SuDS
Substation	<p>be necessary to create a small bund on the downstream side to contain the water. It may also be necessary to utilise the space between the turbines for a shallow storage system, such as a detention basin.</p> <p>It is anticipated that runoff from the roof will be collected into an underground water storage tank, which would then be recycled as greywater for re-use in the substation building. If infiltration rates are favourable, then any overflow will be directed towards a nearby infiltrate trench or soakaway. If rates do not allow sufficient infiltration to take place, then interception storage will be considered preferentially (in accordance with feedback from CCBC), followed by consideration of a connection to the nearest open channel alongside the access tracks.</p> <p>The track inside of the compound will be a permeable sub-base (300mm min. uncompacted Type 3 stone) and the remaining areas will be topsoiled. If infiltration rates are favourable, then surface water will infiltrate at source. If an outlet is required, then a perforated pipe will collect water within the stone and direct it towards the nearest open channel, alongside the access track. Transformers will be individually banded with sump and pump, and clean water will be discharged locally into a stone trench.</p>
Wind turbines and crane pads	<p>As the turbine pads and crane pads are buried after construction, the runoff from these areas will be similar to the existing situation and therefore a drainage system is not required. The concrete pads will be perforated before being buried to allow percolation of water in heavy rainfall.</p>

2.4 Groundwater Management

- 2.4.1 Excavations associated with the construction phase are of limited duration, footprint and depth including the turbine foundations (20m diameter x 4m depth). The potential for encountering groundwater during excavations is considered to be limited, and where encountered, it is likely to be of low sensitivity, perched and in small quantities.
- 2.4.2 If dewatering of water accumulating at the base of the excavations is required, water would be discharged to adjacent ground, away from watercourses as far as possible. If infiltration is not possible, and discharge to the watercourses is required, this will be subject to a Consent from NRW and CCBC and dewatering would be suspended if a flood alert or flood warning is in place downstream (and the on-site discharges could feasibly contribute to the flood event).
- 2.4.3 Any discharge to surface water would be restricted to the greenfield runoff rate and will be treated in a suitable basin/trench before discharging.

3. Pollution Prevention Plan

3.1 Introduction

3.1.1 This Section sets out mitigation measures designed to prevent the release of pollutants from the Proposed Development during construction and operational phases. This is because contaminated runoff has the potential to impact on the water quality of receiving water bodies (**Section 10.9** of Draft ES **Chapter 10: Water Environment**). An overview of the relevant pollution prevention guidance is first provided in **Section 3.2** followed by a description of the pollution control measures for watercourses (**Section 3.3**) and groundwater (**Section 3.4**) and the water quality monitoring programme (**Section 3.5**).

3.2 Pollution Prevention Guidance

3.2.1 NRW direct developers to a range of guidance documents covering pollution prevention published on the NetRegs website¹. Some of these documents have been rebranded as Guidance for Pollution Prevention (GPP) documents, whilst others remain as Pollution Prevention Guidance (PPG) documents, awaiting updates. This suite of guidance will be followed during construction and operation of the Proposed Development to prevent pollution of the water environment. This is not an exhaustive list and will need to be developed further by the Applicant prior to construction.

- GPP 1: Understanding your environmental responsibilities - good environmental practices;
- GPP 2: Above ground oil storage tanks;
- GPP 3: Use and design of oil separators in surface water drainage systems;
- GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer;
- GPP 5: Works and maintenance in or near water;
- GPP 6: Working at construction and demolition sites;
- PPG 7: Safe storage – The safe operation of refuelling facilities;
- GPP 8: Safe storage and disposal of used oils;
- GPP 13: Vehicle washing and cleaning;
- PPG 18: Managing fire water and major spillages;
- GPP 20: Dewatering underground ducts and chambers;
- GPP 21: Pollution incident response planning; and
- GPP 26: Safe storage - drums and intermediate bulk containers.

¹ See: Netregs (2021). Guidance for Pollution Prevention (GPPs) [Online] Available at: <https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/> (Accessed 09 November 2023)

3.3 Protection of Watercourses

- 3.3.1 Construction activities may adversely affect the quality of surface water or groundwater as a result of contaminated runoff from, or spillages within, the construction areas. In addition, routine inspection and maintenance activities of the Proposed Development infrastructure during the operational phase may result in accidental spillage of pollutants into the water environment. Control and mitigation measures to be implemented to prevent pollution are set out below.

Specific measures for preventing pollution from surface water discharges

- 3.3.2 Pollution control measures with respect to surface water discharges include:
- Surface runoff and any pumped groundwater from the construction areas will be collected, attenuated, and treated in SuDS prior to discharge, either by infiltration to ground only or in combination with a direct discharge into an open surface water body (surface water disposal route to be confirmed post-ES). The SuDS considered include swales and SuDS basins; and
 - If dewatering of the excavations is required, appropriate treatment will be provided before discharge to surface water or groundwater. No silty water will be pumped directly into any watercourse.

Specific measures for preventing pollution from watercourse crossings

- 3.3.3 Where watercourse crossings are required to enable access over any watercourses, site specific pollution control measures for the watercourse crossings will be employed in line with the PPG guidelines detailed in **Section 3.2**, with the provisions of PPG5 being particularly pertinent. These include:
- If dewatering of excavations is required appropriate treatment of the pumped water will be provided before discharge to adjacent ditches or ground, and this could include the use of silt busters (or similar), if necessary;
 - Surface water runoff from exposed ground and stockpiles will be collected and treated (for example silt busters (or similar)) prior to discharge to adjacent ditches or ground; and
 - All equipment containing hazardous fluids will have double skinned fuel tanks or be parked on drip trays with appropriately sized PVC berms to contain any fluid spills or storm water runoff. Spill kits will be carried on all plant that operates with hazardous fluids.

Specific measures for preventing pollution from stockpiles and exposed ground

- 3.3.4 Pollution control measures with respect to stockpiles and exposed ground include:
- Minimise the amount of exposed ground and soil stockpiles from which water drains and the period of time such water drains (any surplus excavated materials would be disposed of off-site as early as possible);
 - Only remove vegetation from the area that needs to be exposed in the near future (ensure a vegetated strip will be left adjacent to any watercourses in accordance with the 20m stand-off distance from any watercourse);

- Stockpiles will be present for the shortest practicable timeframe, with materials being reinstated as the construction work progresses. Stockpiles which remain present for three months or longer will be carefully managed using seeding techniques;
- Excavated materials during construction works will be segregated and stored or re-used on-site in compliance with the CL:AIRE Definition of Waste: Code of Practice). The appointed contractor will prepare a Materials Management Plan prior to construction, responding to the final design and balance of materials that need to be managed. Any temporary onsite storage of excavated materials suspected or confirmed to be contaminated will be on impermeable sheeting, covered over and with adequate leachate / runoff drainage to prevent migration of contaminants from the stockpile. Materials will be segregated where possible to prevent cross-contamination occurring. Such materials will only be reused if they are confirmed as suitable for use in line with the requirements of the Materials Management Plan; and
- Detention basins, swales, silt fencing and straw bales will be provided where necessary to remove suspended solids from runoff from stockpiles before discharge into the watercourses (see above).

Specific measures for preventing pollution from concrete and cement

3.3.5 Pollution control measures with respect to safe storage and use of concrete and cement, concrete and cement mixing and washing areas should:

- Be sited no closer than 30m from any watercourse or surface water drain to minimise the risk of contaminated runoff entering a watercourse;
- Have settlement and re-circulation systems for water re-use, to minimise the risk of pollution and reduce water usage; and
- Dispose of contained water to either foul sewer (possibly requiring consent from Dwr Cymru Welsh Water) if possible or tanker off site.

Specific measures for preventing pollution from storage and use of oils and chemicals

3.3.6 Pollution control measures with respect to safe storage and use of oils and chemicals include:

- Fuel storage will be in accordance with the Control of Pollution (Oil Storage) (Wales) Regulations 2016² and other NRW recommended guidance (in particular the following documents on the NetRegs website³: GPP1, GPP2, GPP3, PP7, GPP8 and GPP26). All stores of fuel will be located at least 10 m from any watercourses, at least 50 m from any well, borehole or spring, and away from areas at risk of flooding;
- Areas that are used for fuel storage, plant maintenance and refuelling will be surfaced with fully impermeable materials to prevent any infiltration of contaminated runoff and within a secondary containment system such as a bund;
- Any tanks containing oils, fuels and chemicals will be double skinned. There will be a bunded capacity of 100% of the maximum tank volume for non-hazardous fluids. For

² Natural Resources Wales (2016). Control of Pollution (Oil Storage) (Wales) Regulations 2016 [Online] Available at: <https://www.gov.wales/sites/default/files/publications/2019-06/oil-storage-regulations.pdf> (Accessed 09 November 2023)

³ See: Netregs (2021). Guidance for Pollution Prevention (GPPs) [Online] Available at: <https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/> (Accessed 09 November 2023)

hazardous chemicals, fuels or oils bund capacity will be the larger of 110% of the largest tank volume for single tank bunds, (or, in the case of multi tank bunds, 110% of the largest tank capacity or 25% of the combined tank capacity, whichever is the largest);

- An accident response protocol will be developed to ensure any spillages or potential pollution incidents are dealt with appropriately including the provision of containment for spills of contaminated liquids. Appropriate spill kits should be stored in the immediate vicinity of the storage facility, and trained staff should be available in case of incident;
- Plant and machinery will be maintained to minimise the risks of oil leaks or similar;
- Areas for transfer of contaminating materials/substances (i.e., from vehicular tankers to onsite storage tanks) will be protected in a similar manner to the measures outlined for the storage areas;
- All oiling, and greasing will take place above a drip tray or on an impermeable base to protect underground strata and be located away from drains, watercourses, or abstraction locations;
- Drip trays will be placed below static mechanical plant;
- If possible, use a biodegradable hydraulic oil in plant, when working in or near watercourses;
- If possible, use water based or low solvent products; and
- Avoid products containing lead as a drying agent and those containing hazardous solvents (toluene or chlorinated hydrocarbons).

Specific measures for preventing pollution from refuelling activities

3.3.7 The following pollution control measures with respect to refuelling will be implemented (risk of spillage is greatest when refuelling plant):

- Refuel mobile plant in designated areas, or on impermeable base a minimum of 30m away from drain, watercourses, or abstraction locations;
- Use a bunded bowser;
- Supervise all refuelling and bulk deliveries;
- Check the available capacity in the tank before refuelling;
- Don't jam open a delivery valve;
- Check hoses and valves regularly for signs of wear;
- Turn off valves after refuelling and lock them when not in use;
- Position drip trays under pumps to catch minor spills;
- Keep a spill kit with sand, earth, or commercial products for containment of spillages; and
- Provide incident response training to staff and contractors.

Specific measures for preventing pollution from vehicle and wheel washing

- 3.3.8 Pollution control measures with respect of vehicle and wheel washing on site include:
- Vehicle washing and cleaning will be carried out in areas that are clearly marked and isolated from surface water drainage systems, unmade ground, and porous surfaces (designated washing bays); and
 - A designated washing bay should be designed so that runoff is isolated using channels, gullies, gradients, directed to a silt trap or sediment tank to remove larger particles, and either collected in a sealed system for re-use or authorised disposal or discharged to public foul sewer (subject to approval).

3.4 Protection of Groundwater

- 3.4.1 The pollution prevention measures outlined above, along with good construction practices would ensure that any oils, fuels, solvents, and other pollutants used during the construction process will not discharge to the ground. Such measures would also ensure that surface water bodies that may be hydraulically linked to groundwater would not be impacted upon by groundwater.

3.5 Water Quality Monitoring

- 3.5.1 A water quality monitoring programme will be agreed with NRW and implemented during the construction phase. This could include monitoring of the discharges to surface water (if any proposed) to demonstrate that the discharges aren't having an impact on the receiving watercourse. The frequency, duration and monitored parameters of the monitoring programme will be agreed with NRW prior to the commencement of monitoring activities.

Appendix C

Environmental Inspection Form

Contract Name	Contract Number			
Date:	Time:	Area:		
		Yes	No	N/A
Waste				
Are Skips/Containers in good condition?				
Are skips overfull?				
Are they clearly labelled with the contents?				
Are the waste streams (general, hazardous, and recyclable waste) segregated correctly?				
Drums, Cans etc.				
Are drums stored in safe area when not in use?				
Are they sealed to prevent leaks?				
Are funnels, drip trays used during filling of plant?				
Bunds / Bowsers / Containment				
Are bunds in good condition and free from excess oil / water / debris?				
Are Drains covered near operations?				
Are Bowsers Securely locked while				
Plant				
Is plant in good condition?				
Are any spills evident				
Are drip trays being used when refuelling?				
Are drip trays located beneath mobile plant?				
Are adequate spill kits available and labelled?				
Is unused mobile plant sited in plant compound?				
Are signs and warnings visible?				
Is the mobile hand pump in good condition?				
Nuisance				
Are machines switched off when not used				
Any excessive noise				
Is there adequate lighting				

Is there any silt / particulates / oil / grease or colour in any of the watercourses?			
Are stockpiles / mounds etc not located close to any sensitive receptors such as watercourses?			
Is there any excessive dust? Are control measures being adhered to?			
Is there any evidence of contamination on public roads (mud, etc)			
Is there any evidence of interference with vegetation?			
Is there any evidence of damage to wildlife?			

Appendix D

CEMP Control Revision Register

Date	Revision	Author

Appendix E

Register for Environmental Nuisance Complaints

Complaint No.	Date	Complainant	Description of complaint	Actions taken	By whom	Accepted yes/no	Completion date
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

