Construction Environmental Management Plan

Prepared by: Arthian Ltd

For: Stepside Agricultural Contractors

Site: Crugmore Farm, Penparc, Cardigan, SA43 1QY

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Glossary of Terms

Term/ Abbreviation	Description
AOD	Above Ordnance Datum
AD	Anaerobic Digestion
AQMA	Air Quality Management Area
BGS	British Geological Survey
BRE	Building Research Establishment
CEMP	Construction Environmental Management Plan
CMS	Construction Method Statement
COSHH	Control of Substances Hazardous to Health
CPHSP	Construction Phase Health and Safety Plans
DOE	Department of the Environment
DEFRA	Department of Environment, Food and Rural Affairs
EMS	Environmental Management System
EWC	European Waste Catalogue
HS&E	Health, Safety & Environment
Ha	Hectares
HER	Historic Environment Records
HGV	Heavy Good Vehicles
ISO	International Organization for Standardization
LCRM	Land Contamination Risk Management
LPA	Local Planning Authority
mbgl	metres below ground level
NGR	National Grid Reference
NRW	Natural Resources Wales
PEA	Preliminary Ecological Appraisal
PPE	Personal Protection Equipment
SAB	SuDS Approving Body
SAC	Special Area of Conservation
SIC	Standard Industry Code
SSSI	Sites of Special Scientific Interest
SuDS	Sustainable Drainage Systems
WTN	Waste Transfer Note

1. Introduction

1.1 Project Background

1.1.1 Stepside Agricultural Contractors (Stepside, the 'Applicant') has commissioned Arthian Ltd (Arthian) (formerly Mabbett & Associates Ltd) to prepare a Construction Environmental Management Plan (CEMP) report to support a Planning Application to Ceredigion Country Council (the 'Local Planning Authority') for the proposed provision of two (2) storage lagoons, maturation tank and associated infrastructure on land at Crugmore Farm, Penparc, Cardigan, SA43 1QY (herein referred to as the 'Site'). The Site location is described in Drawing L-1: 'Site Location Plan' and Site boundary are presented in Drawing L-2: 'Site Boundary Plan'.

1.2 Proposed Development

1.2.1 The Proposed Development comprises an extension to an existing Anaerobic Digestion (AD) facility including the construction of two (2) covered storage lagoons, a maturation tank and associated infrastructure (herein referenced to as the 'Proposed Development').

1.2.2 The two (2) lagoons will expand the current biofertiliser storage capacity and allow for the subsequent conversion of the existing biofertiliser tank into a digester tank. Each lagoon is anticipated to have a capacity of circa 6,450 m^3 and will be fully lined. The maturation tank is proposed to comprise a steel panel 'slurry store' which is cylindrical measuring 14 m in diameter and a height of 6 m with an approximate capacity of 950 m^3.

1.2.3 Access is proposed to utilise the existing private access and junction from the A487 that currently serves the AD plant. An additional access for construction and maintenance will be formed from this private track to facilitate the new development; this will comprise an upgrade from the current informal track to a 6.00 m wide road.

1.2.4 The Proposed Development is described on Drawing L-3: 'Proposed Development'.

1.3 Purpose of the Construction Environmental Management Plan

1.3.1 The aim of this document is to describe how environmental aspects of the construction phase are to be managed in accordance with environmental management best practice and legal/regulatory requirements. This document sets out the responsibilities with regards to compliance with legislation and the implementation of mitigation measures (where relevant).

1.3.2 The areas covered throughout the document are designed to mitigate and minimise construction effects on the environment. This is a live document that is to be reviewed when additional environmental information relating to the construction phase is made available, at significant milestones during the construction process and as per the requirements of any planning conditions attached to the Planning Application.

2. Project Description

2.1 Site Information

Address: Land at Crugmore Farm
Penparc, Cardigan, UK
SA43 1QY

Local Planning Authority: Ceredigion County Council

Grid Ref: SN 20140 47130

Site Area: 1.61 hectares (ha)

2.1.1 The Site comprises one (1) irregular/trapezoid of land immediately adjacent to the east of the existing AD facility located on the western outskirts of the village of Penparc and approximately 3 km northeast of Cardigan town centre. The Site also comprises an access track leading from the existing access road to the AD facility from the A487 which connect to the northwestern extent of the main parcel of land.

2.1.2 The main part of the Site currently comprises part of a wider open agricultural field that gradually grades down to the south to a minimum topography of 75.64 metres above ordnance datum (mAOD). The maximum topography of the site is located at the northern tip of the access road at 93.37 mAOD whilst the northern extent of the main parcel is at approximately 88.80 mAOD.

2.1.3 There are no main rivers within 1.50 km of the Site as per the DataMapWales Main Rivers dataset[1] and the Site is not located within any ecologically designated sites[2].

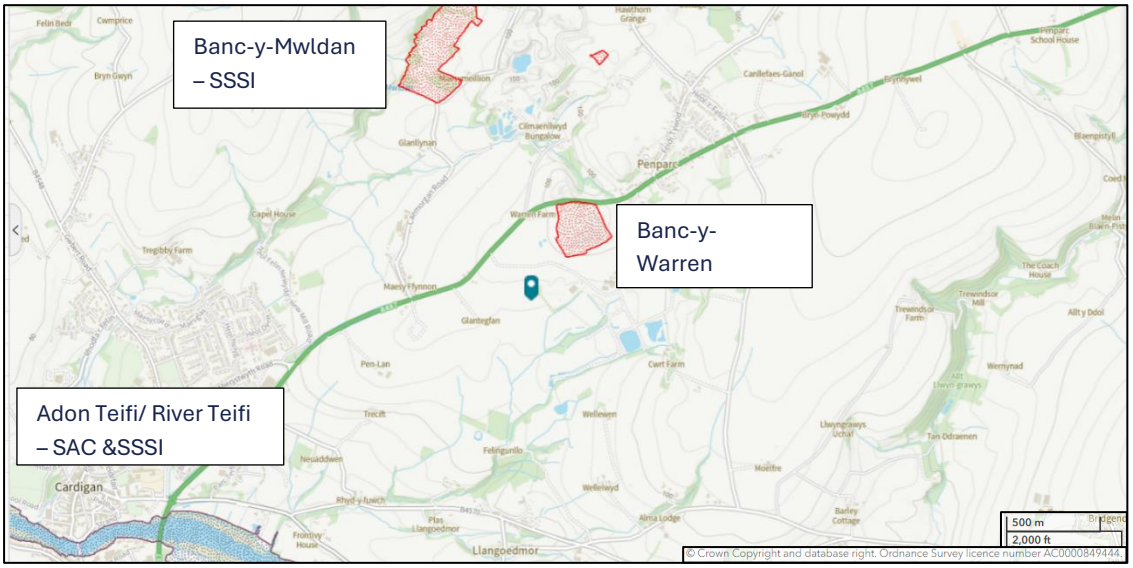


Figure 1: Ecological Designated Sites near the Site

[1] Welsh Government, DataMapWales, 'Main Rivers' [available at: https://datamap.gov.wales/maps/new/embed?layer=inspire-nrw:NRW_MAIN_RIVERS&] Accessed: 28 January 2025.

[2] Natural Resource Wales, *Find protected areas of land and sea* [available at: https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/find-protected-areas-of-land-and-sea/?lang=en] Accessed: 28 January 2025.

2.2 Construction Details

2.2.1 The CEMP should be updated when a construction programme is available.

Site Access

2.2.2 All construction traffic will journey to the Site via the A487 that links Carigan to Aberaeron. An existing access junction with the A487 exists that facilitates access to the AD plant, which has been designed to accommodate HGV vehicles via a 40 m wide bellmouth, give-way line and appropriate visibility. From this pre-existing access road, a new access road is to be constructed that comprises part of the Proposed Development. Construction vehicles will utilise the main existing access road until such time that the proposed access road is constructed.

Site Compound

2.2.3 Temporary compound(s) will be set up within the Site boundary. The compound will comprise office space, welfare facilities and storage areas for construction materials, plant and equipment. Adequate signage will be utilised on the perimeter of the compound warning the public of the dangers of transportation entering and leaving the Site. The location of the compound will be confirmed by the Principal Contractor (to be appointed) prior to the commencement of the construction works. The location of the temporary compound may be subject to change throughout the construction phase.

Security

2.2.4 Heras fencing or hoarding will be in place around the Site compound(s). Fencing will be inspected daily by appropriately trained Site personnel to ensure it is secure, with additional checks undertaken during periods of inclement weather. Damaged fencing will be replaced immediately to ensure that the compound is secure.

Construction Working Hours

2.2.5 The proposed construction working hours as outlined within the Transport Statement[3] are as follows:

- Monday to Friday 08:00 to 16:00.
- Saturday 08:00 to 13:00.
- No Sunday or Bank Holiday working.

2.2.6 The Site will comply with any further construction working restrictions imposed by the Local Planning Authority.

2.2.7 Outside these specified hours, development on-Site shall be limited to maintenance, emergency works, dust suppression and the testing of plant and equipment.

[3] Acstro, Transport Statement, Crugmore Farm, Penparc, Cardigan, Ref.: 1796-ACS-ZZ-XX-RP-T-001-A, January 2025.

Personal Protection Equipment

2.2.8 The mandatory Personal Protection Equipment (PPE) for all personnel on-Site is outlined below:

- Hard hat;
- High visibility clothing; and
- Steel/ composite toe capped footwear with steel or composite mid sole.

2.2.9 Appropriate PPE will be utilised dependent on the activity being undertaken, and may include:

- Ear defenders/ plugs;
- Safety eyewear;
- Gloves;
- Cut 5 Gloves when using a blade, e.g. hand saw, Stanley knife or when handling glass etc; and
- Dust Mask.

3. Key Environmental Constraints

The known constraints which may require mitigation during the construction phase are summarised in the section below. The spatial extent of these constraints is demonstrated in Drawing L-4: 'Key Constraints Map'.

3.1 Ecological/Biodiversity Receptors

3.1.1 A Preliminary Ecological Appraisal[4] was undertaken by Landsker Ecology (Landsker). The site survey established the potential presence of or suitable habitats for badgers, bats, reptiles and invertebrates. Further pre-commencement surveys and site-specific mitigation measures have been recommended to protect these ecological receptors.

3.1.2 The nearest ecologically designated site comprises Banc-y-Warren SSSI located approximately 200 m northeast of the Site. Due to the topography of the surrounding area and the direction of the flow of nearby watercourses, it is anticipated that the SSSI will not be impacted by the construction of the Proposed Development.

3.1.3 Section 11 of this CEMP includes a summary of the recommended actions during the construction period in relation to the ecological receptors identified within the Site based on the information available to date.

3.2 Water Management

3.2.1 Surface water receptors are present within and adjacent to the Site and the superficial geology (where present) contains a secondary (undifferentiated) aquifer whilst the bedrock contains a Secondary B aquifer. Section 18 of this CEMP includes a summary of the recommended mitigation measures that should be implemented to protect the water environment during construction.

3.3 Noise Management

3.3.1 Pre-application advice provided by the LPA identified that noise may have the potential to cause negative impacts on nearby residential amenities. The number of plant to be used during the construction of the Proposed Development is anticipated to be limited however this may increase surrounding noise levels on Site and in the surrounding area. This may have negative impacts on noise sensitive receptors identified in the surrounding area.

3.3.2 Section 14 outlined mitigation measures to be implemented to reduce the potential noise impacts during construction.

3.4 Dust Management

3.4.1 The pre-application advice also identified that dust associated with construction may have the potential to cause negative impacts. Section 8 outlines the mitigation measures to be implemented to reduce these potential impacts and outlines a complaints procedure to be followed if required.

[4] Landsker Ecology, Preliminary Ecological Appraisal – Extended Phase 1, Report Ref.: SluryStorage-CrugmorFarm/James/ExtPhase1/LE(LW)24.01, *undated*.

4. Licencing and Consents

4.1 Planning Permission

4.1.1 This CEMP has been developed in response to Pre-Application Advice received from Cyngor Sir Ceredigion County Council[5] (dated 09 July 2024) following the submission of a pre-application form produced by Arthian (formerly Mabbett) in relation to the Proposed Development.

4.1.2 The pre-application advice provided states that *'a Construction Environmental Management Plan (CEMP) will need to be submitted as part of a formal planning application'*. The CEMP, as outlined within the LPA advice, should include rudimentary details of construction plans so that appropriate conditions can be considered as part of the formal planning decision.

4.1.3 The advice identifies that dust, and noise should be considered within the CEMP with details of noise generating plant that are to be used and the timescales for completion provided.

4.2 Ecological Consents and Licences

4.2.1 As outlined in Section 11, there are currently no requirements for Protected Species Licences at this stage. Evidence of badger activity has been identified within proximity to the Site and therefore it is noted that should a sett be identified within 30 m of works during pre-commencement checks, a badger licence may be required dependent on the nearby works.

4.2.2 Breeding bird nesting checks will be required should works be carried out during the nesting season which may disturb suitable habitats.

4.2.3 A finger-tip search of the collapsed section of the silage bale is recommended to be undertaken by a suitable qualified ecologist prior to its removal.

Environmental Permit

4.2.4 Under the Environmental Permitting (England and Wales) Regulations 2016 an Environmental Permit for Flood Risk Activities is required to be obtained from NRW for any permanent or temporary works that are:

- On or near a main river;
- On or near a flood defence structure;
- On or near a sea defence; or
- In a flood plain.

[5] Cyngor Sir Ceredigion County Council - Sian Holder, '*Town and Country Planning Act 1990 RE: Pre-Application Advice: Crugmore Farm, Cardigan, SA43 1QY*', 27 July 2024.

4.2.5 The Site is not located within an area that coincides with any of these features and therefore it is considered unlike that a flood risk activity permit will be required. Conducting activities on an ordinary watercourse may require obtaining ordinary watercourse consent[6] from Ceredigion County Council however as the Proposed Development does not involve a dam, weir or similar obstruction to a watercourse, this is considered unlikely to be required.

4.2.6 With the recommended mitigation measures in place, as described in Section 18, the Proposed Development is not anticipated to require an environmental permit in relation to the water environment.

Sustainable Drainage Approval Body (SAB)

4.2.7 A Sustainable Drainage System (SuDS) scheme application must be made to the SAB of Ceredigion County Council prior to the commencement of development on-Site which details a strategy for dealing with surface water run-off from the Site. The duty of the SAB includes the responsibility to '*evaluate and approve drainage applications where construction work has drainage implications*'.

4.2.8 Arthian have produced a Drainage Strategy Report for the Proposed Development that proposes an initial SuDS design for the Proposed Development. An official application to the LPA's SAB in line with the official process should be submitted with the planning application.

4.3 Legislative Requirements

4.3.1 The Applicant and Principal Contractor (to be appointed) will be aware of and comply with all legal obligations with regard to the control of pollution (including but not limited to air, water, and ground) as well as the legislation and all regulations relating to waste and the protection of wildlife and the environment.

4.3.2 The Site will comply with all relevant guidance and best practice advice on environmental obligations, both statutory and non-statutory. To do this and to assure contractor awareness of these legislative requirements, the Principal Contractor will ensure that appointed contractors will have awareness of legislative requirements as a standard practice through a range of measures which may include training, communication, creation and adherence to procedures, and internal and third-party auditing. Although not exhaustive, the legislation and guidance to be adhered to is listed below:

Legislation:

- Environmental Protection Act 1990: Part IIA.
- The Contaminated Land (Wales) Regulations 2006 (S.I. 2001/2197 (W.157)).
- The Environmental Damage (Prevention and Remediation) (Wales) Regulations 2009 (SI 2009/995).
- The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017.

National Planning Policies:

- Planning Policy Wales, 2024.

[6] Ceredigion County Council, 'Ordinary Watercourse Consent [Available at: https://www.ceredigion.gov.uk/resident/coast-countryside/coast-and-flood-risk-management/ordinary-watercourse-consent/] Accessed: 29 January 2025.

Regulations:

- Air Quality Standards (Wales) Regulations 2010, as amended;
- Control of Pollution (Registers) (Wales) Regulations 1992;
- Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations 1991;
- Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2017;
- Environmental Noise (Wales) Regulations 2006;
- Private Water Supplies (Wales) Regulations 2017;
- Hazardous Waste (Wales) Regulations 2005;
- Special Waste Regulations 1996;
- The Conservation (Natural Habitats, &c.) Regulations 1994;
- The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007;
- The Construction (Design and Management) Regulations 2015 (as amended);
- The Control of Substances Hazardous to Health Regulations 2004;
- Environmental Damage (Prevention and Remediation) (Wales) Regulations 2009;
- Environmental Protection (Duty of Care) Regulations 1991;
- Water Supply (Water Quality) Regulations 2018;
- Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017;
- Waste (England and Wales) Regulations 2011;
- Water Resources (Control of Pollution) (Wales) Regulations 2010;
- Water Resources (Control of Pollution) (Oil Storage) (Wales) Regulations 2016;
- Hazardous Waste (Wales) Regulations 2005.

Guidance:

- Environmental Protection Act 1990 - Part IIA Contaminated Land: Statutory Guidance Edition 2, 2006.
- Land Contamination Risk Management (LCRM), Environment Agency, 2023.
- British Standard 10175:2011 + A2:2017 Investigation of Potentially Contaminated Sites. Code of Practice.
- British Standard 5930:1999 + A1:2020 Code of Practice for Ground Investigations.
- CIRIA Report C665, Assessing risks posed by hazardous ground gases to buildings (revised), 2007.
- Contaminated Land Statutory Guidance – 2012.
- Development of Land Affected by Contamination: : A Guide for Developer 2023.
- Water Framework Directive 2000/60/EC 2015.
- Department of the Environment Industry Profile: Waste Recycling, Treatment and Disposal Sites – Landfills and other waste treatment or waste disposal sites, 1995.
- Environment Agency: Updated Technical Background to the CLEA Model Science Report SC050021/SR3.
- Technical Advice Note (TAN) 6: Planning for Sustainable Rural Communities.
- Future Wales: The National Plan 2040.

5. Construction Team Roles and Responsibilities

5.1 Organisation Roles & Responsibilities

5.1.1 All staff, including subcontractors and suppliers, will have responsibility for the environment and all companies have a duty of care in accordance with legislation to ensure the responsibilities including but not limited to the following are carried out:

- In the case of an incident, stop work, implement control procedures and report it to the Site Manager;
- Pass any queries or correspondence on environmental issues to the management team; and
- Work in accordance with all relevant Environmental Procedures, Environmental Plans and Method Statements.

5.2 Roles and Responsibilities

5.2.1 An outline of potential roles and responsibilities in relation to the environment is presented below. This is likely subject to change on appointment of the Principal Contractor and/or project environmental personnel. This CEMP should be updated accordingly.

Site Manager

5.2.2 The Site Manager will have the following key responsibilities:

- Reporting of all incidents immediately to the Applicant (or their appointed representative) and regulators (as necessary);
- Provide support in investigating incidents and taking action to prevent a recurrence;
- Maintain a register of all reported incidents, enforcement notices, threats or observations issued by regulatory authorities and the action taken to prevent re-occurrence where appropriate;
- Ensure that all issues and actions identified are communicated to the relevant personnel;
- Being familiar with the contents, environmental commitments and requirements relevant to the Site;
- Ensure environmental surveys are carried out if required and any mitigation from these followed;
- Ensuring compliance with the duties outlined within the associated Traffic Statement; and
- Plan and deliver appropriate environmental training to visitors, construction personnel and subcontractors.

Employees and Sub-Contractors

5.2.3 All employees and sub-contractors will have the following key responsibilities:

- Employees, subcontractors and suppliers are required to comply with this CEMP in its entirety;
- Receive a full Site induction and task briefing and participate in training and toolbox talks;
- Where appropriate, subcontractors will be required to develop their own environmental plans in accordance with the CEMP;

- The plans are to be specific to their work packages and to comply with the content and direction of this and other applicable supporting documentation; and
- Any environmental plans developed by subcontractors will be reviewed and approved prior to implementation to ensure that the information within complies with this CEMP.

Environmental Advisor/Ecological Clerk of Works

5.2.4 Should the ecological requirements of the Site change following pre-commencement surveys or following provision of conditions associated with the planning decision notice, this section will require updating.

5.2.5 An ecological/environmental clerk of works (ECoW) or environmental advisor (if appointed) would have the following responsibilities:

- Familiarity with the contents, environmental commitments and requirements relevant to the Site;
- Carry out environmental surveys such as protected species, habitat or breeding bird surveys;
- Carry out Ecological Watching Briefs as required;
- Advise on the buffer distance, installation and design of potential required exclusion zones;
- Plan and deliver appropriate environmental training to construction personnel and subcontractors; and
- Report any signs of damage, erosion, pollution, fly tipping and other effects, or other pertinent environmental issues identified, to the Site Manager.

5.3 Communications and Training

Environmental Reporting

5.3.1 Any environmental issues should be flagged in a weekly report generated by the Site Manager. The Site Manager is responsible for identifying and recording actions to correct these issues and will report these regularly to the Applicant.

5.3.2 Any incidents which are considered to be classified as an environmental incident will be reported to NRW and Ceredigion County Council as soon as is practical. The incident and follow-up actions will be documented as evidence and provided to the regulator upon request.

Environmental Awareness Training

5.3.3 The purpose of environmental awareness training is to ensure that all site personnel have the appropriate knowledge of the environmental requirements of this project. This will be delivered through site inductions. Personnel will not be permitted to work on the Site without having an induction prior.

Complaints Procedure

5.3.4 If complaints are received, the complainant would be contacted and if required, the property visited to discuss the complaint. If the complaint is found to be merited, additional mitigation measures would be put in place.

5.3.5 If a resolution could not be reached, Ceredigion County Council will be informed in order to carry out its own subjective assessment and, if necessary, agree to any additional mitigation. All complaints would be recorded along with actions taken to resolve the issue. These records would be available to Ceredigion Country Council upon request.

6. Records and Documentation

6.1 Construction Method Statements

6.1.1 Construction Method Statements (CMS) and Risk Assessments/Method Statements (RAMS) are not available at this stage. It is important that copies of all the relevant CMS and RAMS are kept during the entire construction programme. The LPA may require approval of the CMS prior to the commencement of works.

6.2 Licences and Consents

6.2.1 A physical copy of all licences and consents should be held within the construction compound offices during the construction phase of the Proposed Development and they should also be available on the electronic register to be used by the Applicant during construction. All licences should be provided to the LPA or other relevant regulatory bodies upon request.

6.2.2 A register should be maintained that outlines the expiry date of the relevant licences and consents to ensure that all consents and licences remain in date whenever required.

6.3 Waste Transfer Notes

6.3.1 All non-hazardous waste transfers from the Site, via the Principal Contractor, to their appointed waste contractor must be accompanied by waste transfer notes (WTNs). The receiver and the provider of the waste must both complete a WTN. It is illegal to collect, or have waste collected, without valid waste transfer documentation in place.

6.3.2 All waste transfer notes must contain the following information:

- A description of the waste in words and as a code;
- How the waste is contained or packaged;
- The quantity of waste;
- The name, address, permit or exemption details of the business transferring the waste, and their Standard Industry Code (SIC);
- The name, address, permit or exemption details of the business collecting the waste;
- The date of, and place where, the waste transfer happened; and
- The details of any waste broker or dealer who arranged the waste transfer.

6.3.3 WTNs must be kept for a minimum of two (2) years following the date of the note and provided to the LPA or other relevant regulatory authority upon request.

6.3.4 Alternatively, an annual WTN or ‘season ticket’ may be used, that covers multiple transfers over a year-long period. This can only be used if the following remains the same across all waste transfers:

- The parties involved in the transfer (e.g., the waste producer and the waste carrier or waste management site);
- The description of the waste being transferred; and
- The place where the waste is transferred from one person to the other.

6.4 Hazardous Waste

6.4.1 It is not anticipated that the Site will produce over 500 kg of hazardous waste and therefore there is no requirement to register as a hazardous waste producer.

6.4.2 A licenced hazardous waste transporter should be appointed prior to the commencement of construction. A copy of their licence should be held on-Site and in electronic format and should be checked annually to ensure that the licence has not been rescinded or expired during the construction programme.

6.4.3 All hazardous waste transfers must be accompanied by a Hazardous Waste Consignment Note. All consignment notes must be kept for a minimum of two (2) years following the date of the transfer.

6.5 Material Safety Data Sheets

6.5.1 It is anticipated that the COSHH substances will be stored on site in an appropriate designated location. Further information is provided in Section 14.8. The Site will hold physical copies of all the SDS for the relevant COSHH substances stored on-Site which will be stored in the COSHH cupboard. Electronic copies will also be available on the relevant project database.

7. Air Quality Management Plan

7.1 Introduction

7.1.1 Review of the Department for Environment Food & Rural Affairs (DEFRA) Interactive monitoring networks map [7] showed no constraints or Air Quality Management Areas (AQMA's)[8] within or immediate surrounding of the Site. An Air Quality Assessment has not been undertaken for the Site however this section outlines the potential impacts and effects that the construction phase may have on air quality and dust deposition.

7.2 Site Specific Assessment

7.2.1 IAQM guidance [9] identifies the following as the main air quality impacts that may arise during construction activities:

- Dust deposition;
- Visible dust plumes;
- Elevated PM_{10} and $PM_{2.5}$ concentrations; and
- Increase in PM_{10}, $PM_{2.5}$, and nitrogen dioxide (NO_2) from exhaust emissions associated with construction plant and vehicles.

7.2.2 Human health receptors and ecological receptors should be considered when considering the potential effects from increase dust emissions. Earthworks, construction, and trackout are all considered to be activities with the potential for dust emission generation that will occur at the Site during the construction phase.

7.2.3 Human health receptors in the form of local residential properties have been identified within 250 m to the west of the Site and personnel of the adjacent existing AD plant. Due to the limited number of identified receptors and the distance separating them from the Site, the receptor sensitivity is considered to be low. Whilst there are no designated ecological receptors (i.e., SACs, SSSI etc.) within 100 m of the Site, the potential for dust to impact vegetation or aquatic ecosystems remains. The existing ecosystems are considered to be low sensitivity ecological receptors in the context of dust deposition.

7.2.4 It is understood that the construction of the lagoon will be undertaken by excavators, with the material arising from these excavations to be reused on-Site to create bunds and for landscaping areas. No materials are to transported off-Site.

7.2.5 The extent/volume of earthworks that are required for construction is not yet available at this stage of the project. The CEMP may require to be updated following provision of this information.

[7] DEFRA, Interactive monitoring networks map, https://uk-air.defra.gov.uk/interactive-map?network=tomps, Accessed 29 January 2025.
[8] DEFRA, UK Air Information Resources, AQMAs interactive map [Available at: https://uk-air.defra.gov.uk/aqma/maps/] Accessed: 29 January 2025
[9] Institute of Air Quality Management (IAQM), Guidance on the assessment of dust from demolition and construction, version 1.1, 01 June 2016.

7.2.6 The most recent modelled background pollution data[10] indicates that the annual mean for PM_{10} is 8.90 µg/m^3 at the Site. As this value is low, this suggests that the local population will likely comprise a low sensitivity receptor. This is because an expected increase in PM_{10} associated with the earthworks will be unlikely to increase the volume of PM_{10} above the 24-hour objectives set by the government.

7.3 Proposed Mitigation Measures

7.3.1 Therefore, whilst it is anticipated that the potential impacts from dust will not be significant, the following controls will be in place (but not be limited to) as best practice mitigation measures to reduce emissions to air throughout the construction phase:

Communications

- The contact details of the person accountable for air quality and dust issues (the Site Manager) and the Applicant will be displayed of the site boundary at a location accessible by the general public;

Site Management

- All dust and air quality complaints will be recorded, with the cause identified (if possible). Appropriate measures should be undertaken to reduce the emissions in a timely manner and a record of the measures employed should be maintained;
- The complaints log and other relevant information will be provided to the LPA upon request;
- Any exceptional incidents that cause increase dust and/or air emissions, will be recorded, whether these be on- or off-Site, and any actions employed to resolve the situation will be recorded;

Monitoring

- Regular site inspections will be carried out by the Site Manager with any dust/air quality related issues recorded within weekly reports. These reports will be provided to the LPA upon request;
- When activities with high dust generation potential are being undertaken, or in periods of prolonged dry and windy weather, the frequency of site inspections should be increased;
- Should continual dust issues occur during construction, discussions will be held with the LPA to establish an agreed upon monitoring programme;

Preparation and Maintenance

- High dust generation potential activities and machinery will be located away from receptors as far as is practicable;
- Where there is a risk of wind blow dust from stockpiled aggregates the use of solid screens or barriers will be considered;
- Materials with the potential to produce dust will be removed from Site as soon as possible and stockpiles will be covered, seeded or fenced to prevent wind whipping;

[10] Welsh Government, DataMapWales, 'Air Quality data – PPM10 (2021) [Available at: https://datamap.gov.wales/maps/new/embed?layer=inspire-wg:aq_mappm102016g_grid,geonode:wales_ppm10_2021&] Accessed: 31 January 2025.

Operating Vehicles and Machinery

- No idling of vehicles will be permitted on-Site. All vehicles must be switched off when stationary;
- The use of diesel or petrol powered generators will be avoided where possible, alternatively electricity or battery powder equipment should be used; and
- All on-Site access roads will be subject to a maximum-speed-limit of 10-mph.

Operations

- Should cutting, grinding or sawing equipment be used on-Site it with be used in conjunction with suitable dust suppression techniques;
- An adequate water supply will be provided on-Site for dust suppression mitigation. This water supply would be non-potable water were possible;
- Enclosed chutes, conveyors and covered skips will be used where relevant; and
- Drop heights will be minimised as far as practicable.

8. Archaeological and Cultural Heritage Plan

8.1 Introduction

8.1.1 Archaeological finds on a construction site can lead to delays and therefore establishing the archaeological baseline and conducting archaeological assessments prior to commencement of works can minimise the risk of construction delays whilst also promoting appropriate archaeological management.

8.1.2 The Welsh Assembly Government's historic environment service Cadw, are responsibly for working towards an accessible and well-protected historic environment for Wales. Cadw published the 'Conservation Principles [11] document in 2011 for the sustainable management of the historic environment in Wales.

8.1.3 The Conservation Principles comprise six (6) principles based upon those developed by English Heritage which were published in 2008 and have been adapted for their use in Wales. The Conservation Principles are as follows:

- Historic assets will be managed to sustain their values;
- Understanding the significance of historic assets is vital;
- The historic environment is a shared resource;
- Everyone will be able to participate in sustaining the historic environment;
- Decisions about change must be reasonable, transparent and consistent; and
- Documenting and learning from decisions is essential.

8.1.4 Any construction activities that may impact the historic environment will be carried out in cognisance of these established principles.

8.2 Cultural Heritage Desk-Based Assessment

8.2.1 No formal archaeological assessment has been undertaken however the following section outlines a desk-based review of available online resources to identify known historic environment assessment within the Site and its surrounding area.

Designated Sites

Table 1: Designated Sites within 1.00 km of the Site

Type	Reference Number	Name	Easting	Northing	Distance from Site
Listed Building (II)	14800	Outbuilding range attached to NW of Treforgan	2120123	246082	915 m south
Listed Building (II)	14801	Walled Garden at Troforgan	220135	246081	916 m south
Listed Building (II*)	9892	Treforgan	220114	246062	935 m south

[11] Welsh Assembly Government - Cadw, Conservation Principles for the sustainable management of the historic environment in Wales, March 2011.

8.2.2 The nearest scheduled monument is located in central cardigan approximately 2.45 km southwest of the Site and the Registered Historic Landscape of Lower Teifi Valley (reference: HLW(D)14) is located 1.59 km southwest of the Site at its closest point. Due to the landscape and the distance between these assets and the Site, there are no anticipated impacts from the construction of the Proposed Development.

Non-Designated Sites

8.2.3 The following table outlines the non-designated Historic Environment Records (HER) within 1.00 km of the Site. Although not protected, these assets should still be considered to align with conservation principles for the historic environment.

Table 2: Non-designated Sites within 1.00 km of the Site

Name	Primary Reference Number	Site Type	NGR	Distance from Site
Crugmawr	21279	Post Medieval Mansion	SN 2052 4723	406 m east
Crugmor; Crug-mawr	51763	Post Medieval Pond	SN 2065 4730	516 m east
Crug-mawr	5837	Bronze Age Round Barrow	SN 2068 4725	529 m east
Crug Mawr; banc Y Warren	8066	Medieval Battle Site	SN 207 472	538 m east
Banc y Warren	5218	Medieval Gallows/ Medieval Rabbit Warren	SN 2040 4750	474 m northeast
Ael y Bryn	48194	Post Medieval Building	SN 1950 4709	661 m west
Felin Gynllo	15540	Post Medieval Building	SN 1998 4632	791 m south
Ffynnon Gynllo	8067	Medieval Holy Well	SN 200 463	806 m south
Tre-dafydd	56382	Post Medieval Dwelling	SN 20170 46334	756 m south
Crug Efa	5831	Bronze Age Round Barrow	SM 202 478	710 m north
Ffynnon Cedny	5833	Medieval Holy Well	SN20354 47867	800 m north
Crug-du-uchaf;crug-du-isaf	12147	Bronze Age Round Barrow	SN 207 478	891 m northeast
Penparc	52060	Iron Age Defended Enclosure	SN 2065 4796	997 m northeast
Llain Deg	9622	Mesolithic Findspot	SN 20 47	923 m north

8.2.4 Due to the distance and the current use/status of the adjacent AD plant and solar farm, it is considered unlikely that significant direct effects will impact known cultural heritage assets that would deteriorate the heritage quality of these identified receptors.

8.3 Construction Management and Mitigation measures

8.3.1 The procedure outlined below demonstrates what should be carried out as per best practice if an unexpected find is present. All Site employees/personnel will be given a toolbox talk ahead of the earthworks phase on what constitutes a possible archaeological feature and how to report this.

- Work will stop immediately, and the Site Manager will be informed who will report the find, with work resuming only after instruction of an archaeologist;
- Any archaeological significant features should be investigated and reported to Ceredigion County Councils who could recommend further investigation;
- If required, the LPA would outline the following steps to be taken which may include:
  - Appropriate mitigation methods that could include further evaluation and / or excavation, and recording;
  - If it is considered necessary excavation of samples of archaeological interest should be conducted by hand, and excavation should be limited to samples to remove only such deposits as necessary;
  - Drawing, photograph and specialist record forms should be utilised for all excavation and on-stie recording, including stratification of all excavated areas whether having identified significant archaeological deposits at that location;
- If human remains are encountered, the local police and council will be informed and the remains left in situ.; and
- Upon completion of excavation, trenches will be backfilled, and location of the trenches will be recorded using industry standard surveying equipment.

9. Contaminated Land

9.1 Introduction

9.1.1 A Preliminary Contamination Risk Assessment (Phase I) has not been undertaken for the Site to date. This Section comprises a high-level assessment of the likelihood of potentially contaminative land to be encountered during construction, and possible mitigations to be deployed in response.

9.2 Soil Baseline

Superficial Deposits

9.2.1 The online publicly available resource, British Geology Survey (BGS) GeoIndex Onshore[12], indicates that the Site is underlain by Glacial Till from the Devensian period (Irish Sea Ice). This Glacial Till underlies the southern and eastern parts of the Site and there is a small area adjacent to the unnamed watercourse at the southeastern corner of the Site that is indicated to be underlain by Head deposits comprising clay, silts, sands and gravel.

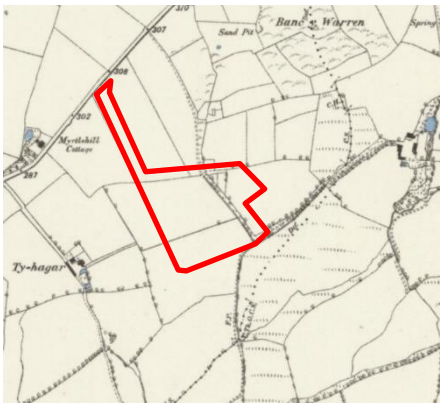
Bedrock

9.2.2 BGS reports that the entire Site is underlain by mudstones of the Nantmel Mudstones Formation. The formation is described to comprise silty mudstone with dark burrow mottles and several thick units of laminated hemipelagite.

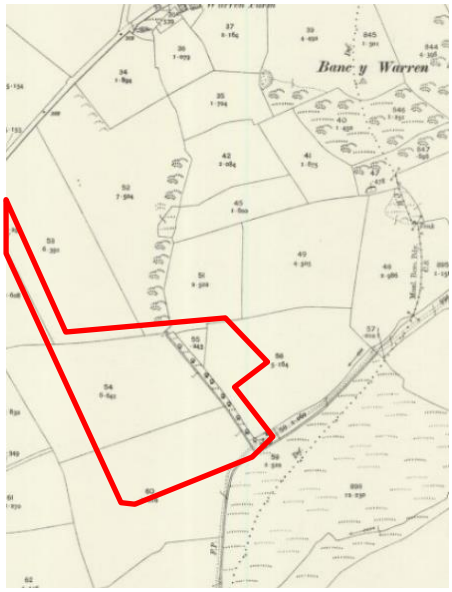
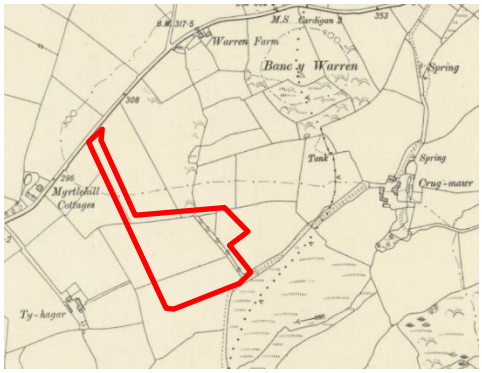
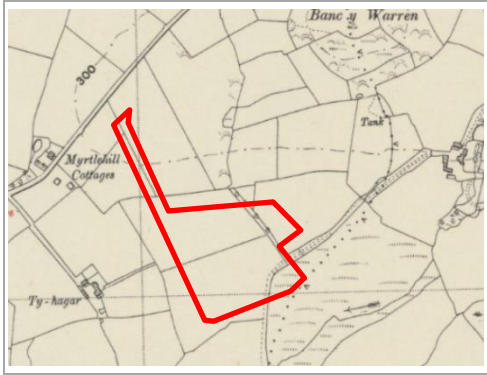
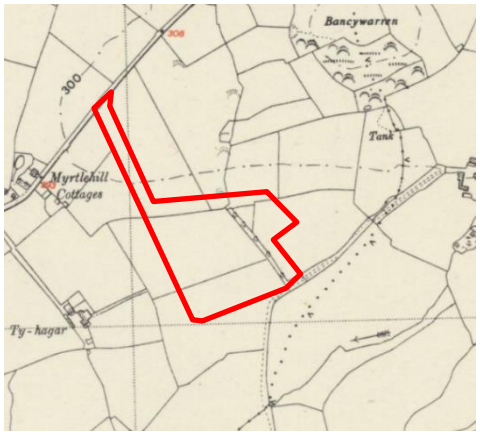
9.3 Previous Land Use Desk-Based Review

9.3.1 A review of available online resources (National Library of Scotland) identified the following maps that depict the Site at various stages through recent history. These maps demonstrate the previous uses of the Site and the surrounding area:

Table 3: Historical Map Extracts and Land Uses

Map Extracts	Map Edition	Site Usage / Surrounding Site Usage
	Cardiganshire Sheet XXXVIII.NW Surveyed: 1887 to 1888 Published : 1889 (OS six-inch England and Eales, 1842 – 1952)	The Site comprises open agricultural land with the existing hedgerow and stream along the western edge.

[12] British Geological Survey, GeoIndex Onshore [Available at: https://mapapps2.bgs.ac.uk/geoindex/home.html] Accessed: 30 January 2025.

Map Extracts	Map Edition	Site Usage / Surrounding Site Usage
	Cardiganshire XXXVIII.2 Revised: 1904, Published: 1905 (OS six-inch England and Eales, 1842 – 1952)	No significant changes are described within the Site. A tank is now present approximately 330 m east of the Site.
	Cardiganshire Sheet XXXCIII.NW Revised: 1904 Published: 1906 (OS six-inch England and Eales, 1842 – 1952)	No significant changes reported.
	Cardiganshire Sheet XXXVIII.NW Revised: 1938 Published: ca. 1948 (OS six-inch England and Eales, 1842 – 1952)	
	Cardiganshire Sheet XXXVIII.NW Revised: 1948 Published: 1953 (OS six-inch England and Eales, 1842 – 1952)	No significant changes reported.

Map Extracts	Map Edition	Site Usage / Surrounding Site Usage
	SN24NW - A Surveyed / Revised: Pre-1930 to 1963 Published: 1963 (National Grid maps, 1944 - 1974)	No significant changes reported.

Note 1: The red-line boundary described on all the historical map extracts below is an approximation of the Site boundary and is not to be relied upon or reproduced.

9.4 Preliminary Conclusions

9.4.1 Based upon a preliminary review of the available historic maps, it is considered likely that the Site has comprised agricultural land from the earliest available map editions from 1887 until at least 1948. This is not considered to be a previous land-use that has high contaminative potential.

9.4.2 It is considered likely that the greatest impact to the Site would be from the adjacent AD plant of which the development comprises an extension to. It is assumed that the Site adheres to site specific pollution prevention measures that will mitigate the potential for land contamination to occur.

9.5 Unexpected Contamination

9.5.1 The following Section outlines the procedure to be followed in the instance of encountering suspected contamination during construction. If contamination is suspected or encountered, the following procedure will be followed:

- Stop work immediately;
- Report the discovery to the Site Manager who must seek expert advice and provide guidance on required measures/mitigation;
- Contact the LPA within 24 hours where previously unidentified contamination is suspected or encountered or where a pollution to the soil environment from the construction works has taken place;
- Seal off the area to contain spread of contaminants;
- Undertake a risk assessment to minimise the risk to health and safety of Site workers. This should identify acceptable working methods, PPE, contact, and other required procedures;
- Clear the Site after management agreement to ensure there is nothing that could cause fire or explosion;

- Deal with areas of previously unidentified contaminated soils that has been disturbed by construction activities as a waste material and dispose of it to a suitably licensed site in accordance with relevant waste management regulations;
- Ensure that known or suspected contamination is tested and characterised and agree changes to the existing Site proposals and method statements as required;
- Avoid causing or spreading contamination;
- Do not stockpile contaminated soil unless it cannot be avoided. If it is necessary, stockpile only on an area of hardstanding or appropriate impermeable barrier to prevent contamination of the underlying soil and surrounding area in the short term until a suitable solution is found. Stockpiles must be placed a minimum of 20 m from watercourses, field drains or surface drains;
- Cover the stockpile with impermeable cover to prevent the infiltration of precipitation and subsequent migration of soluble contaminants and to prevent potentially contaminated wind-blown dust; and
- Control surface water drainage from stockpiled area.

10. Ecological Management Plan

10.1 Ecological Legislation

10.1.1 Ecological management should be carried out in compliance with the following legislation:

- Environment (Wales) Act 2016: This Act promotes the sustainable management of natural resources and includes provisions for:
- Biodiversity Duty: Public authorities must maintain and enhance biodiversity and promote the resilience of ecosystems.
- Sustainable Management: Principles for the sustainable management of natural resources are outlined to ensure long-term ecological health.
- Wildlife and Countryside Act 1981: This Act provides protection for wildlife and habitats, including:
- Protected Species: It is an offense to harm or disturb protected species and their habitats.
- Sites of Special Scientific Interest (SSSIs): Special protections are in place for designated areas to conserve their ecological value.
- Conservation of Habitats and Species Regulations 2017: These regulations implement the EU Habitats Directive and include:
- Special Areas of Conservation (SACs): Designation and protection of areas important for biodiversity.
- Protected Species Licensing: Requirements for obtaining licenses to work in areas with protected species.

10.2 Preliminary Ecological Assessment

10.2.1 A Preliminary Ecological Assessment (Extended Phase I, 'PEA') has been undertaken for the Site by Landsker Ecology with the objectives to inform, from an ecological perspective, decisions that are required to facilitate the excavation of the lagoons.

Note 2: The Site boundary depicted within the PEA differs in comparison to the Site boundary used for this CEMP. The extended ecological survey area is contained within the red-line boundary described in Drawing L-2: 'Site Boundary Plan'.

10.2.2 The following sections summarise the results of the PEA and outline the proposed mitigations to be implemented during construction.

Site Assessment

10.2.3 A site assessment was undertaken by Landsker personnel on 01 May 2024 which comprised a walkover of all boundaries and internal areas of the Site. The condition of the Site, the dominant species present and any evidence of, or potential for, protected species was to be recorded.

Designated Sites

10.2.4 The following designated sites were identified within 2 km of the Site following a desk study assessment:

- Afton Teifi SAC located 1.70 southwest of the Site;
- Banc y Mwldan SSSI located 1.00 km northwest of the Site;
- Banc y Warren SSSI location 250 m northeast and 1.20 km northeast of the Site; and
- Afon Teifi Estuary Woodlands and Marshes SSSI located 1.7 km southwest of the Site.

Watercourses

10.2.5 An unnamed stream Is located on the southern perimeter of the Site which discharged into the Nant Rhyd-y-fuwch, which ultimately discharges into the Afon Teifi approximately 2.30 km downstream. A second small stream is also located though the woodland just east of the existing tanks that flows into the southern boundary stream. This second stream is not marked on OS maps and therefore it has been assumed that it may dry out during prolonged dry periods.

Phase I Habitats

10.2.6 The following habitats were identified during the site assessment, the locations of which are described on Drawing L-5: 'Phase 1 Habitat Map'.

Table 4: Phase I Habitats Identified on-Site

Habitat	Code (if relevant)	Description	Designation Classification
Hedgerow	J2.1.2	Three (3) hedgerows, two dominated by blackthorn with occasional gorse with ground flora of ivy, cleavers and wood dock. The other hedgerow is dominated by English elm and other woody species with ground flora of barren strawberry, hart's-tongue ferne and false brome.	Section 7 listed habitat in Environment (Wales) Act 2016
Running water – mesotrophic	G2.2	Two (2) small unnamed watercourses are present on-Site. Himalayan Balsam was identified on the banks of the southern boundary stream.	Section 7 listed habitat in Environment (Wales) Act 2016
Improved Grassland	B4	Both the main field for the proposed lagoons and the access track dominantly comprise improved grassland	N/A
Ephemeral/short perennial	J1.3	Covering a small area located at the access point from the existing access road to the AD plant. A mound of soil and gravel has been deposited at this location.	N/A
Semi-improved Neutral Grassland	B2.2	Constructed bunds adjacent to existing AD plant host strips of SI neutral grassland.	N/A
Marshy Grassland	B5	Located at the area of the proposed tank.	N/A

Habitat	Code (if relevant)	Description	Designation Classification
Semi-natural Broadleaved Woodland	A1.1.1	A small area of semi-natural woodland is present between the main field and the existing AD plant.	Section 7 listed habitat in Environment (Wales) Act 2016
Bare ground	J4	Bare gravel is present at the proposed entrance from the existing access to the adjacent AD plant.	N/A

Protected Species

10.2.7 Evidence of the following protected species were identified during the site assessment:

- **Bats** - the hedgerows, woodland and stream corridor provide suitable foraging ang commuting habitats for bats. Additionally, the large mature trees present on site could provide potential roost features.
- **Badgers** - A badge latrine and several snuffle holes were identified adjacent to the hedgerow along the proposed access track. No burrows or setts were identified.
- **Breeding Birds** - Numerous bird species were identified during the walkover including several listed in the Birds of Conservation Concern (Wales) species list.
- **Reptiles and Amphibians** - The hedgebanks and a collapsed silage bale adjacent to the entrance off the existing access tracks are considered to provide a suitable habitat for reptiles and amphibians.

Non-Native Invasive Species

10.2.8 Himalayan Balsam was identified along the bank of the southern boundary stream. It is considered likely that represents a source of contamination of the wider countryside.

10.3 Mitigation Measures

10.3.1 The following mitigation measures are outlined in the PEA that are to be implement during the construction phase of the project to minimise potential detrimental impacts to the identified ecological receptors in the section above:

- The design of the lagoons and connecting pipework must ensure that they do not allow for the seepage, leakage or overflow of bio-fertilised into the surrounding environment;
- Planting of trees and hedgerows is advised along the lagoon boundaries;
- Artificial lighting of the lagoons will not be permitted as this may cause disturbance to foraging bats;
- It is recommended that any work to be undertaken in suitable bird nesting habitats are undertaken outwith the nesting bird season (March – August inclusive). If this is not practicable, a breeding bird nest check should be undertaken of the area by a suitably qualified ecologist within 24 hour period prior to works commencing.;
- If a nesting bird is identified, a suitable exclusion zone will be established (as instructed by the ecologist). This exclusion zone will be adhered to until the young have fledged and left the nest;
- A pre-commencement survey of the hedgerow and hedgerow bank adjacent to the proposed access track is recommended prior to commencement of the track construction works. The survey should be undertaken by a suitably qualified and experienced ecologist;

- If a sett is identified a suitable exclusion zone will be established under the instruction of the ecologist (i.e., 30 m) and should any excavation works be required within this area, a badger licence may be required.
- The Himalayan balsam should be eradicated from the banks of the stream. The removal works should be undertaken by a specialist invasive species contractor;
- A finger-tip search of the section of collapsed silage bale is recommended prior to removal to prevent accidental harm to reptiles or amphibians that may be using the bale as refuge.

11. Lighting Management Plan

11.1 General

11.1.1 As this CEMP has been developed in support of a full planning application, there are currently no conditions relating to the lighting requirements for the Site. The following measures will be implemented during the construction phase of the Proposed Development to reduce impacts on sensitive ecological receptors (e.g., bats);

- All lighting associated with the construction and demolition of the Proposed Development should be directed away from trees and hedges;
- Any necessary security lighting will be on short timers (e.g., a one (1) or two (2) minute timer) with sensitivity for large moving objects only;
- Light shielding hoods or cowls will be used to avoid light being directed at the sky or toward the boundary vegetation;
- Lighting during periods of dark will be limited to provide periods of night with no artificial lighting;
- No UV elements or metal halide fluorescent sources will be used by the Site lighting. White and blue wavelengths will be restricted, and the brightness of lighting will be kept as low as feasibly possible; and
- The height of lighting columns will be considered carefully to avoid light spilling into adjacent habitats.

12. Materials Management Plan

12.1 Introduction

12.1.1 In order to prevent potential pollution incidents from occurring and to avoid the unnecessary creation of excess waste, the Site will adhere to the following material management plan.

12.2 Soil

12.2.1 It is understood by Arthian that all excavated material (soil) is to be reused on-Site for the creation of bunds. The pre-application advice received identifies that the agricultural fields that contains the Site has a predictive grade of 5 - the lowest possible grade. The BGS published data indicates that superficial soils only underlie the eastern and southern portions of the Site.

12.2.2 A review of the available historical map extracts indicates that the contamination on-Site is unlikely, however this CEMP should be updated where relevant to include detail on any ground investigations that are undertaken.

12.2.3 Where possible, excavated soil that is appropriate for re-use will be carefully stored in segregated stockpiles on-Site for subsequent re-use. Soil management processes on-Site will follow the Department for Environment, Food and Rural Affairs (DEFRA) Guidance, Code of Practice for the Sustainable Use of Soils on Construction Sites, a summary of which is outlined below:

- Stripped soils should be stockpiled separately (i.e., topsoil, subsoil etc.) in suitable areas away from transport routes, water courses and other sensitive receptors. This resource should be cared for as it may be reused on Site and therefore can avoid disposal to landfill.
- Stripping and stockpiling should be undertaken during the driest conditions possible;
- Soils should be stored for the minimal period of time possible;
- Avoid mixing clean soils with construction waste or contaminated material which may result in the need for treatment or disposal;
- Protect stockpiles from erosion during the construction period, potentially through seeding or covering stockpiled material; and
- Use tracked equipment, where possible, to reduce compaction of Site soils which may allow for reuse.

12.3 Concrete

12.3.1 At this stage of the development, it is not known whether concrete will be required for construction.

12.3.2 The proposed practices for the management of concrete are detailed in the table below:

Table 5: Management of Concrete

Ordering	Careful ordering of quantities and programming the timings will result in the prevention of waste. The Principal Contractor will be responsible for this to assure that concrete orders are programmed only when required and at the appropriate point in the development process and that the correct quantities are ordered, to the correct specifications.
Handling & Storage	These materials are of relatively high value so care should be taken on-Site to ensure careful handling and storage of them to prevent damage and therefore wastage. Materials should be stored securely until required and remain wrapped and bound (for items such as Postcrete) to minimise spoil.
Prevention	The Principal Contractor is responsible for a policy of tight estimation of materials, including concrete and masonry quantities, on-Site to prevent unnecessary wastage. Sub-contractors, if employed, will be responsible for concrete and masonry waste arisings from their activities (monitored by the Principal Contractor) and will be required to conform to the requirements of this CEMP.
Re-Use on-site	Inert waste generation from off-cuts, trimmings or breakages will be carefully stored and reused on-Site during construction. Masonry stone or blocks could also be re-used for landscaping purposes. Concrete wash-out areas will be provided on-Site if required. Once the wash-out material has set, the concrete can be broken up for use as general fill.
Waste Recovery	Any concrete or masonry wastage generated on-Site, which cannot be reused, will be source-segregated on-Site, and stored separately in a suitable receptacle to prevent cross-contamination. These materials will be removed off-Site as construction and demolition waste for reuse (as an aggregate).

12.4 Timber

12.4.1 Timber waste will be kept to a minimum through reuse throughout the project. Any timber that cannot be re-used because of poor quality, etc. will be segregated and stored for recycling in a designated skip. To manage the stocks of timber and to prevent unnecessary recycling, stored timber will be monitored to prevent the ingress of dampness, exposure to extreme temperatures that can cause warping, and the potential for fungal attacks.

Table 6: Management of Timber

Ordering	For timber to be used on-Site, careful ordering of quantities and programming the timings of deliveries will result in the prevention of unnecessary waste quantities which can typically result from over-ordering and spoilage due to lengthy storage and potential damage whilst in storage. The Principal Contractor will be responsible for maintaining appropriate stock levels to ensure that timber orders are programmed only when required and sufficient storage space and conditions are available.
Handling & Storage	The materials should be kept dry and bound and packaging should only be removed from wood and timber materials when they are to be used.
Prevention	A policy of tight estimation of materials will prevent excess wood and timber materials delivered. Sub-Contractors, if employed, will be responsible for wood/timber waste arising from their activities and will be required to conform to the requirements of this CEMP.
Minimisation	Proper storage of wood and timber materials in clean covered containers will minimise the risk of damage to the materials and encourage reuse.

Re-Use on-Site	Where possible wood cut-offs may be kept for use by the adjacent AD plant and for various potential uses such as chippings, landscaping or fencing.
Re-Use off-Site	Excess wood/timber materials which are not used on-Site will be stored safely and removed by the appropriate contractor. Partners will be investigated during the project who can re-use wood wastes to benefit the circular economy.
Waste Recovery	Any wood wastage generated on-Site, which cannot be reused, will be source-segregated on-Site, and stored separately in a suitable receptacle to prevent cross-contamination. These materials will be removed off-Site for recovery/recycling to a licensed facility in the area through the waste contractor.

12.5 Metal

12.5.1 All waste metal will be stockpiled at designated waste locations and will be collected for recycling by the licensed waste contractor. Metal materials will be carefully managed to reduce the environmental risks and to minimise the costs. A summary of key points in the management of metals is outlined below:

Table 7: Management of Metal

Ordering	Careful ordering of quantities and programming the timings of deliveries will result in the prevention of unnecessary waste quantities, which typically results from over-ordering and spoilage due to lengthy storage and potential damage whilst in storage. The Principal Contractor will be responsible for this to assure that metal orders are programmed only when the Site is ready to sufficiently store and use, and in the correct quantities, to the correct specifications.
Handling & Storage	These materials are of relatively high value so care should be taken on-Site to ensure careful handling and storage of them to prevent wastage. Materials should be stored securely until required and remain wrapped and bound to minimise spoil and separated into ferrous (e.g., steel) and non-ferrous metals (aluminium, copper etc.).
Prevention	A policy of tight estimation of materials will prevent excess metal materials delivered. Sub-contractors employed will be responsible for metal waste arising from their activities and will be required to conform to the requirements of this CEMP. Excessive waste production by sub-contractors should be monitored.
Re-Use/ Recycling Off-Site	Ferrous and non-ferrous metals will be stored separately on-Site in clean covered segregated skips to ensure maximum recovery of the material off-Site at a permitted facility through the waste contractor.
Waste Recovery	All metals not used on-Site will be source-separated, stored, and sold on to authorised handlers for recycling off-Site.

12.6 Packaging

12.6.1 Where possible, packaging will be segregated for recycling or returned to the supplier. Materials delivered to the construction Site will be wrapped and protected by packaging material e.g., plastic film, wooden pallets, cardboard, metal wrap, cellophane wrapping, Styrofoam etc. It is important that packaging material is managed efficiently to ensure that the Site remains free of windblown and discarded packaging material.

Table 8: Management of Packaging

Handling & Storage	Packaging is designed to protect materials during transportation and should remain in place until absolutely necessary to prevent spoilage/damage of the material. Once packaging is removed it should be stored in a dedicated skip. The skip should be kept covered to prevent littering and the potential for wind-blown contamination.
Prevention	A policy of tight estimation of materials will prevent excess packaging waste delivered to the Site. The Principal Contractor will work with the supply chain to minimise excessive and unnecessary packaging as well as participating with, where possible, the use of packaging reuse schemes (bulk container refills etc.).
Minimisation	Suppliers which take back packaging waste from materials should be identified when sourcing materials to minimise packaging waste generation on-Site.
Re-Use/ Recycling Off-Site	Any packaging waste which can be returned to a supplier should be stored separately and securely and be presented in good condition for re-use or recycling.
Waste Recovery	Packaging materials which cannot be returned to a supplier should be separated into individual waste streams, e.g., cardboard, paper, plastic, wood etc. and presented for recovery off-Site at an appropriate permitted/licensed facility through the waste contractor.

12.7 Other Hazardous Material

12.7.1 It is anticipated that limited hazardous materials will be required for this development. Any hazardous materials such as paints and other chemicals etc. will only be removed by a licensed specialised contractor and will be stored on-Site in the interim, as per their instructions and requirements. Further information is provided in the table below:

Table 9: Management of Hazardous Materials

Ordering	Careful ordering of quantities and programming the timings of deliveries will result in the prevention of unnecessary waste quantities, which typically results from over-ordering and spoilage due to lengthy storage and associated risks.
Handling & Storage	Hazardous materials will be carefully handled, segregated, and stored on-Site in designated areas in a store with the appropriate material safety data sheet. These areas will be separate from non-hazardous materials to avoid contamination and pollution. All hazardous materials arising on Site will be stored in a bunded area, prior to disposal.
Prevention	A policy of tight estimation of materials will prevent excess materials delivered. Sub-contractors employed will be responsible for hazardous waste arisings from their activities and will be required to conform to the requirements of this CEMP.
Re-Use off-Site	Excess materials will be stored safely and removed by an appropriate licensed contractor.
Waste Recovery	Hazardous waste materials generated will be stored safely and removed by an appropriate contractor permitted to transport hazardous wastes for safe recovery or disposal through the waste contractor.

12.8 COSHH Storage

12.8.1 The Site will comply with the Control of Substances Hazardous to Health Regulation 2002 (COSHH) (as amended) at all times. All COSHH will be stored in a designated COSHH store that will be locked at all times when not in use. All liquids will be stored on a bund of an appropriate capacity (i.e., 25 % of total volume) and it is recommended that COSHH store be designed to provide a tertiary level of containment. An audit of the COSHH store will be conducted during the weekly inspections undertaken by the Site Manager.

12.9 Waste Storage

12.9.1 All waste from the Site will be stored in a designated waste storage area on-Site. All storage areas and containers should be clearly labelled to identify waste type and properties, and waste storage areas should be appropriately secured to ensure pollution prevention. All liquid waste should in stored in sealed containers with a secondary containment system (bund) with 110% capacity of the container. All wastes that have the potential to leach or be entrained in water should be stored in an appropriately sealed container or have an impervious surface with barriers to lateral flow.

12.10 Monitoring and Training

12.10.1 Appropriate training should be provided to all staff on-Site who will have responsibilities for handling materials. This CEMP should be provided to staff and sub-contractors, where relevant, as a means to describe how materials should be handled on-Site and to raise awareness of the Sites responsibility for waste minimisation.

12.10.2 Monitoring of the materials management practices described above are the responsibility of the Principal Contractor. If failures to comply with the above procedures are recognised, it is the responsibility of the Principal Contractor to ensure that any poorly managed material is recovered, where possible, and to set out corrective measures to ensure that this does not happen again.

13. Noise and Vibration Management

13.1 Baseline

13.1.1 The Environmental Noise Mapping data[13], available of DataMapWales, indicates that the Site is subject to increased road traffic noise from the adjacent A487. The maximum volumes were indicated to be at tip of the access road with the main field area reported lower decibels (dB) as described below:

- The access point to the main road, the northern tip of the Site, reported a maximum of 65 dB.
- At the point where the new access road will join the existing access the road traffic noise was 53 dB.
- At the northern most part of the field, the road traffic noise is reduced to 45 dB which further decreases to the south to sub-40 dB.

13.2 Plant

13.2.1 It is understood that the plant that will be used on Site will be a standard bulldozer/d360 for the construction of the Proposed Development. This plant is conservatively equivalent to a 41-tonne dozer with a 239 kW power rating as per BS 5228-1:2009+A1:2014[14]. The A-weight sound pressure level for this machine is 80 dB at 10 m.

13.3 Impact

13.3.1 As the baseline noise for the Site is relatively low, the increase during works has the potential to impact nearby receptors including construction workers, personnel at the adjacent AD plant and potentially nearby residential properties. The nearest residential property receptors are shown on Drawing L-4: 'Key Constraints Map' with the closest location approximately 150 m west or northwest of the Site.

13.4 Mitigation Measures

13.4.1 The Principal Contractor should follow Best Practicable Means to minimise noise and vibration impacts to surrounding sensitive receptors. The Best Practicable Means include the following:

- The selection of inherently quiet plant, where appropriate. All major compressors should be 'sound reduced' models fitted with properly lined and sealed acoustic covers which should be kept closed whenever the machines are in use and all ancillary pneumatic percussive tools should be fitted with mufflers or silencers of the type recommended by the manufacturers;
- The proper use of plant with respect to minimising noise emissions. All vehicles and mechanical plant used for the purpose of the works should be fitted with effective exhaust silencers and should be maintained in good efficient working order;
- Machines in intermittent use should be shut down in the intervening periods between work or throttled down to a minimum;

[13] Welsh Government, DataMapWales, Environmental Noise Mapping 2022 - Road traffic noise (dB) - all roads (L16h) 2022 [Available at: https://datamap.gov.wales/maps/new?layergroup=geonode:Environmental_Noise_Mapping_2022#/] accessed: 30 January 2025.

[14] BS 5228-1:2009+A1:2014, Code of practice for noise and vibration control on construction and open sites - Part 1: Noise.

- Materials should be handled with care and be placed, not dropped. Materials should be delivered during normal working hours;
- All ancillary plant such as compressors and pumps should be positioned to cause minimum noise disturbance, i.e. furthest from receptors or behind close boarded noise barriers. If necessary, acoustic enclosures should be provided and/or acoustic shielding;
- Construction contractors should be obliged to adhere to the codes of practice for construction working and piling (where relevant) given in BS 5228 and the guidance given therein minimising noise emissions from the Site; and
- Reference should be made to the Building Research Establishment, BRE 'Pollution Control' guidelines, Parts 1-5[15].

13.5 Noise Complaints Management

13.5.1 It is considered unlikely that significant noise-generating activities will be undertaken for the proposed development construction. The following procedures should be undertaken if a complaint is received:

- Recording all complaints received in a formal complaints register;
- The Site Manager will investigate complaints to assess their validity and consider immediate actions which can be taken to help mitigate the impact (e.g., temporary cessation of a particular activity responsible for the compliant). The complainant and the LPA will be kept informed of actions taken;
- Where the initial action does not address the complaint, further investigation, corrective action (including but not limited to agreeing methodology directly with the complainant and the LPA) and/or follow-up monitoring shall be undertaken as appropriate;
- The complainant and the LPA will be kept informed of actions taken at regular intervals; and
- All actions will be recorded in the complaints register and only upon resolution of the complaint will it be closed. The complainant and the LPA will be advised when the complaint is closed.

[15] Building Research Establishment 2003 'Controlling particles, vapour and noise pollution from construction sites.' Parts 1-5.

14. Environmental Emergency Response

14.1 Emergency Response Briefing

14.1.1 The environmental emergency spillage procedure will be displayed in the Site compound, and all Site personnel will receive a briefing on emergency procedures at the induction.

14.1.2 All contractors and visitors will be advised during their Site induction that everyone is responsible for reporting ongoing pollution and what the consequences could be to the project if they do not report an incident.

14.2 Emergency Contacts

14.2.1 All construction personnel should be aware of the enclosed environmental emergency response plan. Emergency environmental contacts are outlined below – this should be updated accordingly when the Principal Contractor has been appointed:

Table 10: Environmental Emergency Contact

Contact	Name	Telephone
Natural Resources Wales (NRW)	Incident Hotline	+44 (0) 3000 65 3000
Highways and Environmental Servies	Ceredigion County Council	01545 570881 (Out of Hours - 01239 851604)
Site Manager	TBC	TBC

14.3 Types of Environmental Hazards

14.3.1 The following abnormal environmental hazards are considered applicable to this Site:

- Abnormal weather conditions, e.g., rain, snow, wind, electrical storms etc.;
- Spills and leakages during delivery and use of materials (including fuel);
- Overfilling of containment vessels;
- Plant or equipment failure, resulting in spillages/leakages;
- Containment failure, resulting in spillages/leakages;
- Fires, explosions or failure to contain fire;
- Dust release;
- Noise and vibration; and
- Chemical and fuel spills/ leakages directly to the ground surface.

14.4 Environmental Incident Response Measures

Spillages

14.4.1 On the appointment of the Principal Contractor, this section should be updated to reflect the reporting procedures for environmental incidents. In the event of a spillage, emergency spill kits (granules, pads, mats and booms) will be used to contain the spillage. Site management will be notified. Spill kits will be located and sign-posted within the Site compound at all diesel bowsers and in all Site vehicles. It is recommended that a minimum of one spill kit is placed at any active worksites.

14.4.2 Spillages need to be prevented from entering drainage systems and watercourses. The booms and absorbent pads will be used around any spillage as well as downstream of any spillage. The locations of emergency spill kits and mitigation measures will be detailed in task briefings.

Site Run-Off

14.4.3 Two (2) watercourses are located within or directly adjacent to the Site. Due to the topography of the Site, it is anticipated that Site run-off is likely to flow towards the southern boundary stream if no management measures are put in place.

14.4.4 It is imperative that silty run-off is prevented from entering surface waters. Silt mats can be used to filter site run-off and silt fencing should be deployed as appropriate. To facilitate silt settlement, ponds, swales, or low-lying areas may be used to allow for natural infiltration. To prevent construction water entering any watercourse prior to treatment, care should be taken to ensure that any mitigation measures do not overflow or become saturated.

Unexpected Contamination

14.4.5 Any changes in ground conditions should be monitored carefully. Based on the history of the Site, it is considered unlikely that unexpected contamination would be encountered; however, in the event of its discovery the procedure outlined in Section 10.5 should be followed.

Dust Pollution

14.4.6 In the event of dust pollution, evacuate the area if necessary and identify the source of the dust release to stop it if safe to do so. The Site Manager or appointed incident response personnel should identify the direction of the wind, and hence the direction of dust blow to identify the receptors both inside and outside of the Site boundary that could be impacted. Once the immediate threat is managed, the incident should be reported to relevant authorities and internal teams, with detailed documentation of the incident.

14.4.7 Implement control measures to reduce dust levels, such as using water sprays or ventilation systems. Carefully clean the affected area, ensuring that dust is collected and disposed of properly.

14.4.8 Conduct a thorough investigation to determine the cause of the incident, and preventive measures should be developed to avoid future occurrences. Communicate with employees, stakeholders, and the public about the incident and the steps being taken to address it. Review and update your environmental incident response procedures based on lessons learned from the incident.

Noise or Vibration

14.4.9 It is anticipated that plant and construction activities on Site will have associated noise increases that may results in adverse impacts to the identified sensitive receptors (i.e., nearby residential properties). If required, the Site Manager will ensure that noise and vibration levels are continuously monitored to ensure they are within acceptable limits. Implement control measures to reduce noise or vibration levels, such as using sound barriers or vibration dampeners.

14.4.10 If a complaint is received, the complaint procedure outlined in Section 14.5 should be followed.

Environmental Emergency Response Procedure - Pollution Event

1. **ASSESS** the situation, determine the source, composition, and approximate quantity of the spill and determine whether you have the appropriate equipment, PPE and training to tackle the spill.
2. Get the **HELP** you require to deal with the spill safely. Inform the work manager/site engineer of the spill. They will contact a spill contractor if required.
3. If the spill is located adjacent to the site on one of the roads/pathways used by members of the public, **PREVENT** pedestrians and traffic passing through the spill. Contact police headquarters if the spill is a risk to traffic.
4. **STOP** the source of the spill.
5. **CONTAIN** the spillage using either a spill kit or a suitable inert material e.g., sand. DO NOT allow the spill to enter the local drainage system or watercourses. Cover any drains and use spill socks to prevent run off into watercourses.
6. **REMOVE** the spillage. Small spills can be removed using a spill mat and/or granules; large spills mat require a pump from a specialist contractor.
7. **DISPOSE** of the waste material. The Principal Contractor has a Duty of Care to ensure all materials are disposed of at an appropriately licenced facility that is legally permitted to accept the waste. Used spill kits should be placed in a designated bin separate from all other types of waste. Do not put used spill kit material in any of the non-designated skips. Materials which have been pumped may be stored in an empty drum or another suitable container prior to removal.
8. **REPORT** the incident. If the spill has not been contained or has entered a drainage system/watercourse, inform NRW and Ceredigion County Council as soon as is practical. An incident report form should be completed as per the Principal Contractor's processes, but should include:
    - The date and time of incident;
    - A description of the incident including, but not limited to, what caused the incident, its location, what was the impact, who or what was involved, who was informed, and the weather conditions at the time;
    - Were statutory authorities contacted? If yes, who was contacted, when, and what was discussed and if not, why not;
    - How was the incident resolved, what mitigation was put in place, and who was informed; and
    - Lessons learnt.
9. **REVIEW** event to determine any actions required to prevent the incident from recurring. Review the effectiveness of the response plan and make amendments as necessary.

15. Site Waste Management

15.1 Waste and Waste Management Plan

15.1.1 Waste is defined in the Waste Framework Directive (75/442/EEC) as "any substance or object which the holder discards, intends to discard or is required to discard". This includes materials that other people may want, or materials for which a beneficial use can be found i.e. materials that are to be recovered /recycled. In any construction project, a variety of different wastes will be produced.

15.1.2 All workers are responsible for managing waste arising from their specific activities in order to prevent pollution and to meet or exceed legal requirements. The waste hierarchy is as follows:

- Eliminate - design out waste.
- Reduce - minimise waste generation.
- Reuse - materials on Site if possible.
- Recycle - reprocess materials for off-Site use.
- Recover - recovery of energy from waste sent off Site.
- Dispose - least desirable option, last resort.

15.1.3 Failure to comply is an offence as the "Duty of Care" is a legal requirement under Section 34 of the Environmental Protection Act 1990. 'Duty of Care' requires the producer to:

- Ensure those transporting waste are registered with NRW;
- Ensure the waste is being treated, re-used or disposed of at a suitably licensed site in line with current legislation;
- Keep a waste transfer slip for all waste being transported off Site;
- Ensure that all waste on Site is properly stored and secured; and
- Take all reasonable steps to prevent unauthorised handling or disposal by others.

15.1.4 As a waste producer the Site will:

- Apply the waste hierarchy to the management of waste and promote 'high quality' recycling;
- Present glass, metal, plastic, paper and card (including cardboard) for separate collection;
- Take care of the waste while it is held so it does not escape control;
- Ensure waste is transferred to someone who is authorised to receive it, for example, a registered waste carrier or waste manager with the relevant authorisation;
- Complete a waste transfer note for any transfer of waste, including a full description of the waste, and retain a copy of this note for two (2) years;
- Describe the waste accurately and provide information for the safe handling, transport, treatment, recovery or disposal by subsequent holders; and
- Take reasonable measures to ensure that waste does not cause pollution or harm to environmental/ human health.

15.1.5 The appointed Principal Contractor will be responsible for the following on-Site regarding waste:

- Identify waste on the Site which will require to be registered with NRW as an exempt activity;
- Waste must be stored in such a manner as to prevent its escape or scavenging by vandals, thieves, trespassers or children;
- Waste may only be carried by a person either registered with NRW as a carrier of controlled waste or who is exempt from holding such registration;
- The Contractor must identify wastes hazardous to human health or the environment. In these cases, a "Consignment Note" (which can be purchased from NRW) must accompany the movement of waste;
- Any waste leaving the Site will be accompanied by a Waste Transfer Note (WTN), which should be checked by the Site Manager for details such as, producer of the waste, site name, site location, description of the waste and European Waste Catalogue (EWC) number.

15.2 Roles and Responsibilities

15.2.1 All those who produce, or handle waste have legal responsibilities - a "Duty of Care" - for its safe keeping, transport and subsequent recovery or disposal. Ultimately all individuals on a construction site therefore have a duty to uphold this requirement.

15.2.2 The Site Manager is responsible for:

- Coordinating the provision of a waste and recycling facilities to be used on-Site;
- Signing waste transfer notes;
- Ensuring that all contractors are advised that they must comply with the Duty of Care and all legal requirements;
- Ensuring that all the contractors appointed to carry out waste removal activities meet the requirements of NRW as a waste carrier;
- Ensuring legal compliance of management systems for all wastes through monitoring and auditing;
- Monitoring and auditing all waste contractors as part of the development;
- Provision of appropriate training for all personnel who have responsibilities in waste management;
- Registering with the appropriate enforcement agencies as a waste producer; and
- Providing all relevant information relating to waste management to the appropriate enforcement agencies when requested.

16. Water Management Plan

16.1 Baseline

Surface Waters

16.1.1 Two (2) surface watercourses have been identified on-Site both unnamed and neither are designated as main rivers as per NRW. One (1) watercourse flows from north to south along the wooded area between the main field and the adjacent AD plant which discharges into the second watercourse at the southeastern corner of the Site. This secondary watercourse is described as the 'southern boundary stream' that flows to the south and ultimately discharges to the Afon Teifi approximately 2.3 km to the south. These features are described on Drawing L-5: 'Baseline Water Environment'.

16.1.2 The Afon Teifi comprises a designated SAC selected due to the various habitats and species that are present in the area.

Groundwater

16.1.3 The bedrock geology contains a Secondary B aquifer (ID: 19663) whilst the superficial deposits (where present in the eastern and southern parts of the Site) contains a Secondary (undifferentiated) aquifer (ID: 25773). The groundwater vulnerability map indicates that the Site area that not underlain by superficial deposits is designated as having a 'High' groundwater vulnerability whilst the remainer of the Site is designated to have a 'Medium - High' groundwater vulnerability.

16.2 Operational Drainage Strategy

16.2.1 A Drainage Statement [16] has been undertaken by Arthian for the Proposed Development. The assessment established that 64 % of the Site will be covered by hardstanding with the remaining 36 % comprising permeable soft-landscaped areas.

16.2.2 To avoid flooding due to the increase in surface water run-off it is proposed that on-Site flow control will be used with attenuation provided on-Site to accommodate storm event up to and including the 1 in 100 year plus 30 % climate change.

16.2.3 It is proposed that the surface water is discharged to the existing southern land drain at a restricted rate (5.5 l/s) via an attenuation storage that will be provided by an underground attenuation plan with a volume of 800 m^3. This proposed drainage strategy is subject to approval from the SAB of the LPA.

16.3 Watercourses

16.3.1 When working in or within 8 m of a watercourse, as a minimum a silt fence should be placed downstream of the activities. When working up gradient of any watercourse where run-off could impact the water, again as a minimum a silt fence will be placed downstream of the work activity.

[16] Weetwood Services Ltd, Flood Consequences Assessment and Drainage Statement, Ref.: v1.3, 16 December 2024

16.3.2 Silt fencing should be placed as close to the work front as possible to help reduce the run-off leaving the works area. Silt fencing should be place along any areas that slope down towards a watercourse and should be curved round at the edges. All silt fencing must be dug into the ground or weight down to prevent water/run-off going underneath the fencing.

16.3.3 Additional measures to be used when working in the vicinity of a surface watercourse or body will include:

- Ensuring that prior to starting works a visual assessment of nearby watercourses up and downstream of the Site is undertaken to determine baseline turbidity, discoloration, odour, and the presence of any indications of pollution, such as an oily sheen or scum;
- A control point for visual assessment should be established upstream of the works area. Visual checks should be completed from the same point as part of the daily on-Site checks;
- Construction time will be kept to a minimum within the vicinity of surface watercourses;
- Additional silt fencing can be placed along the banks of the watercourse if deemed necessary;
- Suitable screening/ shielding will be adopted to prevent spillage material from entering the river at all construction sites;
- All surface water drains and watercourses will be protected with cut off ditches or earth bunds. These will be situated at least 10 m from the watercourse, wherever required.

16.4 Pollution Prevention

16.4.1 The following measures will be implemented to minimise the risk of pollution to the water environment:

- Compliance with all relevant legislation and best practice guidance to minimise the risk of pollution;
- Construction activities will be restricted to the defined working areas within the contract documents;
- Any spills or environmental incident that may occur on-Site will be attended to in accordance with the appointed contractor's spillage response procedure;
- Measures shall be put in place to control/ treat or remove contaminated waters;
- It is anticipated that the Site will be allowed the use of the existing facilities associated with the existing AD plant;
- The Site contractor will ensure that all necessary pollution protection precautions are in place and functioning properly;
- All employees will be briefed on the risks of working near water and the potential to cause pollution both during the induction process and at specific toolbox talks thereafter;
- Site management will ensure that appropriate levels of spill kits, absorbent booms and silt fencing is available at all times to manage daily activities and to accommodate any potential incident/ emergency that may occur;
- Stockpiles of any soil or other aggregates will be located in areas where there is no risk of material washing out and contaminating watercourses. If required silt fencing will be erected at the foot of the stockpile to combat any potential;

- All plant and equipment will be subject to a daily check to include checks for any oil or fuel leaks; and
- All Site personnel will maintain a tidy site to minimise the risk of environmental incidents or pollution. All waste materials will be cleared from the work face and disposed of in segregated signed skips. Plant nappies will be positioned under all appropriate items of plant and any spillages will be disposed of at a suitably licensed waste facility.

16.5 Refuelling

16.5.1 Oil storage and refuelling areas will be clearly designated and isolated from surface water drains and surface water bodies. No refuelling will be undertaken within 10 m of a water body. Spill kits will be maintained with all plant working near water courses, and drip trays used during re-fuelling activities. All fuel tanks, containers and bunds will be regularly checked for leaks and damage.

16.5.2 A refuelling procedure along with a spill response procedure will be prepared and briefed to all operatives on Site. A copy of these procedures will be mounted on the bowsers for reference.

16.6 Control of Surface Water Run-off

16.6.1 Permanent SuDS should not be installed to manage Construction run-off. Specifically designed construction SuDS should be used instead. A construction SuDS design should assess the potential ingress of clean water into the Site and place appropriate mitigation in the form of a cut off drain along the highest part of the site to direct any clean water away from the site.

16.6.2 Construction SuDS should be used to manage the surface water run-off within the Site using a combination of the measures outlined below:

- **Grips on access tracks** - On unsurfaced sections of road it may be necessary to cut parallel diagonal grips across the working track surface to slowly redirect water flow.
- **Cut Off Drains** - In waterlogged areas or on gradients, in order to limit the flow of water and ponding at low points, cut off ditches may be used. These will be crescent shaped ditches starting at the access track and cut perpendicular to the tracks.
- **Silt Fencing** - Silt fencing acts as a temporary settlement control barrier to allow sufficient retention of silt laden run-off. This will consist of geotextile fencing installed perpendicular to water flow, in a crescent shape, or as appropriate to the topography or channel geometry.
- **Coir Matting** – Coir matting can be place along cut-off drains to protect the soil in from erosion caused by surface water run-off. Coir matting also encourage silt settlement acting as a natural barrier that traps sediment, including silt.
- **Settlement Lagoons and Swales** - In areas of increased volumes of water, temporary settlement lagoons or swales (construction SuDS) will be constructed to store several cubic meters of silty water.

16.6.3 Site staff will be aware of the importance of Site drainage and silt control. Regular inspections in the active work area will be made to ensure that any necessary changes are made. Inspections of the silt mitigation measures installed will be included within the weekly inspection undertaken by the Site Manager.

16.7 Wheel Washing

16.7.1 As the Site is in proximity to existing active roads there may be a requirement for wheel washing of vehicles to take place. Water from wheel washing areas can contain oil and diesel, as well as high levels of silt. Ensure that water from wheel washing facilities and wash down areas is contained and not allowed to soak into surrounding ground or into surface water drains. Drain guards can be used to protect surface water drains.

16.7.2 Water from wheel washing can be disposed of as wastewater either to foul sewer with prior, written consent from the water company and/or NRW; or as hazardous /special waste if it contains oil, diesel or petrol.

16.8 Fuel/ Oil and Hazardous Substances Storage

16.8.1 In Wales the storage of fuel, oil, and hazardous substances is regulated to prevent environmental pollution and ensure safety. The following regulations cover the requirements for storing fuel/oil and hazardous substances:

- Water Resources (Control of Pollution) (Oil Storage) (Wales) Regulations 2016: Covers the storage of oil to prevent water pollution.
- Environmental Permitting (England and Wales) Regulations 2016: Covers permits for storing hazardous waste and substances2.

16.8.2 The storage of fuel and oil during construction works is regulated under the Water Resources (Control of Pollution) (Oil Storage) (Wales) Regulations 2016. Storage requirements are detailed as below:

- Secondary Containment: Oil storage containers must have secondary containment (e.g., bunds or drip trays) to prevent leaks and spills from contaminating the environment.
- Capacity: The secondary containment must have a capacity of at least 110% of the largest container or 25% of the total volume stored, whichever is greater.

16.8.3 Petrol, diesel, and oils which are inappropriately used, stored or disposed of can lead to pollution of the environment through the following circumstances:

- Spillages during delivery to Site from supplier;
- Spillages during refuelling procedures;
- Spillages from hose bursts;
- Release of fuel due to inadequate storage facility;
- Excessive use of fuel or other material during works (over excessive use of shutter oil); and
- Incorrect disposal methods being implemented on-Site.

16.8.4 To prevent any of the above situations arising and to mitigate any potential impacts should these occur, the following measures should be implemented on-Site:

- Compliance with all relevant legislation and Best Practice guidance with respect to the control and storage of all fuel, drums and containers or other potential contaminants;

- Minimum levels of fuel appropriate to on-going site activities only will be stored on site at any one time. These shall be stored in secure designated storage areas and in accordance with the appropriate regulatory requirements, including the Control of Substances Hazardous to Health (COSHH) Regulations 2002[17];
- All refuelling will be carried out in the designated area where possible;
- Refuelling areas will be located away from any sensitive environmental receptors, preferably on an impermeable base, in an easily accessed area for deliveries and be secured against damage, theft or vandalism;
- A copy of the Spillage Response Procedure and the Site-specific Refuelling Procedure Method Statement will be displayed at the refuelling area and on the site notice board;
- Filler handles should be auto-shutoff trigger spring as per garage pumps to avoid any potential for over filling. Filler nozzle and hose should be retained in the bunded refuelling area at all times;
- In order to prevent materials leaking from static plant, such as pumps and generators, contaminating the ground and being washed into watercourses, static plant shall be placed on drip trays wherever practicable;
- All large plant on-Site will carry a spill kit and whilst refuelling a large spill kit will be to hand;
- All stores containing oil or other hazardous substances will be established in a bunded area and kept a minimum distance of 30 m from watercourses;
- All hazardous substances (COSHH) will be kept in secure stores when not in use;
- There will be the requirement to dewater working areas and excavations. Discharge of dirty water from excavations into watercourses or drainage channels will be prohibited. Discharge should be over large areas of land to allow it to be filtered with additional measures such as silt traps, hay bales and silt socks for the ends of pipes; and
- Any oil or similar material shall be cleaned away immediately if spilled, using appropriate absorbent material to prevent it entering any local watercourse. Oil spill kits shall be provided and training on their use given to all site personnel.

16.9 Concrete Use

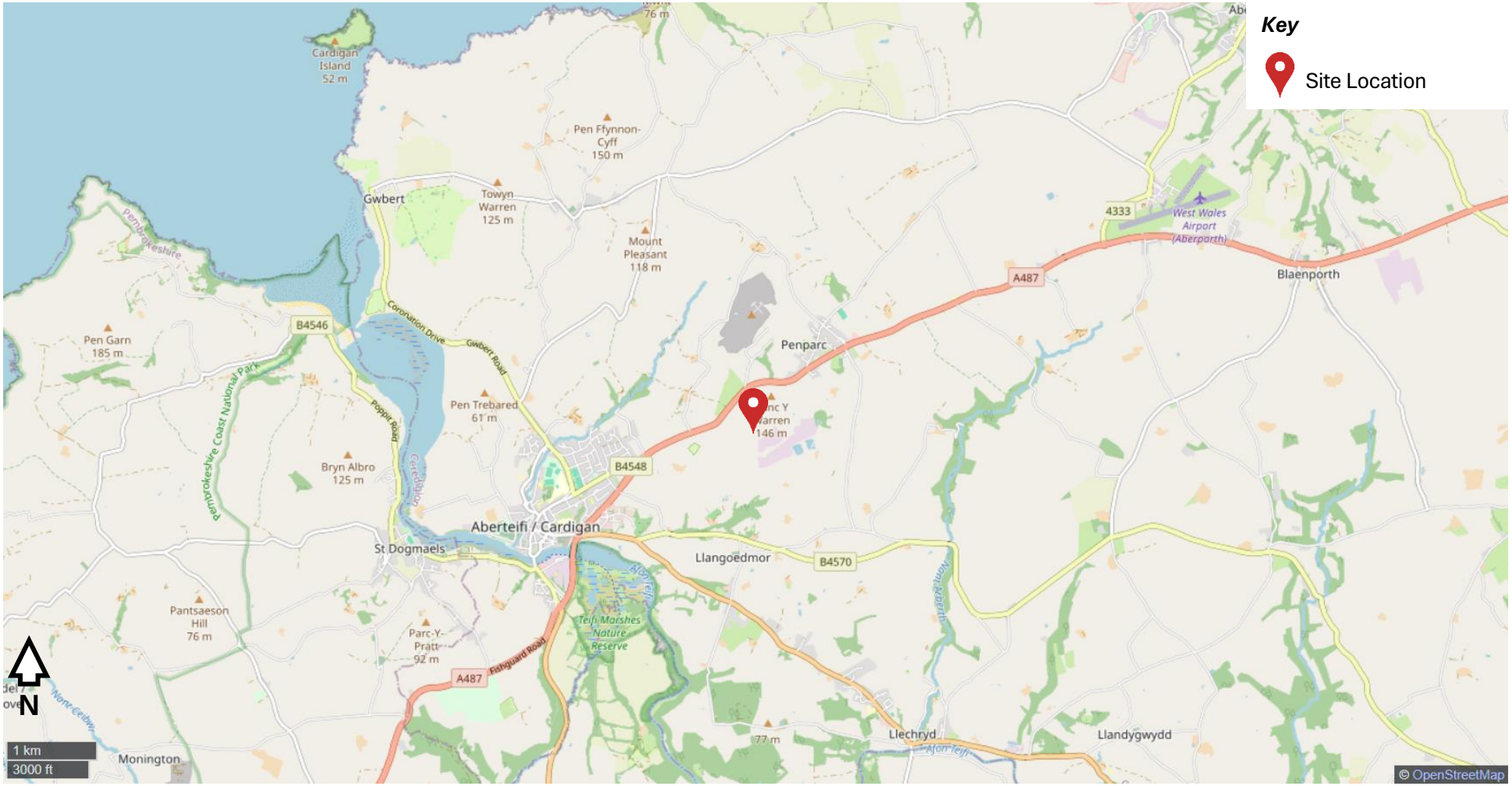
16.9.1 Concrete wash water typically has a high pH, ranging from 12 to 13, due to the presence of calcium hydroxide and other alkaline compounds produced during the cement hydration process. Proper disposal of concrete wash water is crucial to minimize environmental impact. The following measures should be implemented in relation to concrete use on-Site:

- All concrete to be used during construction of these works will be delivered by road tanker from local suppliers, avoiding the need for mass storage of cement on-Site;
- Quantities required for each pour will be accurately calculated to avoid unnecessary surplus material being delivered;
- Any shuttering and formwork will be sealed to ensure that there is no grout loss into the surrounding soil or adjacent watercourses;
- Wash-down water will be kept to a minimum and will be contained within a bunded and lined settlement pond (a concrete washout) which will be constructed in a suitably selected location;

[17] The Control of Substances Hazardous to Health Regulations, October 2002.

- Hardened concrete from the concrete washout can be crushed and reused as aggregate in new concrete mixes. Washout water can be treated and reused, though this process is more complex and costly; and
- Alternatively, a professional disposal service may be hired to ensure that concrete waste is handled safely and in compliance with environmental regulations or a local recycling facility may accept concrete waste and process it into reusable materials.

Drawings



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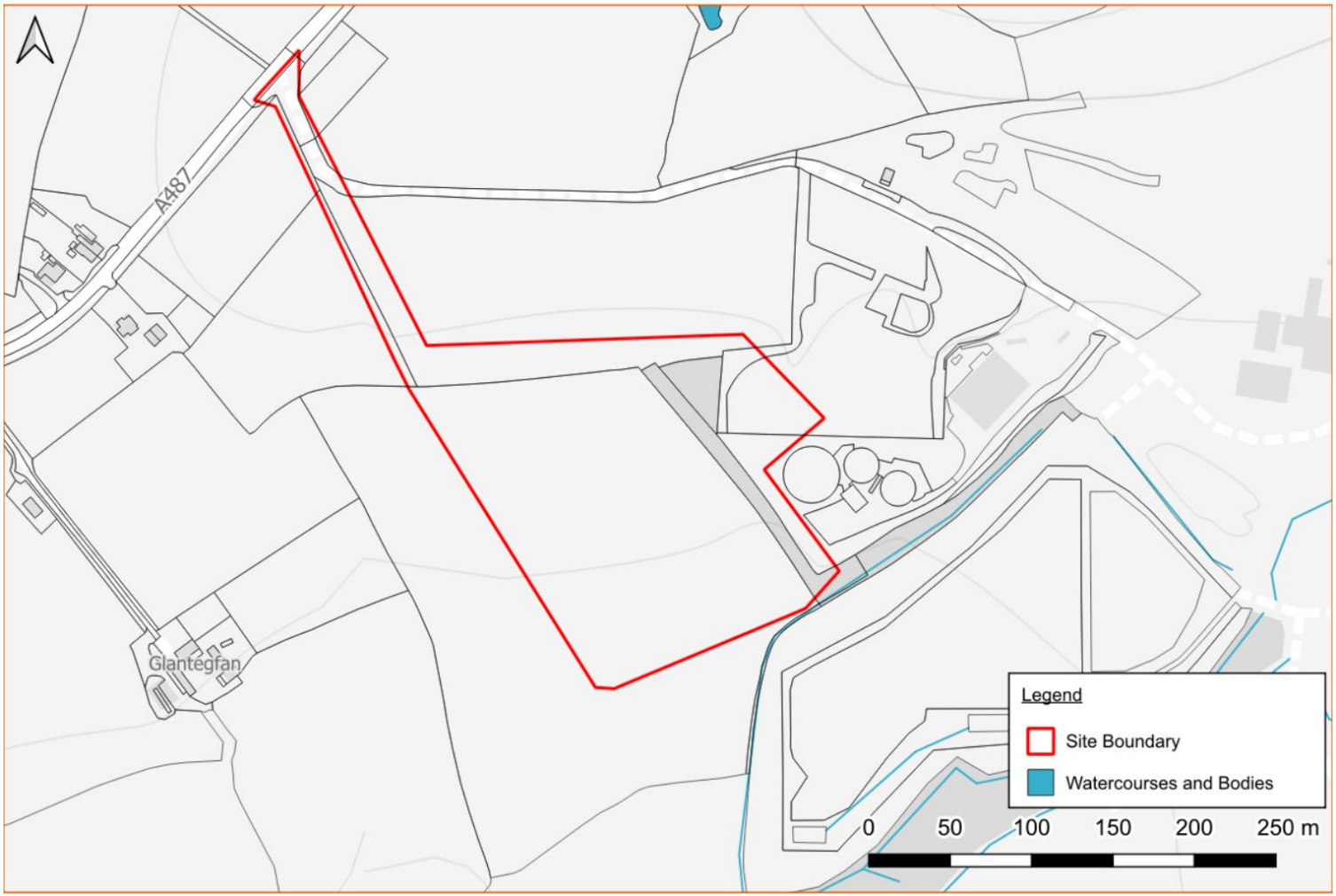
Drawing Title:	L-1 Site Location Plan				Project No:	314766	
Site:	Land at Crugmore Farm, Penparc, Cardigan, SA43 1QY, UK						
Client:	Stepside Agricultural Contractors						
Revision 1	Drawn	SD	Checked	CI	Approved	CI	
Revision 2	Drawn		Checked		Approved		



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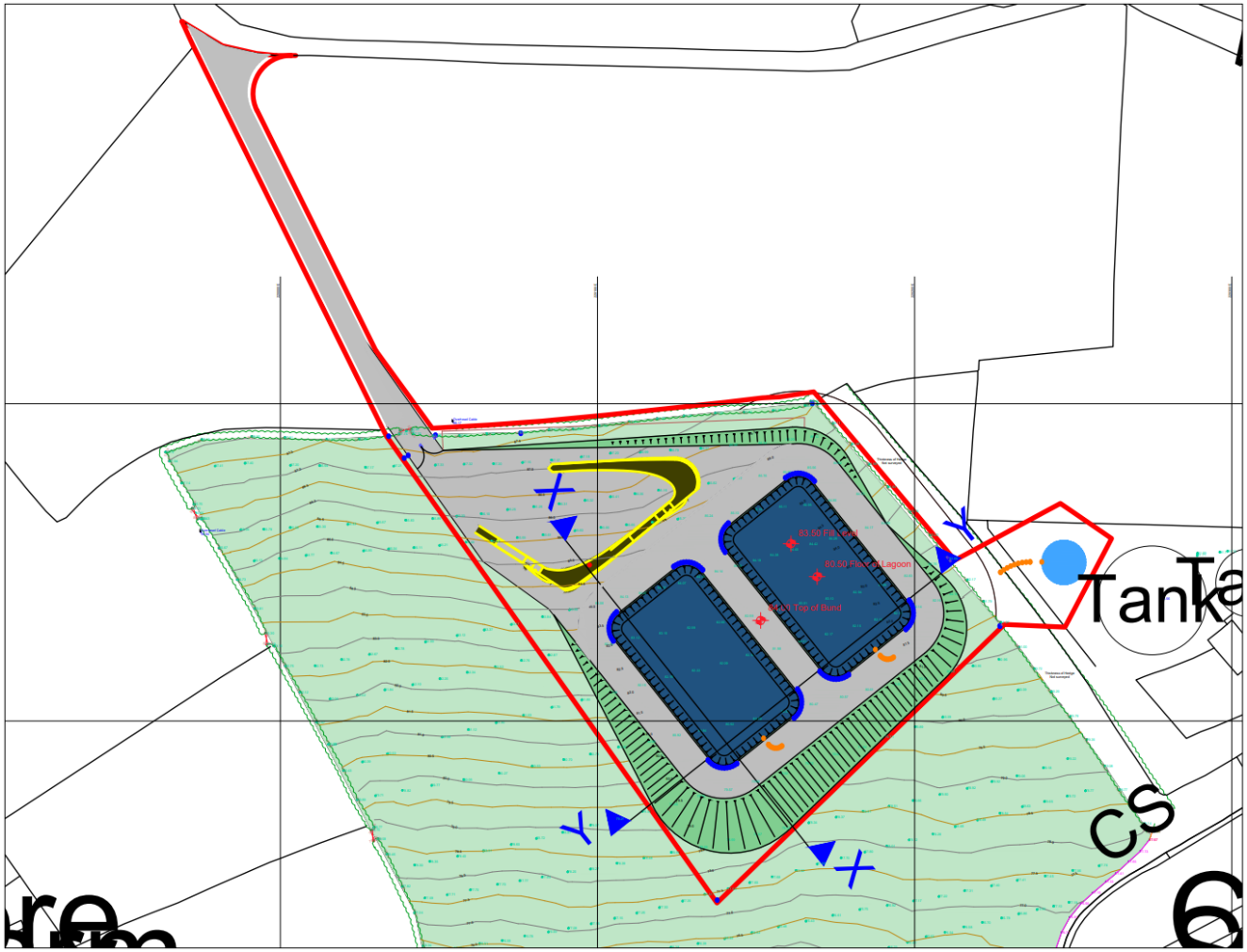
Drawing Title:	L-2: Site Boundary Plan			Project No:	314766	
Site:	Land at Crugmore Farm, Penparc, Cardigan, SA43 1QY, UK					
Client:	Stepside Agricultural Contractors					
Revision 1	Drawn	SD	Checked	CI	Approved	CI
Revision 2	Drawn		Checked		Approved	



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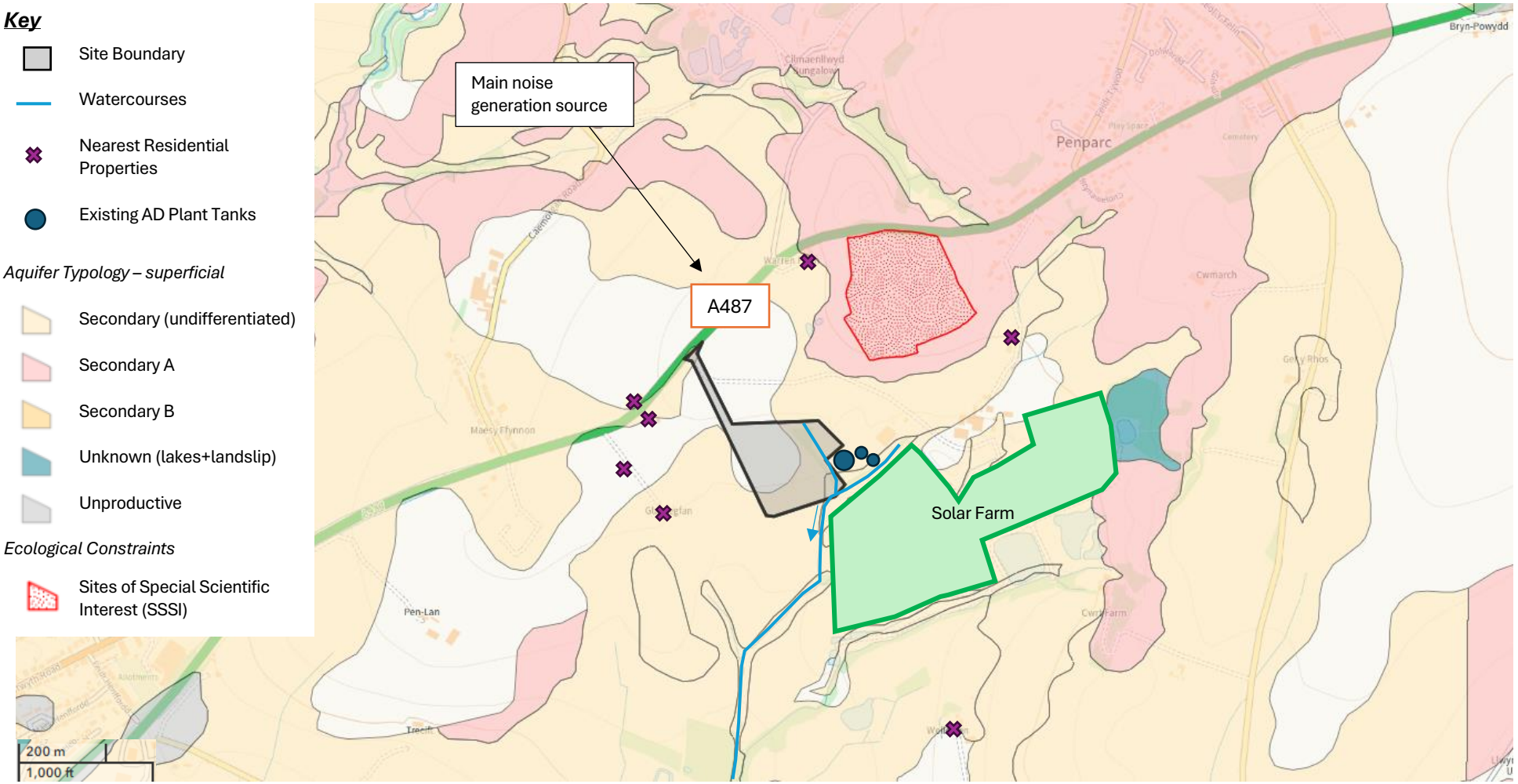
Drawing Title:	L-3: Proposed Development Plan			Project No:	314766	
Site:	Land at Crugmore Farm, Penparc, Cardigan, SA43 1QY, UK					
Client:	Stepside Agricultural Contractors					
Revision 1	Drawn	SD	Checked	CI	Approved	CI
Revision 2	Drawn		Checked		Approved	



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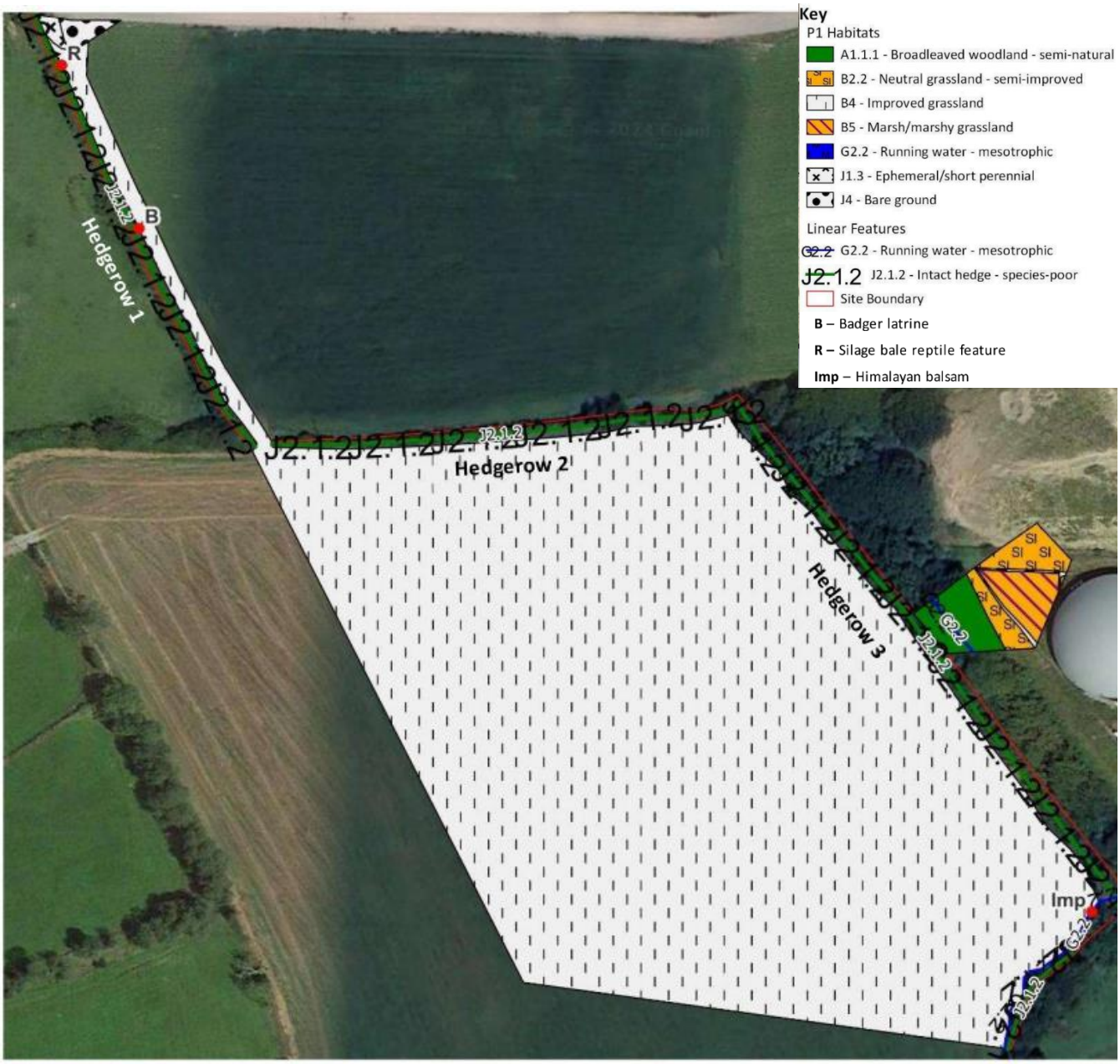
Drawing Title:	L-4: Key Constraints Plan			Project No:	314766	
Site:	Land at Crugmore Farm, Penparc, Cardigan, SA43 1QY, UK					
Client:	Stepside Agricultural Contractors					
Revision 1	Drawn	SD	Checked	CI	Approved	CI
Revision 2	Drawn		Checked		Approved	



LANDSKER ECOLOGY

Arthian

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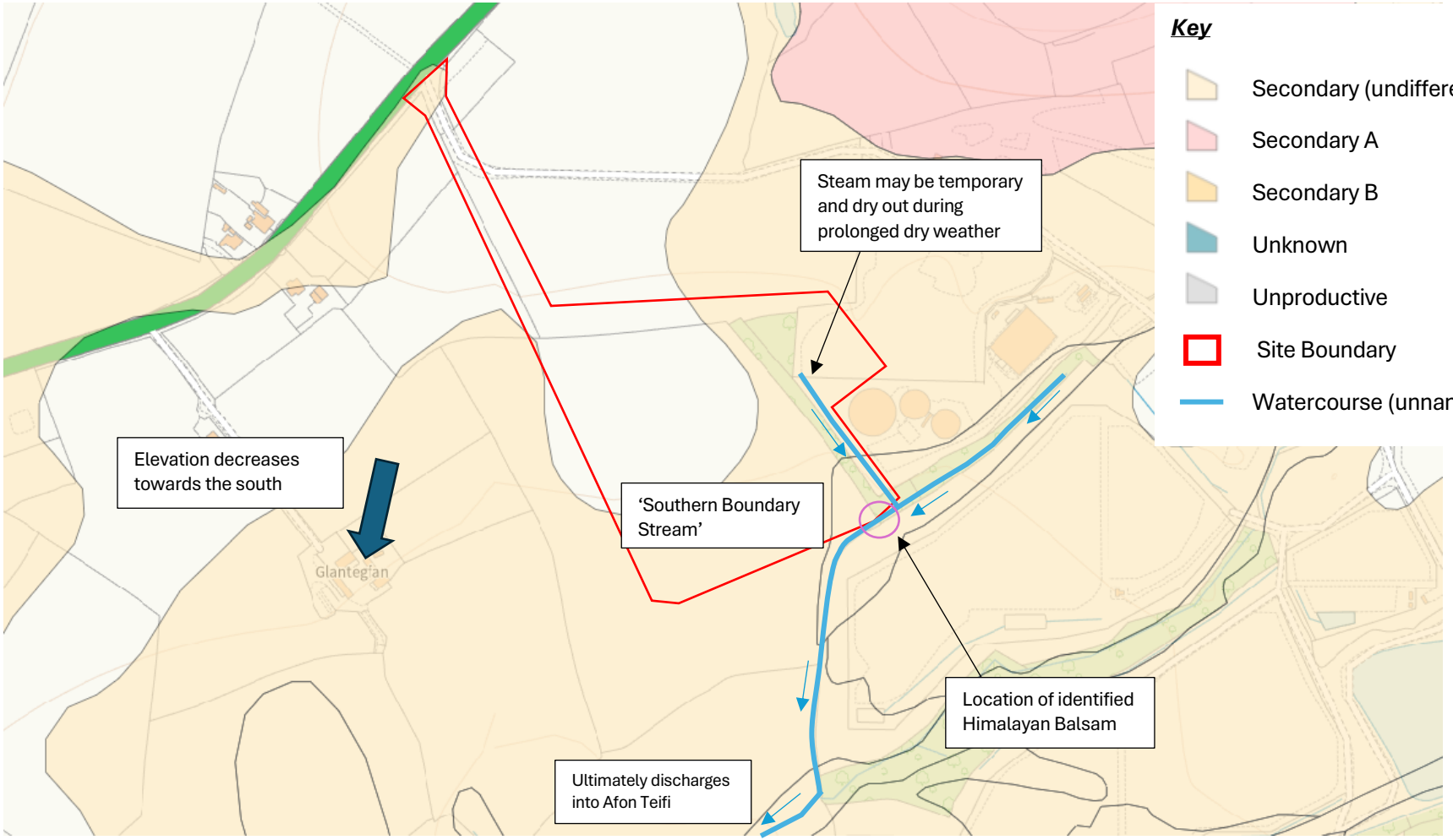
Drawing Title:	L-5 : Phase 1 Habitat Map		
Site:	Land at Crugmore Farm, Penparc, Cardigan, SA43 1QY, UK		
Client:	Stepside Agricultural Contractors		
Project No:	314766		
Revision	Drawn	Checked	Approved
Revision 1	SD	CI	CI
Revision 2			



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Drawing Title:	L-5: Baseline Water Environment			Project No:	314766	
Site:	Land at Crugmore Farm, Penparc, Cardigan, SA43 1QY, UK					
Client:	Stepside Agricultural Contractors					
Revision 1	Drawn	SD	Checked	CI	Approved	CI
Revision 2	Drawn		Checked		Approved	