Dean Moor
Solar Farm

Environmental Statement: Appendix 5.1 – Outline Construction Environmental Management Plan

on behalf of **FVS Dean Moor Limited**

March 2025
Prepared by: Stantec UK Ltd
PINS Ref: EN010155
Document Ref: 6.3
Revision: 1

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DEAN MOOR SOLAR FARM
ENVIRONMENTAL STATEMENT
APPENDIX 5.1 – OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN
PLANNING INSPECTORATE REFERENCE EN010155
PREPARED ON BEHALF OF FVS DEAN MOOR LIMITED

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, Regulation 5(2)(a)

Project Ref:	**EN010155/ES/Appendix 5.1: OCEMP**
Status:	Final
Issue/ Rev:	1
Date:	March 2025

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1 Introduction

1.1 Overview

1.1.1 This Outline Construction Environmental Management Plan ('OCEMP') has been prepared for FVS Dean Moor Ltd (the 'Applicant') to support the DCO application for the Dean Moor Solar Farm (the 'Proposed Development') located between the villages of Gilgarran and Branthwaite in West Cumbria (the 'Site'), which is situated within the administrative area of Cumberland Council (the 'Council'). The Proposed Development will be within the 'Order Limits' (the land shown on the Work Plans) [**REF: 2.3**] within which the Proposed Development can be carried out. For the purpose of this OCEMP, the terms 'Order Limits' and 'Site' are used interchangeably.

1.2 Purpose of this Document

1.2.1 The purpose of this OCEMP is to provide an outline of the responsibilities, controls, and environmental management measures which will be undertaken and implemented for the Proposed Development to avoid or mitigate impacts from construction.

1.2.2 An Environmental Impact Assessment ('EIA') has been undertaken to determine the likely significant effects of the Proposed Development during the construction phase, with the assessment results detailed in topic-specific chapters of the ES and their appendices. The ES reflects the outcomes of multidisciplinary surveys, studies, and assessments, as well as the input of stakeholders through formal and informal consultation. The ES contains a range of best practice and industry standard measures to mitigate impacts of the construction of the Proposed Development. This OCEMP has been prepared to provide governance for the Proposed Development via mitigation measures and monitoring described within the ES to ensure these are implemented effectively.

1.2.3 Prior to the construction of any part of the Proposed Development, the Applicant must produce a CEMP for that part of the Proposed Development, that must be substantially in accordance with this OCEMP.

Preparation of the CEMP is secured by a DCO Requirement and will be submitted for approval by the Council. The construction of any part of the Proposed Development must be carried out in accordance with the approved CEMP for that part.

1.2.4 Any CEMP approved will be a 'live' document and will be updated as required. Existing management measures and mitigation outcomes will not be amended without the prior agreement of the Council.

1.2.5 This OCEMP sets out principles and measures to be implemented based on information which will become more fully available in pre-commencement such as a detailed layout, updated ecological surveys, and ground investigation outcomes, which would be incorporated within, and inform the measures within, the CEMP.

1.2.6 For the purposes of the OCEMP, the 'Principal Contractor' is defined as per the Construction, Design and Management (CDM) Regulations[1] as *'the contractor with control over the construction phase of a project involving more than one contractor'.* The 'Client' is defined in the CDM Regulations as *'any person for whom a project is carried out'*. Within this document, this CDM role is equivalent to the Applicant (as defined in 1.1.1).

1.2.7 While this document may reflect aspects of the CDM Regulations, it has been prepared with the intention of providing the foundation of a CEMP that will be used by the Principal Contractor and the Applicant in a CDM compliant construction project, although supplemental to, and separate from, the documentation of a CDM regime duty-holder. This OCEMP does not seek to cover off matters that are under the purview of the Health and Safety regime that are addressed via CDM.

1.3 Structure of this Document

1.3.1 This OCEMP first sets out the roles, responsibilities, and requirements which would apply to the construction phase. Sections 5-12 set out the

[1] Health & Safety Executive (2015). The Construction (Design and Management) Regulations 2015.

environmental risks and potential impacts and proposed management measures to avoid or mitigate these effects, as identified in the ES.

1.3.2 The OCEMP is structured as follows:

- **Section 1 – Introduction**: An introduction and overview to this document and its purpose / structure.
- **Section 2 – Roles and Responsibilities**: Summary of the key roles and responsibilities of the construction phase.
- **Section 3 – The Site and Proposed Development**: Summary of the location and description of the Proposed Development, the likely construction activities, programme, and information about the construction compounds.
- **Section 4 – General Requirements**: Outline of the general construction requirements relevant to the Proposed Development, including core working hours, training and inductions, best practice guidance, site security, environmental incidents and emergencies, and lighting.
- **Section 5 – Ecological Management**: Summary of the environmental risks and outline of management and mitigation measures for habitats, species, and arboriculture.
- **Section 6 – Arboricultural Management Strategy**: Summary of the risks to trees and hedgerow within the Site and outlines mitigation and protection measures.
- **Section 7 – Control of Noise and Vibration**: Summary of the environmental risks and outline of management and mitigation measures for noise.
- **Section 8 – Control of Air Pollution**: Summary of the environmental risks and outline of management and mitigation measures for air quality.
- **Section 9 – Materials Handling and Waste Management**: Summary of the risks and mitigation measures in relation to materials handling and waste management.
- **Section 10 – Pollution and Contamination Prevention**: Summary of the management and outline of mitigation measures to prevent and manage pollution and contamination events caused by construction.
- **Section 11 – Ground Conditions Management**: Summary of the management and outline of mitigation measures for ground conditions, including unexpected contamination, peat, coal mine entries, and soils.
- **Section 12 – Surface Water and Flood Risk Management**: Summary of the environmental risks and outline of management and mitigation measures for surface water and flood risk management.
- **Section 13 – Community and Stakeholder Engagement**: Outline of the procedure for engaging with the local community and stakeholders, such as complaints handling.

- **Section 14 – Maintenance and Monitoring Activities**: Outline of the procedures for monitoring the implementation of measures and compliance with the CEMP.

1.3.3 The OCEMP is supported by the following appendices:

- **Appendix A – Framework of Legislation**: Sets out the relevant legislation;
- **Appendix B – Best Practice Guidance**: Sets out the relevant best practice guidance with which the construction phase will accord;
- **Appendix C – Outline Complaints Log**; and
- **Appendix D – Construction Phase Mitigation:** Provides a table setting out the environmental effects as identified in the ES and how/where they relate to measures set out within this OCEMP.

1.4 Complementary Plans and Cross-Cutting Issues

1.4.1 The CEMP will sit alongside a suite of documents that will be provided pre-commencement in accordance with the DCO Requirements. The CEMP will deal with environmental measures related to construction mitigation to limit effects on biodiversity, landscape and visual amenity, the aquatic environment, noise, air quality, and ground conditions effects. The CEMP should be read alongside other topic-specific management plans finalised prior to construction. Outline versions of these management plans have been prepared, and are listed below:

- **OCTMP** – The Outline Construction Transport Management Plan including a Framework Construction Workers Travel Plan ('FCWTP') (ES Appendix 5.2) [**REF: 6.3**]. This plan outlines the measures to manage construction traffic and access matters and describes mitigation to minimise impacts on existing users of the public highway network and receptors in proximity.
- **OSMP** – The Outline Soil Management Plan (ES Appendix 5.3) [**REF: 6.3**]: This plan supports the conservation of soil resources and details the methods of soil handling to be implemented during the construction phase to for the benefit of soil quality and quantity.
- **OLEMP** – The Outline Landscape and Ecological Management Plan (ES Appendix 7.7) [**REF: 6.3**]: This plan complements the Landscape Strategy Plan ('LSP') (ES Figure 7.6.1-7.6.5) which will be updated in final design. The LEMP will also set out how the Proposed Development will be maintained and monitored to support the minimum Biodiversity Net Gain (BNG) outcomes as established in the BNG Report.
- **AMS** – The Archaeological Mitigation Strategy ('AMS') (ES Appendix 6.3) **[REF: 6.3]** details the agreed arrangements with regards to

further archaeological fieldwork to be undertaken the pre-commencement and construction phases.

2 Roles and Responsibilities

2.1.1 Key roles and responsibilities during construction will be assigned in the pre-construction phase. These are likely to include, but are not limited to, the following roles:

- Principal Contractor;
- Project Manager;
- Site Manager;
- Environmental specialists; and
- Community Liaison Manager.

2.1.2 The CEMP will set out the agreed roles, responsibilities, and actions required in respect of implementation of the measures described in this OCEMP. This section will be updated in the CEMP with an organogram showing team roles, names, and responsibilities, as well as the appropriate experience for the relevant personnel on environmental topics.

2.2 The Principal Contractor, Project Manager, and Site Manager

2.2.1 The Principal Contractor ('PC') will have control over the construction phase and will have overall responsibility for ensuring that measures are implemented in accordance with the CEMP. The PC may manage several contractors or teams including the appointed Engineering, Procurement Construction ('EPC') Contractor(s) and Independent Connections Provider ('ICP'). Key PC roles include:

- The PC's Project Manager ('PM') will have overall responsibility for the performance of the contract and the safe construction of the project with responsibility for safeguarding the environment and ensuring compliance with health and safety and environmental legislation.
- The Site Manager will report to the PM and will have overall responsibility for the operation of construction activities. The Site Manager will delegate tasks to supporting staff as appropriate but will have ultimate day-to-day oversight of all suppliers and subcontractors.

2.2.2 Where reference is made within this document to a responsibility of the PC, it should be assumed that this responsibility could fall under the roles outlined above which are under the purview of the PC.

2.2.3 The Development Manager would be a function which will either be under the responsibility of the Applicant or the PC, or a hybrid of both. This function will cover the following:

- Provide advice and liaise with the PM and Site Manager to ensure that environmental risks are identified and that appropriate controls are developed and included within method statements and risk assessments.
- Identify environmental competence requirements for all personnel working on the project and ensure delivery of environmental training to personnel within the project team:
  - Obtaining the necessary environmental consents including protected species licenses or watercourse consents (where necessary);
  - Liaising with key stakeholders such as the Council (as the LPA for the Site), the EA, NE, the local community, and other stakeholders;
  - Regularly revising and updating the CEMP and specialist procedures and identifying any areas for improvements;
  - Maintenance of environmental records including those resulting from regular inspections as outlined by this OCEMP;
  - Review method statements for environmental aspects and advise the PM as to their suitability; and
  - Act as a main point of contact between the PC, the Applicant, relevant stakeholders, and other stakeholders on environmental and amenity issues.

2.3 Community Liaison

2.3.1 The Applicant will be supported by a community liaison function (referred to herein as the Community Liaison Manager). This will be a person or team within the Applicant's team or a specialist company working on their behalf. The community liaison function would be responsible for facilitating public engagement such as regular Community Liaison Group ('CLG') meetings, ensuring information is published and appropriately disseminated to local stakeholders, keeping the project website and social media up to date, and to act as the first point of contact with the parish councils and local residents.

2.4 Environmental Specialists

2.4.1 Via the PM and Site Manager the Principal Contractor will have ultimate responsibility for on-boarding and ensuring construction proceeds in

accordance with the requirements of the CEMP and environmental best practice including relevant legislation. This will be achieved by integrating environmental specialists into the project delivery team. These specialists are likely to include the Ecological Clerk of Works ('ECoW'), Project Arboriculturalist (also known as the Arboricultural Clerk of Works ('ACoW')), Project Archaeologist (if applicable), Project Hydrologist, the Soil Specialist, and the Transport Advisor. In some cases, these specialisms would be more than one individual, but they are referred to herein in relation to their function as part of the delivery team. As set out in Section 7.5 of the OCTMP, the role of Construction Staff Travel Coordinator would be fulfilled to promote sustainable transport options to all contractors.

2.4.2 The specialists will likely have all been involved in the project in advance of the construction commencement as their work (or their team's work) will have fed into the final design and the production of management plans relying on their expertise. Nevertheless, the CEMP will be designed to allow any topic expert to step in and avoid the risk of reliance on a particular individual. The specialists will report to the PC via the PM and/or Site Manager and be responsible for:

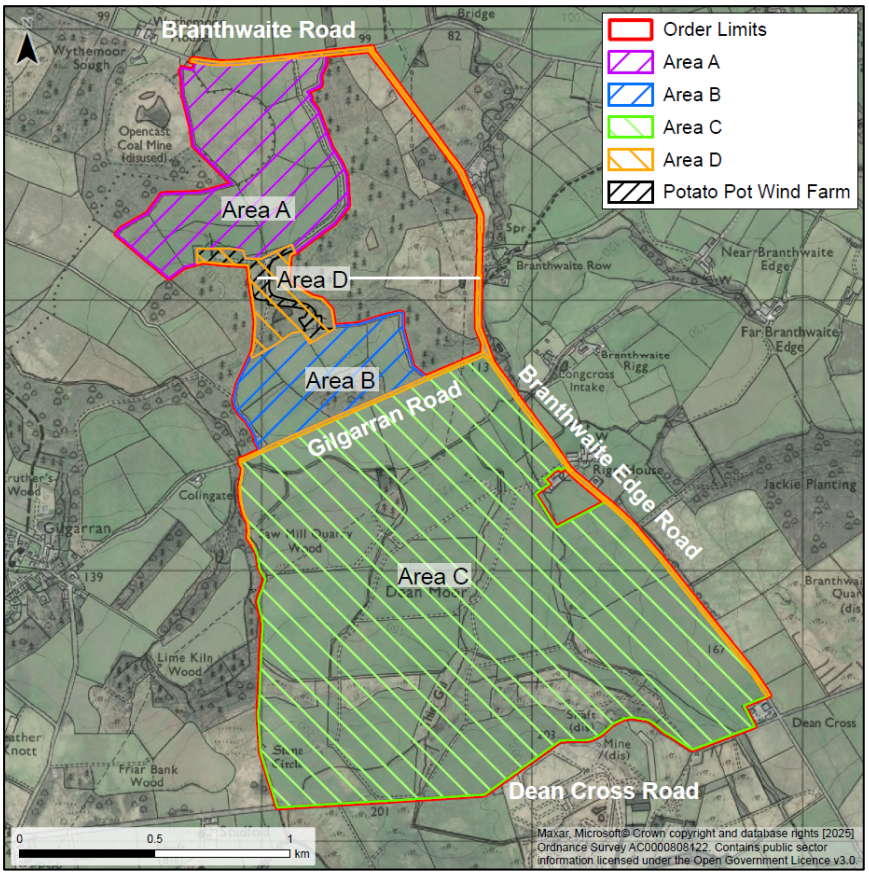
- Supporting and advising the Applicant and PC in liaison with external parties including relevant stakeholders and other stakeholders;
- Responsible for ensuring measures from the CEMP relevant to their topic area are implemented, maintained, and monitored, with records to be maintained to document compliance and where corrective actions have been taken;
- Acting as a main point of contact for relevant stakeholders on environmental issues; and
- Providing Site supervision, advice, and toolbox talks to Site Manager and personnel.

3 The Site and Proposed Development

3.1 The Site

3.1.1 The Site is located between the villages of Gilgarran and Branthwaite in West Cumbria (see ES Figure 1.1) [**REF: 6.2**], which is situated within the administrative area of Cumberland Council. The Site is described in full in ES Chapter 3 – Site and Proposed Development **[REF: 6.1]**.

Figure 3.1: Solar Farm Area Plan (Extract of ES Figure 3.1)



3.1.2 For ease of reference the Site is divided primarily into four areas referred to as Areas 'A', 'B', 'C', and 'D', as shown on Figure 3.1 of the ES [**REF: 6.2**] and listed below:

- **Area A** – Land south of Branthwaite Road (approximately 40.2ha);
- **Area B** – Land south of Branthwaite Road and north of Gilgarran Road (approximately 19.9ha);
- **Area C** – Land south of Gilgarran Road and north of Dean Cross Road (approximately 203ha); and

- **Area D** – Land connecting Areas A and B, including Potato Pot Wind Farm (the 'Wind Farm'), Gilgarran Road between Areas B and C, and Branthwaite Edge Road (approximately 13.4ha).

3.2 The Proposed Development

3.2.1 The Proposed Development comprises the construction, operation, and decommissioning of a solar photovoltaic ('PV') energy generating station with a total capacity exceeding 50 Megawatts ('MW') comprising solar PV arrays, grid connection infrastructure, associated infrastructure, and green infrastructure.

3.2.2 The principal components of the Proposed Development include:

- Solar PV panels;
- Solar PV array mounting structures;
- Power Conversion System ('PCS') units in the form of Inverters and Transformers;
- Grid Connection Infrastructure comprising Customer and DNO Substation buildings and external electrical equipment and ancillary infrastructure within a Security Fence;
- Perimeter fencing, gates, CCTV cameras, electrical cabling, and other associated infrastructure;
- Access from the highway and internal access tracks; and
- Green infrastructure including landscape planting and ecological enhancements.

3.2.3 A full description of the Proposed Development is included within ES Chapter 3 – Site and Proposed Development Description. The CEMP will include sufficient context regarding the Site and Proposed Development to enable this document to be read and understood as a standalone document to be used without requiring reference to the ES.

3.2.4 The Parameter Plan (Figure 3.2) represents the maximum extent of elements of the Proposed Development assessed within the ES. In the production of the CEMP, this plan will be replaced with the final layout and other design documents (e.g. elevation/section plans) that may be relevant. The Parameter Plan as extracted below should be read alongside the Design Parameters Document ('DPD') [**REF: 5.7**] which sets out the guiding 'design parameters' for the detailed design of the Proposed Development and is secured by Requirement [3] the of draft DCO.

Figure 3.2a: Parameter Plan (Areas A, B and D) (Extract of ES Figure 3.4a)

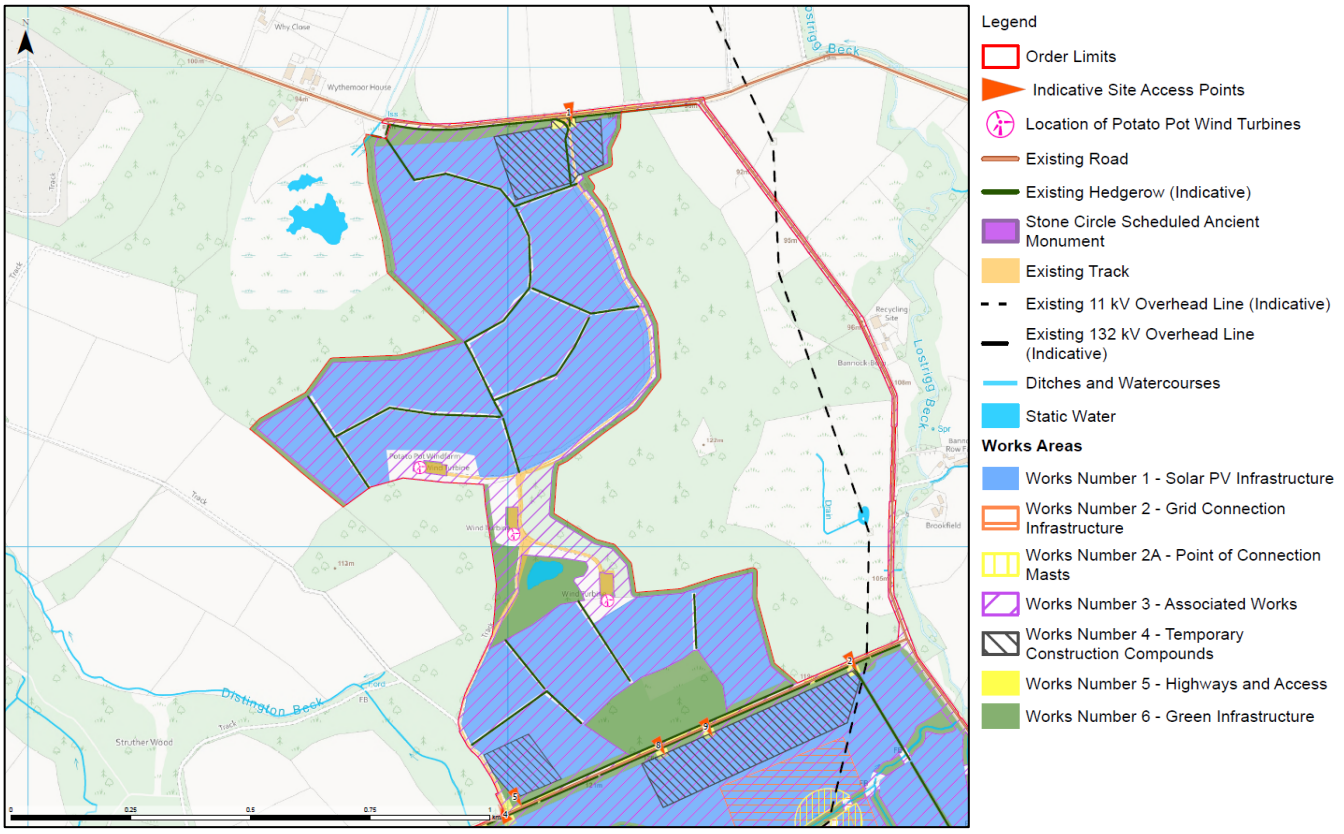
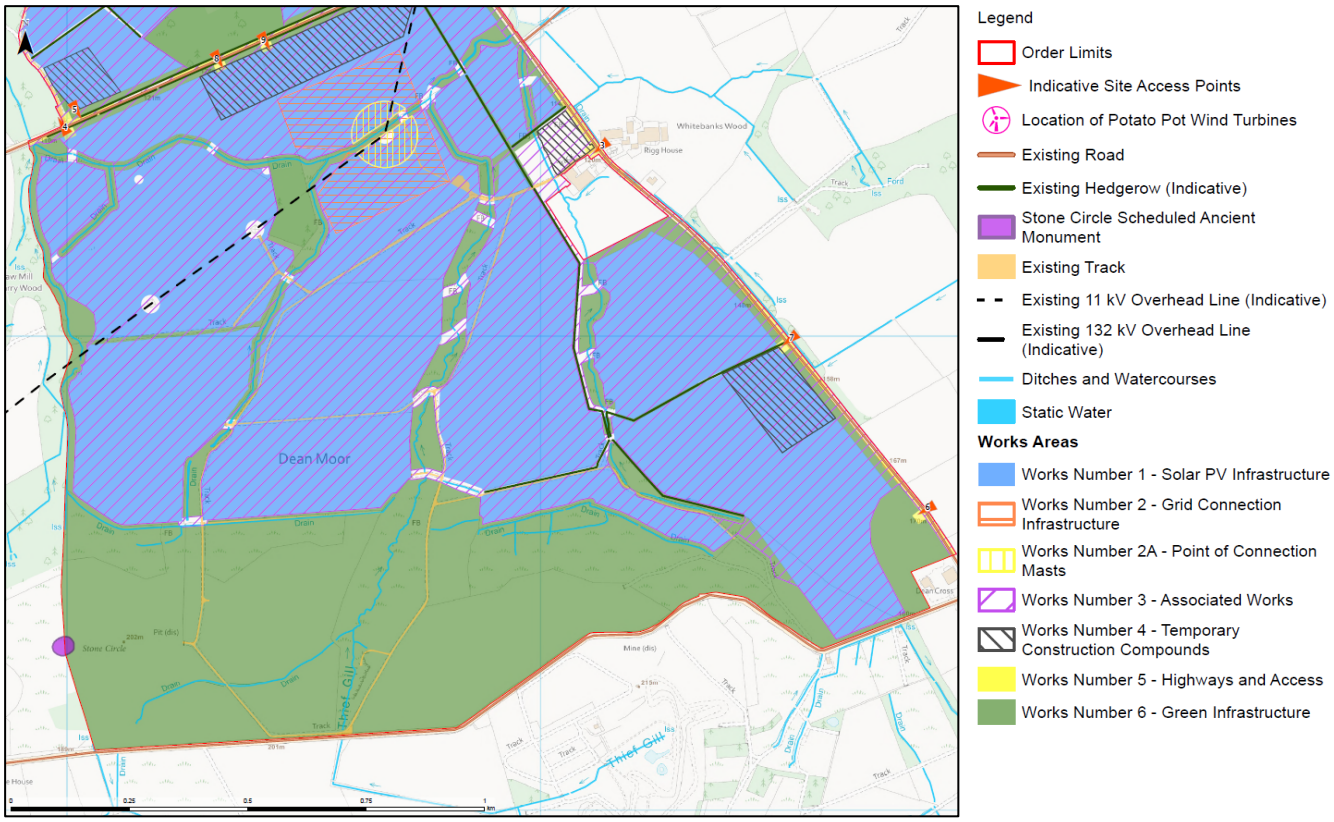


Figure 3.2b: Parameter Plan (Area C) (Extract of ES Figure 3.4b)



3.3 Works Programme

3.3.1 The earliest construction of the Proposed Development could commence is 2026, and for the purpose of the ES assessment, the construction phase has been assessed in the ES as spanning 18 months. This is considered to be a reasonable worst-case (most intensive) scenario, by virtue of environmental considerations such as (but not limited to) traffic, soil management, surface water management, and noise.

3.3.2 However, it is considered reasonable that the construction phase could last for longer than the 18 months assessed within this ES, in the event Site conditions (e.g. waterlogging over an extended period) restricts construction progress. A longer construction phase will reduce the intensity of construction activities on-Site, therefore reducing the likelihood of negative environmental outcomes on considerations such as soil resources and traffic.

3.3.3 Table 3.1 provides an indicative construction programme in Gantt chart form as well as likely construction activities and helps identify the anticipated overlaps in the different construction stages.

Table 3.1: Indicative Construction Programme Gantt Chart

	Month																	
Summary of Works	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Site establishment and enabling works, including the implementation of accesses, perimeter fencing and environmental protection measures;																		
Implementation of temporary construction facilities, temporary security measures, and internal access tracks;																		
Deliveries and construction of the generating station including the installation of mounting framework, solar panels, and ancillary units;																		
Deliveries and construction of Grid Connection infrastructure (Work No. 2);																		
Cable trenching, ducting, and backfilling to connect solar generating equipment to the grid connection equipment and from this to the existing 132kV overhead lines;																		

	Month																	
Summary of Works	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Testing and commissioning of the generating station and Grid Connection Infrastructure;																		
Snagging, restoration / landscaping, demobilisation of temporary works.																		

3.4 Construction Compounds

3.4.1 Secure temporary construction compounds will be used to store materials and provide welfare facilities during construction. There will be up to five temporary construction compounds consisting of Primary Compounds and Secondary Compounds, to be located immediately adjacent to Site access points within the areas defined by Work No. 4 – Temporary Construction Compounds [**REF: 2.3**] Work Plans, as well as on Figure 3.2(a-b) above. The CEMP will include the locations of the compounds and their general arrangements within.

3.4.2 Primary Compounds are the main hubs for construction activities on the Site. The Site will have up to two Primary Compounds which may include the following temporary facilities:

- Site management cabins;
- Materials storage;
- Waste management;
- Welfare;
- Plant and machinery;
- Security measures;
- Internal access tracks;
- Worker car parking and minibus parking;
- Facilities to accommodate HGV deliveries;
- Wheel washing facilities (where appropriate); and
- Power requirement (fuel and hybrid (solar and fuel) generators).

3.4.3 Secondary Compounds will be at a reduced scale and functionality compared to Primary Compounds. They would be utilised for only ad-hoc HGV deliveries for targeted items and limited irregular worker parking and

will include welfare and waste management facilities, but not Site management cabins.

3.4.4 The compounds will be established on a permeable aggregate over a geotextile membrane and will be surrounded by temporary fencing, comprising heras fencing with CCTV units installed along the perimeter. Temporary lighting may also be installed as part of security measures, with further details on the use of lighting during construction provided in section 4.7. Other measures include a security hut to be installed at the compound accesses.

3.4.5 Primary and Secondary Compounds are likely to be in place for the majority of the construction phase with staged demobilisation happening only near completion of substantive construction. Throughout the construction phase there will also be shorter term 'staging areas' across the Site on an as-needed basis, but not in place for the whole or majority of the construction phase. These would provide dispersed welfare facilities for workers, storage for internal deliveries from primary compounds, waste management feeder hubs, and a place for internal plant and machinery storage to be kept while works are occurring in a given area. The staging areas would be moved across Work No. 3 **[REF: 2.3]** – Associated Works as construction progresses and will be proportionate in size to accommodate use. As with the compounds, the staging areas would be formed of permeable aggregate over a geotextile membrane.

3.4.6 Vehicle access points will be provided into the compounds from the highway and then from the compounds into the Site. Existing private accesses into the Site will be used and widened to provide safe access and egress during construction, as shown in Work No. 5 **[REF: 2.3]** and further detailed within section 5 and Appendix A of the OCTMP. Any necessary access upgrades (visibility splays and/or construction to widen/surface) would be undertaken before that access is used as part of full construction mobilisation.

3.4.7 Vehicle accesses from the highway are likely to be a combination of bound surfacing (e.g. concrete, tarmac) and permeable aggregate depending on

LHA requirements. The internal access track network, which will be either temporary (for construction only) or permanent (for construction and operations) will comprise permeable aggregate and geotextile matting to allow for drainage and to protect the soils beneath. Where possible the design will rely on an existing network of well-established access routes and only introduce new temporary or permanent routes where required.

3.4.8 Material and waste storage areas will be defined within the compounds. More detail on waste management is found at section 9.3 of this CEMP.

3.4.9 The PC will provide full welfare facilities in accordance with Schedule 2 of the CDM Regulations 2015. These facilities will be in place prior to full mobilisation of works on of the part of the Site served by that compound.

3.4.10 All construction compounds will be set out and managed in accordance with environmental best practice methods and will include appropriate mitigation to safeguard sensitive habitats and protected species. This includes ensuring suitable stand-off distances are provided to protect hedgerows and watercourses, ensure adequate drainage is provided, and ensuring compounds are implemented in accordance with the SMP. In detailing the locations and arrangement of the compounds the CEMP will set out any measures applicable to their implementation and management ahead of other topic specific requirements. This is because the compounds themselves are the main hubs for Site management so good environmental governance of these facilities will set the tone for the governance of the as-a-whole across the construction phase.

Noise Considerations

3.4.11 There will be a general increase in noise for any part of the Site where works are occurring, although the size of the Site and the nature of solar farm development means the noisy activities are likely to be dispersed/isolated and not constant except within the construction compounds which will be the only areas of concentrated activity. The areas in which compounds will be located are identified within the Parameter Plan (Figure 3.2a-b) and Work No. 4 – Temporary Construction Compounds on the Works Plans.

3.4.12 It is not expected that all these locations will host a compound, and it is known that only two of the locations would be suitable for a Primary Compound (one in Area A and one in Area C). The locations of construction compounds have been chosen with consideration of nearby NSR as much as possible. The final details of compounds and their layouts will be provided as part of the CEMP and/or CTMP, along with any details of noise mitigation that has been designed in. Although it will not be possible to have zero-noise compounds, compliance with considerate contractor standards and BPM as set out in this OCEMP should avoid unacceptable excess noise from these hubs across the Site.

Waste Considerations

3.4.13 The CEMP will include the details of all construction compounds within the Work No. 4 – Temporary Construction Compounds **[REF: 2.3]**, including the dedicated areas within these compounds for where materials will be stored, with breakdowns by type as appropriate. The CEMP will also provide controls for how short-term staging areas may be established and any constraints on where or how they can be established. This part of the CEMP will also deal with the demobilisation of staging areas and compounds.

Water Environment

3.4.14 All temporary construction compounds and staging areas will be constructed of unbound crushed stone permeable material (such as MOT Type 3 subbase or similar) to retain the runoff characteristics for the Site. Temporary matting would be placed to support weight bearing plant and equipment. The construction compounds will be removed after construction is finished and will be located only in areas of very low flood risk from all sources.

3.5 Key Environmental Considerations

3.5.1 Based on the Site's conditions and its context the following are likely to represent the key environmental considerations that need to be managed throughout the construction phase:

- Presence of watercourses within the Site;

- Existing vegetation and habitats within the Site;
- Dean Moor County Wildlife Site ('CWS');
- Ancient Woodland adjacent to the Site;
- Presence of peat deposits within the Site;
- Protection of soils as a resource;
- Nearby residential and commercial receptors; and
- Coal mine entries on-Site.

4 General Requirements

4.1 Health and Safety

4.1.1 Across the OCEMP, health and safety requirements arising from the CDM regime or other regulations / legislation will be complied with. Therefore, health and safety measures such as the use of Protective Personal Equipment ('PPE') and other safety / quality standards will not be discussed herein.

4.1.2 Comprehensive health and safety assessments are an essential part of the construction process and would be carried out prior to construction by the PC in accordance with legislation. A framework of legislation has been compiled and is contained in Appendix A.

4.1.3 A CDM co-ordinator/Health and Safety ('H&S') Manager will be appointed by the PC and be responsible for the monitoring of health and safety compliance and related rules and regulations on-site and the provision of a pre-construction information pack, as required under CDM.

4.1.4 The Site will be managed in a way that is tidy and enables safe working practices for human and environmental health. Good standards of waste management and hygiene will be applied. This will prevent risks to human health from prolonged skin contact, inhalation, and ingestion of hazardous materials (including soils) during construction. In addition, appropriate methods of working will be implemented to limit disturbance of potentially contaminated soil or water, where possible, as determined by further ground investigations and as discussed within section 10.

4.2 Working Hours

4.2.1 Core working hours will be 08:00 to 18:00 on weekdays (excluding bank holidays) and 08:00 to 13:00 on Saturdays, unless in exceptional circumstances where the need arises for works to be carried out outside of the core working hours as detailed below. No work will be conducted on Sundays or Bank Holidays. The PC will be required to comply with these core working hours, unless covered by an exemption.

4.2.2 To maximise efficiency within the core working hours, the PC will require a period of up to one hour before and one hour after core working hours for start-up and close-down activities. This will include (but is not limited to) construction workers arriving and leaving the Site, unloading, maintenance, and general preparatory work. This will not extend to the operation of plant or machinery likely to cause a disturbance to residents unless covered by an exemption. These additional periods of time do not represent an extension of the core working hours. The additional hour either side of construction activity core hours has been provided to allow traffic to avoid the local highway network peak periods during the morning and evening.

4.2.3 Activities which may require working outside of the core working hours may include, but are not limited to:

- Horizontal Directional Drilling ('HDD');
- Emergency works where there would be health / security / environmental risks from not taking action;
- Concrete pours;
- Ecological surveys;
- Possible works to highways to minimise impacts.

4.2.4 The Council will be notified in advance of any proposed works occurring outside of the core working hours identified above.

4.2.5 In some cases, construction activities started during core working hours may need to extend into evening and night-time hours for reasons of engineering practicability or because they involve activities that cannot be safely stopped once started, such as concrete pours. The Applicant will require the PC to ensure, wherever possible, that all relevant construction activities that cannot be stopped quickly are started in good time to limit occasions where such works overrun the end of the core working hours.

4.2.6 Activities outside core working hours that could give rise to a disturbance will be kept to a reasonably practicable minimum.

4.2.7 The Applicant wants to retain flexibility in construction working hours to take advantage of the longer daylight hours during summer months. To

support this, it is anticipated that construction hours will be agreed with the Council and set out in the CEMP once a full programme is available.

4.3 Training and Inductions

4.3.1 Access to the Site will be controlled by procedures to ensure any staff working on any part of the Site have the appropriate information, Risk Assessment Method Statements ('RAMS'), and training required to work in that area.

4.3.2 The PC will ensure that contractors employ an appropriately qualified and experienced workforce. The PC will also be responsible for identifying the training needs of their personnel to enable appropriate training to be provided. Training will include site briefings and toolbox talks to provide the necessary knowledge on the relevant environmental topics, and the relevant environmental control measures pertinent to the construction activities to be carried out. Access to information on compliance requirements will be provided in all construction compound facilities.

4.3.3 The CEMP will be updated to include training requirements for relevant personnel on environmental topics, as well as further information regarding briefings and toolbox talks that will be used to equip staff with the necessary level of knowledge to follow environmental control procedures.

4.4 Best Practice

4.4.1 The PC will seek to sign up to and implement the Considerate Constructors Scheme ('CCS'). The CCS is a UK initiative established to raise standards in the construction industry[2]. Its Code of Considerate Practice sets out the CCS expectations of all registered sites, companies, and suppliers. These expectations are summarised below:

- *'Care about Appearance: constructors should ensure sites appear professional and well-managed;*
- *Respect the Community: constructors should consider their impact on neighbours and the public;*

[2] Considerate Constructors Scheme. Available at: [redacted] Accessed November 2024

- *Protect the Environment: constructors should protect and enhance the environment;*
- *Secure everyone's Safety: constructors should attain the highest levels of safety performance; and*
- *Values their Workforce: constructors should provide a supportive and caring working environment.'*

4.4.2 Construction activities will be undertaken in accordance with the best practice guidelines set out in Appendix B.

4.5 Site Security

4.5.1 The PC will ensure works areas are fully enclosed to ensure security of the Site from and for the public. Where permanent perimeter fencing is not required in a given area all temporary security fencing or other environmental barriers will remain in place for the duration of the construction period in that area of the Site.

4.5.2 Any materials and equipment will be securely stored to prevent theft and vandalism.

4.5.3 Visitors will be directed (via signage at the Site entrance and by Site personnel at the Site gates) to the Site office. Visitors will sign in and be inducted prior to being permitted on-Site.

4.6 Environmental Incidents and Emergencies

4.6.1 The PC will set out reporting procedures for any accidents, incidents and near misses (including spills, dust, noise pollution etc). Any events will be recorded and investigated as appropriate. These measures and the Site's associated Emergency Response Plan ('ERP') are requirements of CDM and will not be reported in the CEMP. However, health and safety documents will be available within the construction compounds and can be made available to any relevant stakeholder on request.

4.7 Lighting

4.7.1 No permanent night time lighting would be used, with the exception of motion-sensor security lighting, or lighting needed in the event of an emergency in times of darkness, as discussed below. Welfare and storage units will have internal and external access lighting and temporary lighting

would be used within construction compounds for specific construction activities within hours of darkness, during agreed construction hours. Where temporary lighting is used, it would be directional, cowled, and low intensity to minimise disturbance. Lighting would be switched off at night, when construction is not ongoing.

4.7.2 Whilst the construction activities are expected to be undertaken only during daylight hours, there may be instances where natural light is not sufficient (for example, in sheltered / confined areas), or during core working hours during winter months. In these instances, temporary lighting may be deployed to maintain safe working conditions. Measures to avoid excessive glare and light spill onto nearby sensitive receptors (ecology, and residents) will be implemented as far as reasonably practicable and agreed in writing by the ECoW as per section 5.5.

4.7.3 During hours of darkness outside of construction working hours, there may be motion activated security lighting. If this will be employed, it would only be provided in accordance with details set out in the CEMP. Further details on the use of lighting within the Site are provided within section 5.5 of this OCEMP, which sets out how lighting will be managed to be sensitive to ecological receptors.

Glint and Glare

4.7.4 As set out in ES Appendix 7.9 – Glint & Glare ('G&G') Assessment **[REF: 6.3]**, no significant impacts are predicted upon road safety, residential amenity, and aviation activity associated with Gilgarran Airfield. Mitigation is not required.

4.7.5 The Applicant will share the results of any further geometric modelling / G&G modelling with Gilgarran Airfield, to make them aware of the potential impacts at specific times of day. The requirement for this will be set out in the CEMP.

4.7.6 The detailed design of the Proposed Development will be informed by a glint and glare remodel produced against the final layout. The Landscape and Ecology Plan ('LEP'), to be substantially in accordance with the LSP

(ES Figure 7.6.1-7.6.5) **[REF 6.2]**, will ensure any mitigation (screening) requirements for glint and glare are included in the LEP. Where screening would depend on new planting or management of existing planting, it is acknowledged that this may not be established before solar arrays are erected during construction. Therefore, before solar arrays are mounted in locations where screening is required, temporary screening (e.g. barrier mesh) will be erected in advance.

4.7.7 The CEMP will detail any locations where this is necessary, provide details of the barriers to be used, and will include measures for the implementation and maintenance of these barriers. The temporary screening measures will remain in place until such time as the new and/or enhanced vegetation is sufficiently established. The vegetation will be implemented and managed in accordance with the LEP/LEMP. In the operational phase, the OMP (to be substantially in accordance with thew OOMP) will detail the locations and provide for the maintenance of the temporary mitigation, until such time as they are removed, at which point the LEMP will be the sole maintenance mechanism.

5 Ecological Management

5.1 General Requirements

5.1.1 This section outlines the construction risks and mitigation measures in relation to ecological receptors, including habitats and species, identified on Site. This information is based on the ecological surveys undertaken to support ES Chapter 8 – Biodiversity and which are presented in Appendices 8.1 to 8.8 **[REF: 6.3]**.

5.1.2 The OCEMP sets out a broad framework of what will need to be considered during construction to protect habitats and species directly, but also to ensure appropriate measures are in place to exclude non-working areas and limit incursions into retained habitats. Further, the OCEMP provides some general approaches to address pollution prevention, biosecurity, and construction management which will need expanded on for inclusion within the CEMP.

5.1.3 Ecological surveys carried out to support this application are listed below. It is not expected that this full range of surveys would be needed to provide for the final design and the CEMP, but they will form the basis on which updated surveys should be carried out where appropriate.

- Preliminary Ecological Appraisal ('PEA');
- Habitat survey using the UK Habitat Classification System;
- Botanical survey using National Vegetation Classification ('NVC') methodology at three discrete areas of the Site;
- Badger;
- Great Crested Newt ('GCN');
- Assessment of the Site's suitability for bats;
- Otter and water vole surveys;
- Breeding bird;
- Wintering bird; and
- Hen harrier.

5.1.4 As a minimum the post-consent surveys will include an update to the PEA and an update to the Tree Constraints Plan ('TCP'). These will inform whether any specific further species surveys listed above are necessary

ahead of final design and CEMP production. The CEMP will be informed by this survey work and will set out any requirements for updating walkovers to be provided in advance of construction but after the approval of the CEMP.

5.1.5 To safeguard habitats and species on Site an overview of the measures which will be detailed in the CEMP, and which will be based on the final layout of the Proposed Development are set out below. These measures will be further informed by updated ecological assessments as well as further species surveys undertaken in advance of construction.

5.2 Ecological Clerk of Works (ECoW)

5.2.1 Prior to the commencement of construction, a suitably qualified and experienced ecologist will be appointed to act as a clerk of works for the duration of construction.

5.2.2 The ECoW will monitor compliance with habitat and species protection plans and as well as RAMS provided in the CEMP to protect ecological receptors. The ECoW will be readily available to the Site Manager to advise and supervise works. They will be responsible for at least the following, although the list can be updated as part of the preparation of the CEMP.

a. Ensuring the erection of appropriate barriers, including for exclusion areas, perimeter and internal fences with regular monitoring of barriers until their removal is signed off by the appropriate expert advisor;
b. Overseeing the erection of suitable silt fences close to watercourses and that they are properly maintained;
c. Checking that pollution prevention measures are in place, including but not limited to spill kits, drip trays and that the PC has an Emergency Spill Response ('ESR') in place;
d. Updating RAMS as required across construction in response to protected species being observed on Site or as a result of habitat monitoring where an update is needed;
e. Delivering toolbox talks and maintaining a list of attendees;
f. Undertaking any surveys which must be done in advance of works in a part of the Site depending on the time between the pre-CEMP surveys and the works, updating records, liaising with the PC and Site Manager;

g. Undertaking regular inspections of habitats to identify the presence of non-native species.

h. Ensure the Biosecurity Management Plan and Lighting Strategy is observed at all times and update as necessary; and

i. Conduct appropriate checks and provide supervision for any vegetation removal that has the potential to disturb protected species.

5.3 Risk Assessment

5.3.1 The following impacts to habitats and species will be set out in the RAMS which will be followed during construction. The RAMS will provide the details from recent baseline surveys, potential adverse impacts and what risk avoidance measures should be adopted.

5.3.2 Baseline information for habitats and species on the Site and in the wider Study Area is available from section 8.4 of ES Chapter 8 – Biodiversity.

Habitats

5.3.3 As set out in ES Chapter 8 – Biodiversity [**REF: 6.1**] the construction of the Proposed Development has the potential to cause a number of impacts to habitats on Site, including loss, fragmentation and disturbance. These impacts will likely be caused by plant movement, emissions associated with dust, pollution, changes in surface water drainage and, intended changes to habitat.

Species

5.3.4 Construction of the Proposed Development will not only directly and indirectly affect habitats but will have concomitant impacts on species which use them if not governed for effective environmental management. ES Chapter 8 – Biodiversity assesses the Proposed Development as having the potential to cause disturbance, displacement, or mortality of protected species. There is also the potential for disturbance or damage to breeding, hibernation or resting places; noise / visual disturbance to species caused by plant and machinery, and restriction of the free movement of mammals through the Site.

5.3.5 A further potential impact is the removal of sensitive habitats and damage to areas within the Site that are excluded from developable areas. Without

mitigation the Proposed Development may cause damage / harm to habitats across the Site including the qualifying features of the CWS.

5.4 Ecological Requirements

Pre-construction surveys

5.4.1 Prior to the final design and production of a CEMP, which will include RAMS for that design, a suitably qualified ecologist (or team of ecologists) will undertake pre-commencement surveys across the Site to understand the current ecological baseline. These surveys will include an assessment of the habitats on Site, including their extent and condition to ensure that environmental management measures and risk avoidance measures are fit for purpose. Information derived from these surveys will inform the CEMP and associated RAMS pertaining to ecological receptors, Species Protection Plans ('SPP') and toolbox talks that will be facilitated by the ECoW.

5.4.2 Surveys for protected species should be carried out in advance of construction as determined by the updated PEA and ongoing ecological monitoring throughout construction, but potentially only following CEMP production. The CEMP will provide details of further surveys to be undertaken. Should any surveys reveal the presence of European Protected Species ('EPS') that cannot be excluded from potential impacts, the relevant works must not occur until an appropriate license has been received from NE or, in the case of great crested newts, via a District Level Licensing ('DLL') scheme.

5.4.3 While the updated PEA will inform the need for updating species specific surveys, based on current information it is anticipated that updated surveys for otter would be required given their status as an EPS. Furthermore, it is likely to be recommended that an updated badger walkover be provided no less than 6 months before the start of construction, regardless of PEA outcomes, as badger are a highly mobile species. It is not expected that breeding bird or wintering bird surveys, including those for Schedule 1 birds, are required, although protection measures should still be implemented if habitat clearance is occurring

during the breeding bird season, generally taken as March to August, inclusive.

5.4.4 The CEMP should also include a SPP for reptiles and a detailed RAMS given the presence of some marginal areas across the Site and dry-stone walls which may be undisturbed. SPPs and RAMs are not considered necessary for dormice and red squirrel as adequate protections can be provided by more general requirements, including ECoW supervision of vegetation removal.

5.4.5 The following section provides an outline of species-specific mitigation measures likely to form the basis of detailed SPPs which can in turn inform risk avoidance measures and their implementation provided as RAMS which will be part of the CEMP.

Species Protection Plans

5.4.6 SPPS should set out the legislative requirement for further surveys, any mitigation licence requirement, the survey approach, details of mitigation, including location and monitoring frequency. SPPs should be reviewed annually by the PC and ECoW to ensure they support the most up to date information.

5.4.7 SPPs should be written by a suitably qualified ecologist, copies made available to the PC in advance of all construction works and a register kept as to their revisions. They should be supported by the delivery of toolbox talks and signage displayed on notice boards within on-Site offices used by the PC.

5.4.8 SPPs will be used to inform RAMS and provided as part of the CEMP, with compliance monitored by the ECoW throughout construction to ensure that species on-Site are protected from mortality, disturbance, and habitat fragmentation during construction works. SPPs specific to each species group will include the following survey approaches.

Bats

5.4.9 Prior to the commencement of works to any tree identified for removal/management, a suitably experienced ECoW will undertake a Ground Level Tree Assessment ('GLTA') for potential features suitable to support roosting bats. Where no suitability is identified, the works will continue (subject to other method statements as appropriate). Where potential features are identified, further survey will be programmed as necessary. The ECoW will advise on the appropriate level of survey effort, timings and scope, depending on the results of the GLTA.

5.4.10 If necessary, detailed surveys involving tree climbing or inspection of roost features using an endoscope will be carried out by a suitably qualified and licenced bat ecologist. In the event that aerial access is not practicable, the licenced bat ecologist may consider a nocturnal survey/s or section felling under supervision.

5.4.11 In the event that evidence of a roost is recorded, works would not proceed until the appropriate licence is in place from NE, or that the roost type, size and species allow an appropriately qualified ecologist to oversee the works.

5.4.12 The results of all bat surveys should be documented and information relating to each tree surveyed passed on to the PC so that they are aware of any constraints. Trees which are to be avoided should be identifiable to all construction personnel so that they are not inadvertently felled.

Otter and water vole

5.4.13 A suitably qualified ECoW who has experience in conducting otter surveys will survey the banks of all watercourses and search for signs of otter, including holts, couches and spraints. Should a holt be identified then further monitoring using remote cameras under NE licence should be undertaken to establish status and frequency of use. Appropriate exclusion zones may be required, and these should be documented for inclusion in a NE development licence.

5.4.14 Surveys for water vole can occur simultaneously with otter surveys. Signs such as burrows, latrines, or feeding remains should be considered. The ECoW will advise on the need for exclusion zones and licences for this species depending on the proximity of works.

5.4.15 Details on otter holts should be kept confidential given their level of protection. Additionally, the ECoW should update the relevant RAMS where signs of each species have been recorded and confirm appropriate avoidance measures are in place. The ECoW should inform all Site personnel of otter and/or water vole presence during a toolbox talk.

Great Crested Newt

5.4.16 Great Crested Newt ('GCN') are absent from the Site based on pre-application-stage surveys, and the habitat is generally considered unsuitable for these species, as well as for hedgehog, dormice and red squirrel. Nonetheless, the ECoW should supervise all works, especially that being undertaken close to ponds, in case GCN are encountered.

5.4.17 No preconstruction surveys for this species are considered necessary given they are considered absent from Site and the habitats present are generally unsuitable.

5.4.18 However, all works to ponds in Areas C and D will be supervised directly by the ECoW in accordance with the approved RAMS so that they can advise on next steps should either GCN or other amphibians be encountered during works. The ECoW will be able to advise on any licence requirement (should GCN be encountered) or work activities so as to minimise impacts to pond bed and bankside vegetation. The ECOW will also advise on any early planting regimes which form part of the final LEMP, but which might be implemented concurrent with the construction phase.

Wintering and Breeding Birds

5.4.19 No further wintering or breeding surveys are required to inform the CEMP. However, prior to any vegetation clearance which is carried out during the breeding bird season (March to August inclusive), the ECoW should

conduct a search for the presence of nesting birds. Nests searches should be carried out at an appropriate time of day, during the peak of dawn activity when territorial song and behaviour is more detectable and nest disclosure by incubating and brooding adults more detectable. Searches should be sufficiently in advance of works to programme clearance. It is possible that more than one day of observation may be required to locate nests should breeding behaviour be observed indicating that nests are present.

5.4.20 If no nests are identified, then clearance can be undertaken. Conversely, if nests are found within the vegetation to be cleared, then works will have to be delayed until the nest status has changed (i.e. chicks fledged or eggs / chicks predated). Should an active nest just be in close proximity to construction activity, then a suitably sized exclusion area may be implemented by the ECoW and a phased approach taken for works. The ECoW should be present at all times for work close to the exclusion area and can advise on when works can start and stop in accordance with activity of the nesting species.

5.4.21 The RAMS which will be part of the CEMP will set out the strategy and methods to be employed for the protection of nesting birds. Where risk avoidance measures will apply will depend on the final layout and design, an updated assessment of the condition of habitats across the Site and the nesting phase (incubating or brooding) of any identified nest.

5.5 Enabling Works

5.5.1 The ECoW will ensure that all mitigation measures required as part of enabling works are in place prior to construction commencing. The CEMP will incorporate the results of pre-commencement habitat and species surveys which will be supplemented with detailed RAMS for each habitat and species and based on the relevant SPP.

5.5.2 The CEMP will also include a programme which would seek to avoid any habitat loss at sensitive times of the year, for example during nesting bird season. Items which may fall under enabling works are addressed below.

Perimeter and internal fencing/barriers

5.5.3 Site perimeter fencing or temporary fencing/ barriers will be erected ahead of any construction activities in that part of the Site. Perimeter fencing will incorporate gaps which tie into existing landscape features and link with the green infrastructure on-Site to allow access to the Site by wildlife and their movement across it. The location and width of these gaps will be determined in consultation with the ECoW.

5.5.4 Mammal gaps will be provided in any permanent and temporary fencing to allow species to move across the Site. The exception to this will be for the temporary construction compound areas and the grid connection works, the latter which will be secured by security fencing. Should any gaps require short term temporary closure due to the nature of construction activities in a given part of the Site, this will only be considered as a last resort and will be done in accordance with ECoW advice.

5.5.5 The ECoW will further ensure the accessibility of all watercourses to mammals, and that no fences are constructed across watercourses which will impede mammal movements up and down stream.

Exclusion Areas

5.5.6 The final design will reflect habitat protection exclusion areas for RPAs, hedgerows, peat deposits, watercourses, and any other habitats that may be present prior to works. These buffers would help establish green networks across the Site at construction outset and serve to preserve valuable habitats, for example hedgerow protection will benefit foraging and commuting bats and nesting birds.

5.5.7 The demarcation of these buffers and other exclusion areas identified as part of the habitat and species protection would be overseen by the PC with assistance from the ECoW to confirm compliance with the appropriate RAMS. Locations and the types of barriers to be used will be set out in the CEMP, with provision for further protection zones to be established as a result of updated surveys in advance of and during construction. In some cases, and depending on the species, it may be sensible not to erect

barriers as this may increase levels of predation or risk entangling animals inadvertently.

5.5.8 Only a limited section of the CWS is included in the Work No. (1 and 3). Should this land be taken forward in a final layout it would be demarcated with fencing and the clearly separated from the land within the CWS which will be used for mitigation.

5.5.9 A minimum 8m buffer will be established from the top of the bank of watercourses throughout the Site to exclude development works from these areas. This exclusion zone, along with other measures in the CEMP for pollution prevention, soil resource protection, and surface water risk mitigation will safeguard watercourses as important habitats.

Protection of exclusion areas

5.5.10 Prior to works commencing and throughout the construction period toolbox talks will be delivered by the ECoW and updated RAMS will be provided to all Site personnel involved in works for which these measures are applicable. For example, staff working close to habitats of conservation concern (CWS, hedgerows, watercourses, peat deposits) or where protected species have been confirmed as present.

5.5.11 If the final layout includes development within the CWS, the ECoW will secure appropriate supervision of construction works in the CWS and monitoring of the SRV (shown on Figure 5.1 (ES Figure 8.2)) should the access point in the vicinity be utilised in construction. No measures beyond those of the CTMP are expected to be required for the SRV as the CTMP would ensure safe access that is wide enough to prevent overrunning onto verges. Nevertheless, monitoring will occur, and corrective action taken if necessary.

5.5.12 In order to mitigate damage to areas within the Site that are excluded from developable areas, temporary barriers will be erected ahead of construction activities in that part of the Site to keep plant and personnel out of ecologically sensitive areas.

Removal of sensitive habitats

5.5.13 Habitat loss on the Site will follow a sequential approach to avoid, minimise, or compensate (in that order). Any unavoidable habitat loss would be minimised and temporary, where possible. Loss which cannot be avoided would be compensated for as part of the LEP and LEMP.

5.5.14 Tree removal is not expected, and will only be permitted where required, such as where trees are in a condition to present as a danger to health and safety. As per the Arboricultural Impact Assessment ('AIA') (Appendix 7.8) **[REF: 6.3]**, the CEMP will include an updated TCP to inform the final layout, and an updated Tree Protection Plan ('TPP') based on the TCP and final layout showing how trees on-Site will be protected. Should any tree loss be unavoidable, adequate compensation would be secured with the planting to be delivered via the LEMP, and this principle will remain for both construction and operations. Further information on arboricultural measures is available from Section 6 of this OCEMP.

5.5.15 The removal of sensitive habitats could also include the removal of grassland and other vegetation for the siting of temporary compounds, ancillary buildings, or access tracks, the widening of existing hedgerow gaps for Site access, trimming or removal of vegetation for highways visibility splays, and removal of waterside vegetation associated with replacement or reinforcement of existing culverted crossing points. These works and others that would either permanently or temporarily remove or reduce vegetation habitats will be mitigated and managed via the CEMP.

5.5.16 RAMS for the protection of sensitive habitats will be prescribed by the ECoW based on updated assessments for both habitats and the likely presence of protected species occupying them. These habitat RAMS and their background data will be provided as part of the CEMP, with compliance monitored by the ECoW throughout construction.

5.5.17 Activities involving removal / loss of habitat such as vegetation and hedgerow clearance would be subject to ECoW prior checks and/or supervision. For grassland and field boundaries, it will be the ECoW's decision to check first and/or supervise.

5.6 Construction Activities

Excavations

5.6.1 Where possible during the development works, excavations will be left at the end of each day in a condition where no mammal can fall in. This will be achieved by securing a cover over all excavations with a 1-2 m overlap around the edges to prevent mammals digging beneath. Where this is not possible the excavations will be left such that mammals can easily escape.

5.6.2 Should excavations be left uncovered, ramps will be installed in the form of wooden planks, or the banks will be profiled to no steeper than 45°. Where appropriate open excavations will be fenced with Heras or similar temporary fencing with minimal gap at the bottom to deter species such as badgers from entering the area of excavation.

5.6.3 A visual inspection of the excavations for the presence of mammals will be undertaken at the commencement of each working day by one of the Site contractors, who will be nominated by the Site Manager. If any mammal is discovered within the excavations, the ECoW will be contacted immediately. The contractor under the guidance of the ECoW will provide a safe exit and the animal encouraged to disperse away from the construction activities.

5.6.4 Workers on Site will not handle any species of wildlife and this will be undertaken by the ECoW only as a last resort. The reason for the entrapment within excavations will be assessed, and the RAMS updated appropriately.

Open Pipe/Duct Work

5.6.5 Any pipes or ducts greater than 150 mm diameter installed in a trench must not be left open-ended overnight. Should the pipe not be connected up at both ends before the end of the day, the exposed ends will be sealed off to prevent mammals becoming trapped within them. The seals must be tight, made of a rigid material and cover the whole end of the pipe.

Materials Storage

5.6.6 During any groundwork the creation of large spoil heaps should be avoided. Where unavoidable, any spoil heaps over 5 x 5 m left overnight must be inspected by the ECoW for signs of any digging by species each morning. Should any significant digging be identified, the ECoW will advise on the next steps. All large spoil heaps which are to be retained for a duration exceeding one week should be appropriately compacted and sealed to prevent digging and erosion by rainfall.

5.6.7 Material should not be stored within 8m of any watercourse or draining channel. It should be properly compacted and sealed, sited on level ground and supported by silt fences where appropriate. No material should be stored uphill of any sensitive habitat or ecological feature, close to any mammal gaps, adjacent to exclusion areas such that it obstructs animal movement, nor beside any feature which is part of the wider green infrastructure network.

Ecologically Sensitive Lighting Strategy

5.6.8 General discussion of the proposed construction lighting strategy is included at section 4.7. The lighting strategy should consider the presence of protected species and ensure that there will be no unnecessary illumination of habitat features.

5.6.9 Construction working hours are set out in section 4.2. It is anticipated that during the main active bat season (April-October, inclusive), construction works will generally cease or be winding down before dusk when bats emerge and will not begin before dawn when bats return to roosts. Therefore, artificial lighting will not generally be required.

5.6.10 In certain circumstances, for example, in late autumn or early spring when daylight hours are limited but weather conditions may be suitable for bats to be active, there may be a brief overlap between bat activity and on-Site construction works. During this period lighting may be required to enable the construction works to progress.

5.6.11 In these circumstances, a sensitive lighting strategy is required. Furthermore, any lighting required to the Site compound for security/health and safety must be appropriate. Details of how lighting may be used and constraints on or conditions of its use will be set out in the CEMP.

5.6.12 The CEMP will advise that lighting should be kept to the minimum required, with no upward directed lighting and should be directed away from features suitable for bats. In particular the Thief Gill, Lostrigg Beck, and other watercourse corridors must not be lit, and woodland edges, and hedgerows should be avoided.

5.6.13 The location and associated lighting of any required Site compound should be advised by a suitably experienced ecologist prior to its installation. This should be kept to the minimum required for safety and security and avoid light spill onto sensitive habitats.

5.7 Biosecurity

5.7.1 A Biosecurity Management Plan ('BMP') will form part of the CEMP with species specific management included as RAMS. It will follow what is included in this outline and provide further detail on how materials being brought to Site will be screened for contaminated soil and that all machinery is clean upon arrival and has not come into contact with INNS.

5.7.2 The updating surveys in advance of the CEMP will identify the locations of any INNS on the Site. If identified, remediation efforts may occur in advance of CEMP production and/or construction so would not be detailed in the CEMP except to note the locations for ongoing monitoring of the success of remediation.

5.7.3 Thereafter monitoring by the ECoW will occur during construction across the Site and will consider the potential for invasive non-native species to become established. Should any invasive plant species be recorded then an eradication plan will be implemented in consultation with the PC and local contractor. This may include spot treating with herbicide, removal or burying on Site. The latter option would be subject to further consultation with the EA.

5.7.4 Biosecurity measures during construction and operation should be followed to prevent spreading the invasive plant and potential seed bank within the soil. It is expected that the BMP of the CEMP will also be at least partly taken forward into the LEMP. BMP measures will require that all personal protective clothing, machinery, and tools used to carry out control works should be cleaned thoroughly in a designated area, preferably adjoining the area where removal works are being undertaken. Work should avoid tracked vehicles, where possible and a system of wheel washing must be applied for vehicles leaving the contaminated area.

5.8 Next Steps

5.8.1 Prior to the commencement of construction, necessary updated surveys for habitats and species informed by ecological expertise will be undertaken. This section will be updated in the CEMP and include appropriate avoidance measures set out in RAMS, which will account for the final design and construction programme.

5.8.2 The CEMP should also consider the requirements of the LEMP so that all construction activities account for habitats which are being retained in their current form, or which are being changed to maximise the biodiversity on Site. The CEMP must include protections for both habitats and species from construction activities, and support working practices to enable successful LEMP implementation post-construction.

6 Arboricultural Management Strategy

6.1 Overview

6.1.1 As set out in the AIA at ES Appendix 7.8, there are numerous areas of woodland surrounding the Site along with isolated deciduous trees within the Site which follows watercourses. Site boundaries without woodland tend to be defined by gappy, unmanaged hedgerows.

6.1.2 Without adequate mitigation and protection measures in place to conserve and trees, hedgerows, and other woody vegetation (e.g. scrub) within the Site, the construction of the Proposed Development could cause the loss or damage to existing features which are to be retained and enhanced post-construction via the LEMP.

6.1.3 This Arboricultural Management Strategy ('AMS') reflects the recommendations of the AIA and provides an outline for an AMS within the CEMP.

6.1.4 The suitably qualified Project Arboriculturalist / Arboricultural Clerk of Works ('ACoW') shall be responsible for independently monitoring / supervising the effectiveness of tree protection at regular intervals and will report all findings to the Applicant, the Site Manager, and the Council, if required. They shall also be instructed to provide additional advice should unforeseen circumstances develop.

6.2 Approach to Managing Arboricultural Impacts

6.2.1 As a general principle, the Proposed Development will seek to avoid loss of trees or hedgerows and will follow a hierarchy of first avoiding impacts through designing within the landscape structure and retaining existing green infrastructure. Unavoidable impacts would be minimised through BS5837 standard mitigation and informed by arboricultural advice. In the event that it is not possible to retain or fully protect against loss, appropriate compensation will be provided within the LEP, which will substantially be in accordance with the indicative Landscape Strategy Plan

(LSP) and delivered and managed by the LEMP. The CEMP will provide the method by which these commitments are met.

6.2.2 The AIA provides its assessment on this basis and confirms that the recommended measures therein will be taken forward in the CEMP which will be informed by an updated TPP. A TCP shows the extent of trees and hedgerows and their Root Protection Areas ('RPA') which is the area where construction activities pose a risk of damage to retained trees. While a TPP shows how works areas have potential interactivity with existing vegetation and where vegetation could either be lost or require extra protection to secure retention.

6.2.3 The final design will inform the TPP. This will support an updated TPP to be provided in the CEMP, with the final AMS therein basing its content the TPP outcomes to establish where risk is fully designed-out, where further protections are required, what those protections will be, and how they will be managed and monitored across the construction phase.

6.3 AMS Overview

6.3.1 The potential impacts of the Proposed Development on trees within the Site are set out within the AIA (ES Appendix 7.8).

6.3.2 The AIA details the potential impacts to trees and the mitigation measures in place to protect retained vegetation in accordance with BS3998:2010 'Recommendations for Tree Work' and current arboricultural industry guidelines and best practice.

6.3.3 This AMS provides an outline of Site-specific instructions on the methods required to protect the existing tree stock, which is agreed to be retained. The summary that follows is expanded on later in this section and thereafter fully explained and qualified within the AMS.

6.3.4 The methods are set out in a logical sequence of operations as follows:

- Pre-construction meeting: To review the AMS and ensure all relevant parties are familiar with its content, show the trees concerned, and where protection will be required;

- Tree protection barriers and exclusion signage: To BS 5837:2012 or other agreed approach if required;
- Ground protection: Techniques to avoid compaction, disturbance, or contamination of the tree root environment;
- Boundary fencing, panel installation and services: Methods to allow building operations including service routing and special measures where RPA are unavoidably breached. To include specialist construction methods such as no-dig solutions where permissible, in proximity to trees/hedgerows;
- General tree care measures and awareness; and
- Site monitoring to be undertaken by the ACoW at agreed intervals through the Site preparation and construction process.

6.3.5 The British Standard recommendations are made for appropriate barriers to exclude construction from RPAs for trees, which are identified for the TPP at AIA Appendix C.

6.3.6 Since the majority of tree roots are found in the upper metre of soil, development works such as shallow excavation and soil compaction can adversely affect the health of trees in close proximity. Trees differ in their tolerance to root loss or disturbance, according to their age, species and/ or condition. All protection works within this document are in accordance with BS5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'.

6.3.7 Based on the tree survey data RPAs have been determined for every retained tree as shown in the TCP (AIA Appendix B). The RPAs are designed to protect at least a functional minimum of tree root mass in order to ensure that the trees survive the construction process. The RPA has been used to inform the Root Protection Zone ('RPZ'), the area to be protected during development by the use of ground protection and specialised construction techniques, outlined below.

6.3.8 These are worst case impacts based on the Works Plans. The AMS within the CEMP will provide more detailed information based on a final layout and TPP. The final layout will include no losses beyond what is set out herein without compelling justification (e.g. features have been lost in the interval between the application-stage AIA and pre-commencement work following the development consent or the condition of existing features

have deteriorated such that removal is necessary for the safety of Site operatives and/or the public). All losses of vegetation, whether envisaged at this stage or newly incorporated into a final design will be fully compensated in the LEP.

6.4 Mitigation Measures

Tree Removals

6.4.1 To reduce the extent of tree/hedgerow removal, new access tracks including associated ground works will be used and existing hedgerow gaps will be utilised as far as possible.

6.4.2 All tree work operations will be carried out in accordance with BS3998:2010 ‘Recommendations for Tree Work’; current arboricultural industry guidelines and best practice; and all relevant Health and Safety standards. Tree work is a specialist task that requires operatives to be appropriately qualified, skilled, and adequately insured.

Tree Protection Measures

6.4.3 Of paramount importance is the requirement to avoid any works within 15m of the boundary of Lime Kiln Wood replanted ancient woodland, located along the western edge of the southern half of the Site boundary. Access routes and works areas required for construction will avoid the 15m buffer zone, and permanent fencing will also be situated outside of the buffer zone.

6.4.4 Works taking place within RPAs of retained trees include installation of permanent fencing, and landscaping. These impacts may increase depending on the detailed design of the Proposed Development.

6.4.5 The following precautions must be followed for works occurring inside RPAs:

- Posts and footings for boundary features such as fencing and CCTV cameras will be kept as small as possible and located to avoid structural roots.
- Excavations required for installation of posts and footings (or similar) must be carried out using hand tools such as spades or forks;

- All hand digging within RPAs must be undertaken with great care, requiring closer supervision than normal operations to enable the identification and protection of structural roots (roots with diameters equal to or greater than 25mm) or massed fibrous roots;
- These roots must not be severed at any time without first consulting the ACoW or the Council's Tree Officer; and
- Any non-structural roots (roots with diameters below 25mm) may be pruned back if required, to a lateral root where possible, using a pruning saw or secateurs, leaving a clean-cut surface, subject to strict arboricultural monitoring and supervision.

6.5 Sequenced Method of Construction and Tree Protection

Pre-Commencement

6.5.1 In advance of enabling works and construction activities an on-Site (but following the production of the CEMP) a meeting will be held to enable all relevant parties within the project team to meet, to be aware of the requirements of the AMS, and to agree a coordinated approach to the project's tree protection practices. Matters to be addressed in this meeting include:

- Identification of persons present and exchange of contact information;
- Familiarisation with all aspects of the AMS;
- Familiarisation with the Site in relation to the AMS;
- Location of temporary construction compounds; and
- Phasing of work, including installation of perimeter fencing.

6.5.2 Identification of any proposed tree works (e.g. pruning, trimming, thinning) and agreement as to how these works can proceed.

- Setting out of any additional temporary tree protection measures specified by ACoW or Tree Officer.

6.5.3 All tree work is to conform to BS3998:2010 'Tree Work' and to current arboricultural best practice. Tree works are to be undertaken by a professional and specialist arboricultural contractor, who carries the appropriate experience and insurance cover.

6.5.4 In this section the CEMP will set out a list for the works that are specifically proposed which will be the subject of the pre-construction stakeholder meeting.

Tree Protection Barriers

6.5.5 Tree protection barriers will be erected in order to exclude the RPZ from significant construction activity. It is the responsibility of everyone engaged in the construction process to respect the tree protection measures and observe the necessary precautions within and adjacent to them. Inside the exclusion area of the Proposed Development, the following may include:

- No mechanical excavation without approval from the ACoW;
- No excavation by any other means without ACoW supervision;
- No hand digging without a written Method Statement having first been approved by the ACoW;
- No ground level changes whatsoever;
- No storage of plant or materials;
- No storage or handling of any chemicals;
- If 360-degree excavators are to be used during construction, at no time is the excavating arm to encroach over the position of the protection barriers;
- No vehicular access;
- No fires should be lit within 10 metres of the nearest point of the canopy of any retained tree;
- No equipment, signage, fencing, tree protection barriers, materials, components, vehicles or structures shall be attached to or supported by a retained tree; and
- No mixing of cement or use of other materials or substances shall take place within tree RPA or RPZ, nor in proximity to tree RPA or RPZ, since leakage or displacement of those materials or substances could cause them to enter tree RPA.

6.5.6 The majority of tree protection fencing will comprise the perimeter fencing for solar and will be erected prior to any works being undertaken in each specific area.

6.5.7 In line with Section 6.2.2 of BS 5837:2012, which requires that the tree protection barriers be fit for the purpose of excluding construction activity and that they provide adequate protection to the trees, hedgerows and woodland. These will be protected by appropriate barriers and associated signage (see for example Figures 6.1 and 6.2). The location of the protection barriers and their types will be reflected in the final TPP to be included as part of the CEMP.

6.5.8 All operatives and other relevant personnel are to be informed of the role of the exclusion barriers and their importance. A copy of the TPP will be displayed on-Site at all times during the construction phase.

6.5.9 Once the barriers are in position, they are to be considered fixed and are not to be removed or altered in any way without prior approval from the ACoW in accordance with a methodology to be detailed in the CEMP.

Figure 6.1: Tree protection fencing example (Extract from AIA Figure 6.1)

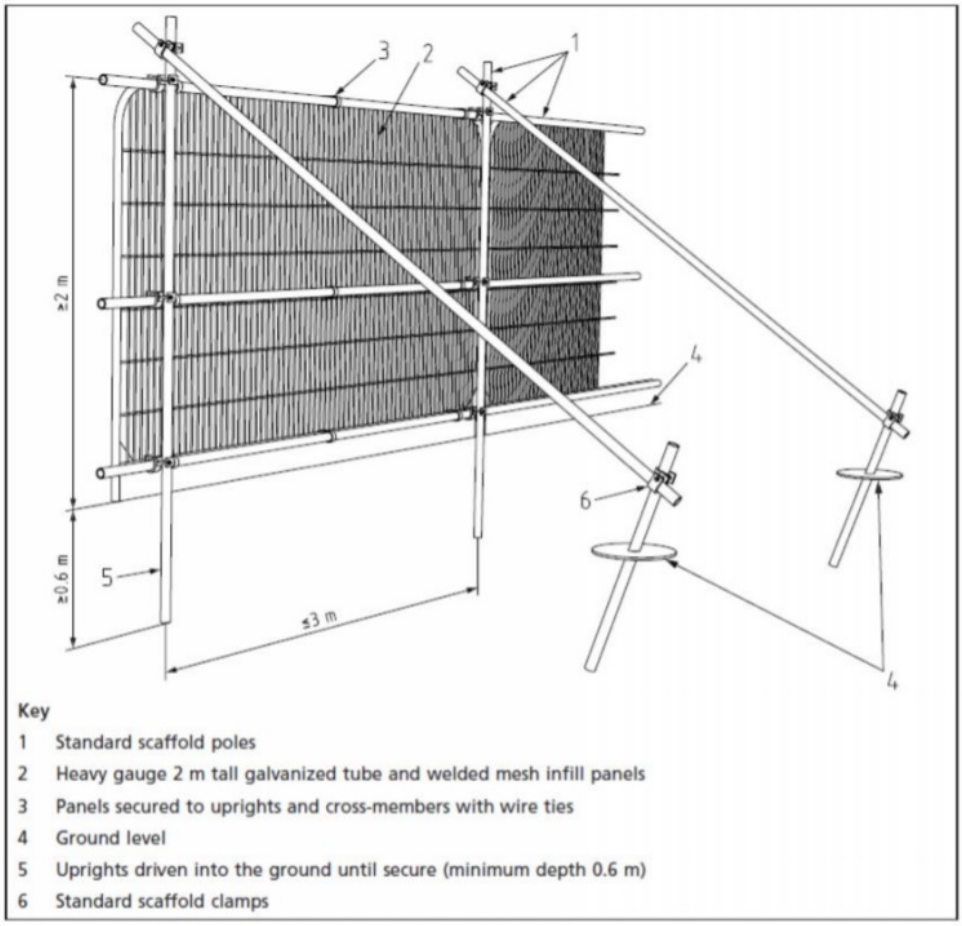


Figure 6.2: All weather notice example (Extract from AIA Figure 6.2)

Storage of fuels and chemicals and materials

6.5.10 To reduce the risk of soil contamination and subsequent damage to tree roots, fuel and other harmful or toxic materials should be stored either off-Site, in bunded units, or on drip trays. Materials will be stored either outside the RPA of retained trees, on existing hard surfacing, or on ground protection.

Level changes

6.5.11 Ground level decreases must not take place within the RPA of retained trees. Level increases up to 200mm depth will have negligible impact on the health of retained trees. If ground levels must be raised within the RPA of retained trees to accommodate dips and changes in the existing ground levels, this should be achieved using a granular material which does not inhibit vertical gaseous diffusion. Examples of suitable granular materials include, no-fines gravel, washed aggregate, or cobbles. Localised depressions may be filled with sharp sand.

6.5.12 Should level increase greater than 200mm be required, these will be achieved through the layering of a cellular confinement system filled with no-fines gravel, washed aggregate, or cobbles. A permeable membrane should be placed on top of this to prevent any fines filtering down into the cellular confinement system. Once the required levels are achieved, a permeable surface layer should be installed.

6.5.13 Under no circumstances will topsoil stripping take place within the RPA of retained trees or within the buffer zone of veteran trees or ancient woodland.

Construction vehicle access

6.5.14 Construction vehicles will not be driven onto unsurfaced areas of ground within the RPA or buffer zone of any retained trees. If access is required for construction vehicles on unsurfaced areas of ground within the RPA or buffer zone of retained trees, ground protection will be installed.

Utility installations

6.5.15 There is no expected requirement for new underground connections with statutory utility undertaker assets, although the Proposed Development will include internal underground infrastructure such as surface water drains and cabling. In order to avoid damage to retained trees, any additional underground services will seek to avoid the RPAs and mitigation measures will be provided where required.

Site monitoring

6.5.16 At paragraph 6.3 BS 5837:2012 states that wherever trees on or adjacent to a site have been identified as requiring protection, there should be an auditable system of arboricultural site monitoring. This should include arboricultural supervision whenever construction or development activity is to take place within RPAs of retained trees.

6.5.17 Following each Site visit by the ACoW, a monitoring report should be issued to the PC. Copies of these reports should be kept and made available to the Council on request.

6.5.18 Key timings for supervision include:

- Following installation of tree protection barriers and ground protection, before commencement of works, to inspect tree and ground protection against approved plans.
- For the duration of any site works (e.g., excavations, construction) taking place within the RPA of retained trees.

- Periodically, with a minimum of one supervisory visit every month to ensure tree protection remains correctly installed and is fit for purpose throughout the duration of works.

6.6 Next Steps

6.6.1 The AMS will be updated in the CEMP and will be informed by a final layout and updated surveys and TPP, which will establish the locations where protection measures are required and detail the nature of those measures.

7 Control of Noise and Vibration

7.1 Overview

7.1.1 This section outlines the construction risks and mitigation measures in relation to noise and vibration effects. The construction phase of the Proposed Development has the potential to cause short term, audible noise for noise sensitive receptors ('NSR'), namely nearby residential receptors. Given the separation distance from the receptors, construction activities are unlikely to give rise to any significant levels of ground borne vibration. As such, ground borne vibration has not been considered further as an isolated topic.

7.1.2 The working hours as set out in ES Chapter 5 **[REF: 6.1]** and section 4.2 of this OCEMP also minimise the risk associated with both noise and vibration effects by limiting when activities associated with such effects may occur.

7.1.3 Within these working hours, this OCEMP sets out a further restriction whereby the noisiest activities (namely, the piling of the solar array frameworks) will not occur before 08:30 on a weekday. Where possible the PC will seek to avoid piling activities on a weekend but if the programme cannot fully omit weekend piling it will be restricted to not occur before 09:00.

7.2 Risks / Issues

7.2.1 The following aspects of the construction phase have noise impact associations:

- Site establishment, enabling works, and temporary construction facilities: The erection of perimeter fencing and other environmental protection measures along with construction compounds and internal access tracks are not expected to generate significant levels of noise.
- Deliveries for and construction of the Proposed Development including generating equipment, Grid Connection Infrastructure, and connective cabling. As with the early works to establish the Site and temporary construction facilities, the best practice requirements of the OCEMP will provide the required mitigation. The activities most associated with noise in this phase include:

- Vehicle traffic;
- Construction works likely to generate substantial levels of noise;
- Solar array piling; and
- The Grid Connection Infrastructure.

- The locations where primary and secondary construction compounds will be located are shown in Work No. 4 – Temporary Construction Compounds, and on the Parameter Plan (Figure 3.4) **[REF: 6.2]**, which will include welfare facilities, waste management and storage areas, and parking and turning areas for construction vehicles. The locations of these compounds have been chosen to with consideration of proximity to NSR and the locations of natural landscape buffers such as woodland.
- Testing and Commissioning – noise impact from testing is not expected to be any more than during operation of the Proposed Development except from the additional noise associated with the presence of personnel conducing the testing and is therefore not expected to result in a significant effect.

7.3 Mitigation Measures

7.3.1 There are several safeguards which exist to minimise the effects of construction noise and vibration, including (but not limited to):

- The various EC Directives and UK Statutory Instruments that limit noise and vibration emissions from construction plant;
- The guidance contained in British Standard 5228:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites; and
- The powers that exist for the Council, under the relevant sections of the Control of Pollution Act ('COPA')[3], to control environmental noise and vibration on construction sites.

7.3.2 The construction of the Proposed Development will comply with the guidance outlined in British Standard 5228:2009+A1:2014 Part 1: Noise and with the requirements of the CTMP (as outlined in the OCTMP at Appendix 5.2).

7.3.3 As a general approach to noise impact management the PC will ensure that all suppliers and subcontractors on site adhere to the requirements of the CEMP and are aware of the locations of fixed sensitive receptors (e.g.

[3] Control of Pollution Act 1974 c.40. Part III Construction Sites Section 60.

homes) and that all traffic adheres to the routing plan which avoids local villages.

7.3.4 There are a number of mitigation measures that constitute best practice techniques to mitigate noise impacts during the construction phase. The adoption of Best Practicable Means ('BPM'), as defined by COPA, is usually the most effective means of controlling noise from construction sites. BPM that may be employed in relation to the activities identified in section 7.2 include:

a. Strategic phasing of construction works to minimise potential impacts;
b. Noise emitting equipment and vehicles will be shut down when not in use;
c. Generators may need to be enclosed in a noise mitigation wrapper;
d. Static and semi-static equipment will be sited as far as reasonably practical from sensitive receptors as possible with localised screening employed, as necessary;
e. Any compressors used on Site should be silenced and fitted with acoustic enclosures or sound reduced models used;
f. All pneumatic tools should be fitted with silencers/mufflers;
g. Cutting operations or other noisy tasks will be minimised through off-Site fabrication where practical. Localised screening of noisy operations should be employed where necessary;
h. Delivery vehicles will be routed to minimise disturbance to nearby residents and deliveries will be programmed to arrive during the least sensitive times of day;
i. Vehicles will be prohibited from idling within the Site;
j. Care will be taken when unloading vehicles to avoid creating unnecessary noise;
k. All plant items will be properly maintained and operated according to the manufactures' recommendations;
l. Quieter plant options will be procured where possible and low vibration practices will be employed where possible;
m. Low vibration working methods will be used where reasonably practicable, as well as controlling vibration at source through methods such as mechanical isolation;
n. Where processes could give rise to noticeable levels of vibration at receptors, on-Site vibration levels would be regularly monitored;
o. Personnel will be instructed on best practice mitigation measures to reduce noise and vibration as part of the Site induction training;
p. Strict controls on the sequencing of works and providing noise protection will be developed on an activity-by-activity basis;

q. Recognise that potential problems concerning construction noise can sometimes be avoided by taking a considerate and neighbourly approach to relations with nearby residents; and

r. Construction works will not be undertaken outside of the hours agreed with the Council.

7.3.5 Should any noise complaints arise, the records will be maintained in accordance with a complaints management plan. Any substantiated complaints will be investigated accordingly, and appropriate actions carried out. A Complaints Log template is included at Appendix C with fuller details of the complaints handling process to be included in the CEMP.

7.3.6 The control of noise and vibration effects within this OCEMP should be read alongside measures of the OCTMP which helps to manage off-Site transport impacts that could include noise effects.

7.4 Next Steps

7.4.1 The CEMP will provide greater detail on the nature of activities and programming based on the final design and completion of at least some parts of the procurement process. This means it will be able to set out more tailored BPM for activities in various parts of the Site. The CEMP will also provide fuller details of the community engagement commitments outlined in section 13 of this OCEMP, which will be particularly relevant to noise impact mitigation because of the way in which good communication and responsiveness to local needs is integral to an effective noise impact mitigation strategy.

8 Control of Air Pollution

8.1 Overview

8.1.1 This section outlines the construction risks and mitigation measures in relation to air pollution arising from dust/dirt and other emissions. The construction phase will include vehicles tracking on and out of the Site, the transport of materials and equipment around the Site, excavation for cables and structure foundations, the construction of structures, the use of generators, and the formation, and use of access tracks without bound (paved) surfacing. These and other associated activities have the potential to have air quality impacts arising from dirt and dust, and vehicle and generator emissions.

8.1.2 To avoid duplication this section will set out specific measures considered with regard for the methodology outlined within the Institute of Air Quality Management ('IAQM') guidance[4] but will not discuss all measures in detail where they are appropriately covered in other documents such as the OCTMP or elsewhere in this OCEMP (e.g. Materials Handling and Waste Management in Section 9). This section provides an outline of content which may be carried into the CEMP.

8.2 Risks / Issues

8.2.1 Construction vehicle emissions are identified as a potential risk to designated sites and notable habitats within Chapter 8 – Biodiversity, and in terms of greenhouse gas emissions within Chapter 9 – Climate Change **[REF: 6.1]**.

8.2.2 During the construction phase, plant and activities could lead to a risk of dust generation affecting local receptors such as roads. residential and commercial properties, and ecological receptors. In line with the IAQM guidance, construction phase activities associated with air quality impacts are divided into four types to reflect their different potential impacts and

[4] Institute of Air Quality Management (2017). Land-Use Planning and Development Control: Planning for Air Quality, EPUK and IAQM, January 2017.

Table 8.1 below sets out these types and their relevance to the Proposed Development.

Table 8.1: Dirt, Dust, and Emissions Risk

Risk Source	Risk Review
Demolition	The Proposed Development is across open agricultural fields with no requirement for any demolition activities. This risk is not relevant.
Earthworks	Significant earthworks are not anticipated for Work No. 1 – Solar PV Infrastructure, though could be associated with Work No. 2 – Grid Connections Infrastructure depending on final design and specifications to be agreed with the DNO via the ICP. No other areas are expected to have earthworks beyond minor localised temporary excavations that may be required to provide SuDS and/or foundations for PCS Units or as part of the cable trenching. No more than minor short term soil heaps will result ahead of backfilling. Should more substantive earthworks be required for the substation the relevant details on mitigation will be provided in the final designs and CEMP.
Construction	There will be limited opportunities for construction activities associated with Work No. 1 – Solar PV Infrastructure to give rise to dirt and dust emissions. The primary element across the solar farm are pre-fabricated solar panels and mounting structures that are assembled on-Site along with pre-formed containers (essentially modified shipping containers) that are placed on Site. These are made of metal or glass reinforced plastic ('GRP') type materials with low potential for dust release. There is no expectation of a need to pour concrete for these works, although pre-fabricated concrete that is formed off-Site may be utilised. The majority of the Work No. 2 – Grid Connection is also formed of pre-built equipment / structures, although it is possible that works in this area could require either pre-formed and/or poured concrete foundations.
Trackout	The Proposed Development will rely on unpaved roads (the internal access track network) significantly in excess of 100m and the lack of paved internal access tracks pose a localised air quality risk in the vicinity of these tracks. HGV numbers are expected to average around nine per day across the construction programme but could be as high as around 20 a day during peak construction. The most significant risk is the potential for vehicles tracking out of the Site to carry dirt and debris onto the LRN. Without avoidance and mitigation measures this presents a risk to the safety and amenity of the LRN.
Other	Other emissions beyond dust and dirt may be associated with various aspects of the Proposed Development. The primary sources of emissions would be from vehicles tracking to/from and within the Site. Emissions may also be associated with the use of any generators to power temporary buildings or processes that rely on fossil fuels within the construction compounds.

8.3 Mitigation Measures

8.3.1 Based on the identified risk, the following dust and dirt control measures are required to ensure that impacts on dust soiling, human health, and

ecological effects are not significant. Mitigation measures on-Site are likely to include the following:

Monitoring:

a. Undertake daily on-Site and off-Site inspection, where receptors (including roads) are nearby, to monitor dust/dirt and take corrective action where required. To include regular dust soiling checks of road surfaces within 100m of Site boundary, with cleaning to be provided if necessary.
b. Increase the frequency of Site inspections when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

Preparing and Maintaining:

a. Plan works and work-hubs (compounds and staging areas) so that machinery and dust causing activities/sources are located away from receptors, as far as is possible.
b. Erect solid screens or barriers around dusty activities or the Site boundary that are at least as high as any stockpiles on Site.
c. Avoid Site runoff of water or mud.
d. Keep Site fencing or other barriers clean using wet methods.
e. Remove materials that have a potential to produce dust from Site as soon as possible, unless being re-used on Site. If they are being re-used on-Site, cover as described below.
f. Cover any significant stockpiles to prevent wind whipping.
g. Dampening of internal access tracks to suppress dust and dirt generation from vehicle use.

Operating Vehicles/Machinery and Sustainable Travel:

a. Ensure all Non-Road Mobile Machinery ('NRMM') meet the required emission standards. Seek to use plant and machinery with the lowest possible emissions.
b. Ensure all vehicles switch off engines when stationary - no idling vehicles.
c. Avoid or minimise the use of diesel or petrol powered generators and use solar and battery powered equipment where practicable. If not sufficient, seek to use hybrid generators as opposed to fossil fuel only.
d. Follow the requirements of the CTMP and its CWTP in relation to construction and worker vehicle traffic management.
e. Ensure vehicles and NMMR stick to established access tracks. No HGV to track off established tracks. For any NMMR requiring off-track routing, assess ground conditions and take preventative measures to prevent rutting in accordance with the SMP.

f. The use of internal access tracks on-Site would be subject to internal speed limits to prevent dust generation.

Earthworks and Construction:

a. Only use cutting, grinding, or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.

b. Ensure an adequate water supply on the Site for effective dust/particulate matter suppression/mitigation.

c. Ensure equipment is readily available to clean any dry spillages and clean spillages as soon as reasonably practicable after the event using wet cleaning methods.

d. Pause any works associated with higher dust emissions in the vicinity of the public highway as soon as possible when non-motorised vehicle road users (e.g. pedestrians or cyclists) are passing.

e. All contractors and sub-contractors to be made aware of and sign-up to the dust management scheme.

f. Ensure aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.

g. Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.

h. For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.

Trackout (egress from the Site):

a. Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the Site. This may require the sweeper being continuously in use.

b. Ensure vehicles entering and leaving the Site are covered to prevent escape of materials during transport.

c. Follow CTMP requirements with respect to wheel wash facilities for vehicles tracking out of the Site and on to the public highway.

d. If conditions dictate, provide wheel washing facilities for internal vehicles and NRMM tracking into the compound to minimise the introduction of mud and debris into the hubs from which vehicles track out to the highway.

8.3.2 These measures reflect best practice as set out in the IAQM guidance. The PC will be responsible for ensuring these measures, and any others to be set out in the CEMP, are adhered to throughout the construction phase. Compliance with practical best practice for construction activities will be reinforced by monitoring and stakeholder engagement.

Recommended measures to be taken forward in a CEMP for the benefit of air quality management and other CEMP topics include:

a. Develop and implement a stakeholder communications plan that includes community engagement before and during work on-Site;
b. Display the name and contact details of person(s) accountable for air quality and dust issues on signage at Site accesses and other strategic locations along the Site boundary.
c. Display the head or regional office contact information;
d. Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken;
e. Make the complaints log available to the Council when asked; and
f. Record any exceptional incidents that cause dust and/or air emissions, either on- or off-Site, and the action taken to resolve the situation in the log book.

8.3.3 Seek to hold regular liaison meetings with other high risk construction sites within 500m of the Site boundary to ensure plans are co-ordinated and dust and particulate matter emissions are minimised.

8.4 Next Steps

8.4.1 This section will be updated in the CEMP to reflect the final layout and locations of construction compounds and to include a more detailed strategy that reflects the final design and programme of works. The CEMP will consider the presence of other significant developments in close proximity as appropriate.

9 Materials Handling and Waste Management

9.1 Overview

9.1.1 This section outlines the construction risks and mitigation measures in relation to materials handling and waste management. The measures set out in this section refer to the appropriate guidance to ensure that the hazardous materials on-site are properly stored, and the Site is kept free of waste which may cause environmental effects such as contamination to watercourses. These measures are referenced and relied on by the other environmental disciplines set out within this OCEMP. This OCEMP outlines waste and materials management measures in relation to environmental effects and is not intended to represent a comprehensive waste management plan that would be prepared for a CDM.

9.1.2 This section will be updated for the CEMP to reflect the final layout (and any further assessments required to inform the layout), the construction programme, and any relevant details arising from pre-construction procurement.

9.2 Materials Handling

9.2.1 For the purpose of the CEMP 'materials' represent plant and machinery, components of the Proposed Development, ancillary equipment (tools, fuel), and any byproduct of works not to be treated as waste, such as excavated soils ahead of backfill or dead wood that can be used to form log piles as habitat for insects and wildlife.

9.2.2 This part of the OCEMP deals with on-Site materials handling that is not otherwise covered by waste management measures in section 9.3, pollution and contamination prevention in section 10, or industry standards derived from health and safety regulations (e.g. CDM requirements) which are mandated outside of the CEMP.

9.2.3 Materials will be delivered and stored on-Site in designated areas within construction compounds (to be located in areas as identified by Work No.

4). The designated areas will be allocated as the Proposed Development is progressed depending on the phasing of construction works.

9.2.4 Materials and temporary waste management hubs may also be located in shorter term staging areas across the Site which will be proportionate to the works and the part of the Site in which they are located. These will be fed by the primary and secondary compounds and will feed into the compounds as the central locations for materials coming in and waste going out.

9.2.5 For the OCEMP this topic is naturally limited as at this stage there are few measures that are specific to materials handling management which are not general and covered by other topics (e.g. protection of habitats and species and protection from dust/dirt emissions through requirements for handling/management of excavated soils). Materials handling requirements not covered elsewhere will be largely influenced by the final design and the associated bill of materials and construction programme.

9.2.6 Measures relating to materials handling that may be taken forward into the CEMP include the following.

- Construction compounds and staging areas to be appropriately located with respect to environmental features (vegetation, watercourses) that could be affected by the establishment and use of these areas as construction hubs.
- Storage areas must be located with consideration of the natural drainage system.
- The PC will ensure procedures are in place for spill prevention and clean-up, the storage of fuels and chemicals, and washing and repairs following good industry practice.
- Excavated soils to be handled with regard for ecological protection measures in Section 5 and in accordance with the SMP.
- Storage and materials handling must have regard for and reflect measures of the Site's ERP to be provided as part of CDM documentation. Location of fire extinguishers, first aid kits and clean-up materials must be clearly identified.
- Appropriate protection (e.g., bollards or fencing) should be installed to protect stored materials and equipment from moving vehicles/plant.

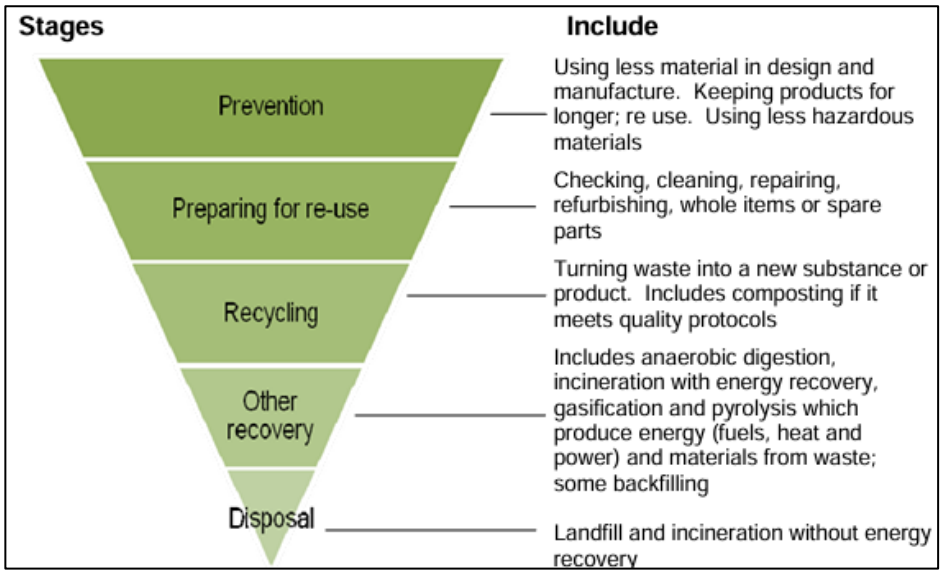
- Access to materials and storage areas must be restricted to authorized and qualified personnel wearing adequate PPE.

9.2.7 The PC must conduct regular inspections of storage and equipment areas and ensure that any preventative or corrective actions are taken where required.

9.3 Waste and Recycling Management

9.3.1 All reasonable actions will be taken by the PC to minimise the volume of waste produced as a result of the construction of the Proposed Development. The Waste (England and Wales) Regulations 2011[5] place a duty on all persons who produce, keep, or manage waste to apply the 'Waste Hierarchy' to minimise waste production at every stage of the Proposed Development. The 'Waste Hierarchy' ranks waste management options according to what is best for the environment and *'gives top priority to preventing waste in the first place. When waste is created, it gives priority to preparing it for re-use, then recycling, then recovery, and last of all disposal (e.g. landfill)'*[6].

Figure 9.1: The Waste Hierarchy Pyramid[7]



[5] HM Government (2011). The Waste (England and Wales) Regulations 2011 No. 988

[6] DEFRA Waste Hierarchy, June 2011. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69403/pb13530-waste-hierarchy-guidance.pdf Accessed November 2024

Waste Management Principles

9.3.2 A lack of order and cleanliness on a construction site increases the risk of adverse environmental effects, harm to amenity, and accidents in general. It is the PC's responsibility to ensure the Site is operating in a healthy and safe manner for workers, off-Site receptors, and ecological receptors. During construction general principles of order and cleanliness that will be considered include:

a. Dispose waste and debris in a lawful manner so it does not harm the environment.
b. Dispose waste and debris in a manner to avoid accidents and reduce risks of injury.
c. Re-use and recycle waste whenever practical and dispose of appropriately.
d. Segregate and deposit waste in labelled containers, including ensuring all containers are clearly marked and approved for the specific use and at strategic locations.
e. Maintain the Site in a clean and tidy state to reduce the attraction of pest species, impacts on the local environment, and negative impacts on visual amenity.
f. Use materials produced with a recycled content where applicable.
g. Dispose of regulated waste (e.g., waste oil) in accordance with national legislative requirements and environmental best practice
h. All waste that cannot be reused shall be removed from the Site and disposed of at appropriately licensed facilities in accordance with local regulations.
i. Ensure that no waste is burned or buried on Site.
j. Empty on-Site general waste and recycling containers as required.
k. Secure on-Site general waste and recycling containers with lids or nets.
l. Ensure that any fuels stored on Site are stored in a manner to prevent and contain spills.
m. Ensure that all Hazardous Material shall be stored in approved containers that are stored in a secure and bunded enclosure/container when not in use.
n. Ensure that all employees using dangerous or hazardous substances are given information, instruction, supervision or training in the following:
    - Identification, properties and potential hazards of Dangerous and Hazardous Goods including access to the Safety Data Sheets (SDS)
    - Correct use, fitting and storage of personal protection equipment

- Correct procedures for safe storage and handling of dangerous or hazardous substances
- Emergency procedures in case of a spill, leak, fire or explosion.

o. Include inspection for Site litter in at least the weekly Site inspection checklist, or more frequently in the event of non-conformities.

p. Monitor all waste leaving the Site (e.g., regulated waste) through a Site waste register that will track the waste type, quantity etc. of the waste removed from Site. This register will be kept by the PC and the information will be provided to the Proposed Development's H&S management team.

9.3.3 All Site waste material will be segregated to be put into skips and kept clean of any debris. Materials will be stored neatly in the designated storage areas on-Site. All waste generated, to be removed from the Site will be disposed of by a suitably licensed waste contractor. Food waste (from the welfare facilities) or other putrescible waste will be stored appropriately and regularly collected.

9.3.4 Opportunities will be investigated to maximise the recycling potential of construction materials where practicable. Recyclable materials such as metals, timber, cardboard, cans, and glass will be segregated and recycled where possible.

9.3.5 Litter within and around the Site will be removed and the Site will be kept free from litter throughout construction activities.

9.3.6 Where practicable, local facilities will be used to minimise transportation and to ensure the regular removal of waste from Site. The PC will work with any subcontractor to manage Site waste to ensure consistency of approach and to minimise impact on the provision of local waste services. Transfer of waste to third party facilities will have to be fully documented through a waste manifest.

9.4 Next Steps

9.4.1 The CEMP will reflect the additional information available in the pre-construction stage. This will include details of the waste management hubs on Site and how they will be managed and monitored. The CEMP will adhere to the waste management principles set out in this OCEMP

and will include additional details on types of waste, waste segregation, particular measures in relation to hazardous waste (as they relate to environmental effects without overstepping into that which is sufficiently covered by CDM compliance) and details of local waste management facilities to be engaged by the PC. The CEMP will give particular attention to measures to support effective re-use and recycling on Site and should set out measures employed in advance of CEMP production, as part of the procurement process, to minimise material consumption and waste production that will need to be monitored and controlled during the construction period.

10 Pollution and Contamination Prevention

10.1 Overview

10.1.1 This section deals with the control of pollution (other than air pollution which is in section 8) and pollution and contamination prevention from construction activities. The primary focus is the prevention of spills and actions required in the event of an incident as a result of construction. Actions required in the event of uncovering unexpected contamination in the course of construction is addressed within section 11.3. A number of measures that relate to pollution/contamination risk prevention are provided by other sections of this CEMP and will not necessarily be duplicated. For example, the requirements associated with waste management and materials handling are critical aspects of pollution risk management but will not be repeated herein.

10.1.2 It is the responsibility of the PC to comply with all CDM and any other regulations and best practice standards for the prevention of pollution and remediation in the event of a contamination incident. This OCEMP provides an outline of the controls and methodologies that will be considered for the CEMP. It is recommended that the approach to remediation in the CEMP be informed by engagement with the relevant stakeholders (in particular, the Council's Environmental Health Officer ('EHO')).

Pollution Prevention Principles

10.1.3 In fulfilling their obligations under the CEMP relating to waste management and materials handling as they relate to pollution prevention, the PC is responsible to ensure compliance with the commitments that:

- Mixing of hazardous and non-hazardous waste is prohibited; and
- Open burning of waste is strictly prohibited.

10.1.4 The PC will ensure procedures are in place for spill prevention and clean-up, sewage handling and treatment, and storage of fuels and chemicals, and washing and repairs following good industry practice.

10.1.5 Areas where spillage of soil contaminants occurs will be excavated (to the depth of contamination) and suitably rehabilitated to the satisfaction of the Council. If any other minor spillage occurs the spillage will be cleaned immediately, and the contaminated area will be rehabilitated. All contaminated material will be suitably disposed of. Liquids will be stored in bounded areas together with emergency spill response equipment.

10.1.6 The PC, through its subcontractor will manage the sewage treatment system in a manner that results in zero discharge of raw sewage to the environment. Sewage waste will be stored within the 'portaloos' or 'cabins' made for this purpose and cleared whenever necessary by a contracted certified company.

10.1.7 If wet solar panel module cleaning is applied, the PC will ensure that only distilled water or biodegradable cleaner will be utilised such that water from module cleaning is ecologically sound.

10.1.8 Measures to control spillages within the CEMP may include the following:

- Stop release of fuel by removing the source or by using plastic sheeting and bunding;
- Excavate soils contaminated by the spill / pollution incident and stockpile in such a manner that the arisings will not be allowed to contaminate the surrounding ground, e.g., within bunded storage, and cover to prevent infiltration. Waste soils must be appropriately assessed and disposed of by a specialist waste handler;
- If spillage is onto a hard surface, all drains and gullies must be sealed immediately;
- Absorbent materials such as sand, sawdust, straw, or oil absorbent granules/mats are to be placed over the contaminated area to soak up the spill. These should then be removed and stored and disposed of appropriately. Impermeable gloves and boots and disposable overalls are to be worn;
- The above items can be found in the oil spill kit, which will be made readily accessible to site personnel; and
- Spill kits will be available on-site and in all vehicles that transport hydrocarbon fuels for dispensing to other vehicles on the construction site. Spill kits will be made up of materials/products that are in line with environmental practice. Additional spill kits and response kits will be

located near to the watercourse crossings to prevent impacts on the watercourses.

10.1.9 Should a pollution incident occur, it will be the responsibility of the PC to notify the relevant external organisations. The details will be completed on the relevant notices, for example with a spill kit, or held by the Site Manager overseeing the work.

10.1.10 All fuel and oil will be stored within specified areas within construction compounds. The storage will either be integrally bunded or utilise an external bund. The bund will be impermeable to water and oil. Any potentially contaminated runoff within the bund will be disposed of at an appropriate waste management facility. Similarly, any used (contaminated) spill kits, absorbent granules, sheets, or fibres will be disposed of in accordance with the Control of Substances Hazardous to Health ('COSHH') Regulations[8].

10.1.11 Measures to prevent contamination of watercourses are further outlined within section 11 and 12.

10.1.12 To eliminate pollution incidents (spills) it is important to follow the preventative measures such as those listed below.

- Follow best management practices, for example reducing the amount of chemicals, oil, or fuel, stored on Site; only store what is needed on Site and this will significantly reduce the risks of releases.
- Create designated storage and maintenance stations and ensure that the ground is protected from possible spills.
- Conduct regular inspections on vehicles and machinery to detect leaks as early as possible.
- Incorporate adequate engineering controls, including ensuring the containers are closed when not in use and utilising properly sized secondary containment in storage. In addition to this utilizing double-walled tanks if needed and proper covering to prevent stormwater covering. If possible, utilise a fuel or oil truck instead of storing on Site.
- Store fuel for vehicles and generators and oil for machinery in the designated area.

[8] HM Government (2002). The Control of Substances Hazardous to Health Regulations. No. 2677, Regulation 7

- Conduct regular inspections of storage and equipment areas. This includes conducting inspections of the spill kit to ensure all materials are present for spill containment.

Spill Response and Contamination Management

10.1.13 Mobile spill kits shall be located on-Site and whenever possible near liquid and fuel storage, maintenance, and repair areas to deal with any spill. This mobile spill kit should contain the following:

- Sand/absorbent granules;
- Bucket and shovel;
- PPE equipment (goggles, gloves, rubber boots, warning tape and signage);
- Spill waste collection bin;
- Disposable bags and ties;
- Absorbent cushions, pads, boom sock, and mats;
- Compilation of Safety Data Sheets; and
- In some instances, a respirator may need to be utilised.

10.1.14 In the event of a spill of a dangerous or hazardous material a spill response procedure will be followed in accordance with best practice and obligations under HSE regulations.

10.1.15 In the event of a spill, all visually impacted soil should be immediately transported to the waste storage area given appropriate to the nature of waste while waiting for final disposal. Not visually impacted soil awaiting confirmatory lab analyses can be temporarily stored on Site, using a ground protection cover and a cover to prevent spreading, to be available for backfilling purposes depending on testing results. Or, if contaminated sent for disposal or treatment.

10.1.16 In case a contamination event occurs due to a spill, or where suspected contaminated soils are encountered, sampling of the soil and subsoil should be conducted to check compliance with threshold reference limits.

10.1.17 To ensure adequate management of soil and reinstatement all construction works shall be carried out within the boundaries of the Site and in accordance with any buffers required by approved plans, technical assessments, and consultee feedback. Areas where works are prohibited

such as the RPA of woody vegetation or within watercourse buffers, but where protections are not provided by the perimeter fencing, will have appropriate temporary barriers before works can begin which could expose these features to environmental risk.

10.2 Next Steps

10.2.1 The contamination management procedures of this section will relate to contamination events which occur as a result of construction or contamination which is discovered (that which already exists but is unknown at the time of CEMP production) in the course of construction. The methodology in the CEMP should be informed by pre-submission engagement with the Council due to its role as the environmental health authority for agreeing any remediation scheme and verifying outcomes. The Applicant may incorporate these measures into the CEMP or as a standalone document.

11 Ground Conditions Management

11.1 Overview

11.1.1 This section sets out the construction risks and management measures relevant to geo-environmental hazards and risks as identified in ES Chapter 10 – Ground Conditions, the Phase 1 Ground Conditions Assessment ('GCA') (Appendix 10.1) **[REF: 6.3]**, and Coal Mining Hazard Assessment ('CMHA') (Appendix 10.2) **[REF: 6.3]**. Further information relevant to this OCEMP is found in the Agricultural Land Classification (ALC) Report (Appendix 2.8) **[REF: 6.3]** and Peat Survey Report (Appendix 10.3) **[REF: 6.3]**.

11.1.2 This section sets out the scope of surveys which will be conducted pre-construction which will inform the final design that will embed mitigation of geo-environmental risks within the Proposed Development and the CEMP. Section 11.3 will then outline the details of the mitigation which would be included in the CEMP based on the results of these surveys and implemented during the construction phase to manage the possibility of contamination and ground conditions issues.

11.2 Pre-Construction

11.2.1 As described in the Phase 1 GCA (Appendix 10.1), an intrusive ground investigation will be necessary and will be undertaken post-consent in order to confirm the ground conditions present in areas of potential geoenvironmental and / or instability hazard. The investigation will provide information enabling a detailed design for the proposed structures and to inform the delivery and layout of the Proposed Development.

11.2.2 The aim of the ground investigation would be to investigate and characterise the near-surface soils, such that (following laboratory analysis and assessment) appropriate design parameters can be defined, and any required mitigation measures can be designed, including procedures for management of unexpected contamination.

11.2.3 The ground investigation will also provide information relating to stability hazards, including former coal mine entries, areas of potential shallow coal mine workings, and the former opencast pit highwall as identified in the CMHA (Appendix 10.2, Figure 3.1). The ground investigation will be designed to locate and delineate, as far as is reasonably practicable, the extent of these hazards, with the results of the investigation used to inform the design of the Proposed Development.

11.2.4 It is anticipated that the ground investigation would comprise a series of mechanically excavated trial pits, trial trenches and deeper boreholes to allow the installation of groundwater and ground gas monitoring installations. The investigation will allow the identification and delineation of potential stability hazards if present (coal mine entries, shallow workings and the highwall). Soil and groundwater samples recovered from the exploratory holes would be submitted to geotechnical and geoenvironmental laboratories for analysis. A post-investigation ground gas monitoring period may also be undertaken, depending upon the ground conditions encountered e.g., whether the groundwater levels allow for response zones to be constructed within the unsaturated zone, allowing the collection of relevant data.

11.2.5 The detailed design of the PV arrays and other associated infrastructure will be informed by the outcomes of the ground investigation, including consideration of appropriate materials, geo-environmental hazards, instability hazards, and modelling undertaken by the designer. The final design will:

- Avoid the construction of non-compatible infrastructure in areas where compressible peat deposits have been identified in the Peat Survey Report (Appendix 10.3).
- Respond to geo-environmental risks through appropriate siting of infrastructure and inclusion of any mitigation measures found to be necessary.
- Avoid ground stability hazards by not siting structures in areas where hazard related to coal mining including mine entries and former opencast pit highwall are present, as identified in the CMHA (Appendix 10.2).

11.2.6 It should be noted that ground investigation is an iterative process, and further investigations may be required if anomalies or sub-optimal characteristics are identified, requiring further investigation to delineate.

11.2.7 The proposals for ground investigations would be checked with the EHO for the Council and the Mining Remediation Authority ('MRA') where appropriate during the pre-commencement engagement undertaken in advance of CEMP finalisation.

11.2.8 If the ground investigation, and subsequent interpretative assessment identify potential credible hazards to the identified receptors, then mitigation of the identified hazards would be required. On the basis of the known land-use history within the Site it is not anticipated that wide-scale remediation of geo-environmental hazards would be required, however the potential for localised mitigation measures to be required cannot be discounted at this stage. Any identified geotechnical and land stability hazards would be mitigated by design, e.g., the choice of appropriate construction materials, foundation solutions, and by appropriate siting of elements of the Proposed Development.

11.2.9 Other measures that may be required (subject to ground investigation and interpretative assessment) include:

- The management of localised unexpected contamination, if/where this is identified and is assessed to present a hazard to the identified receptors;
- The requirement for consideration of the potential hazard presented to human health (construction / maintenance workers) during the construction phase by ground gases (if/where identified), e.g., during confined spaces working; and
- The erecting of exclusion zones, for example using fencing or barriers around areas of assessed land-stability hazards such as coal mine entries and requiring RAMS for working within areas of identified hazards.

11.2.10 It is anticipated that these requirements could be established and fully or at least potentially completed in advance of the completion of the CEMP. Any outstanding assessments and/or remediation to be undertaken would be set out in the CEMP. Otherwise, the CEMP will base RAMS on the outcomes of assessments and remediations completed in advance.

11.3 Mitigation of Geo-Environmental Hazards During Construction

11.3.1 ES Chapter 10 **[REF: 6.1]** notes the potential for risk to human and environmental health due to existing ground conditions during construction, primarily:

- There is the potential for the discovery of unexpected contamination; and
- There is potential for risk to human health construction workers through exposure to exposure to potentially contaminated ground and ground gases.

11.3.2 This section outlines the mitigation (exclusion zones, sensitive working practice, and design) and methodologies which will be followed during the construction phase as informed by the appropriate ground investigation (outlined in section 11.2), monitoring, and assessment work and which are secured by this OCEMP.

Management of Unexpected Contamination (Discovery Strategy)

11.3.3 In the event that contaminated land, including groundwater, is found at any time when carrying out the Proposed Development which was not previously identified, it must be reported as soon as reasonably practicable to the Council and the undertaker must complete a risk assessment of the contamination in consultation with the Council.

11.3.4 A protocol (Discovery Strategy) for managing unexpected contamination will be developed by the PC and will include details of supervision and tool box talks to be implemented throughout the construction phase, details regarding how any affected area will be delineated, protected, investigated and assessed, the qualifications and competencies of the person appointed to oversee the works, the preparation of a method statement for how the contamination will be dealt with or remediated (as appropriate), an escalation policy describing when and how any notifications and approvals will be agreed with the Council, and details of verification procedures for any mitigation or remediation works.

11.3.5 Measures to prevent and respond to contamination which could be caused by construction activities such as spillages are included within section 10.

Human Health (Construction and Maintenance Workers)

11.3.6 Mitigation of the potential hazard to human health (construction and maintenance workers) can be provided by the PC adopting good hygiene standards will prevent prolonged skin contact, inhalation, and ingestion of soils during construction.

11.3.7 The PC will be provided with the results of any ground gas monitoring undertaken as part of the ground investigation. The PC will prepare appropriate RAMS and confined spaces working procedures to take into account any potential ground gas hazards identified. The requirement to do these things will be requirements of the CDM regime so may not be reported in a CEMP, though the CEMP will reinforce expectations of compliance as it does in this present version.

Controlled Waters (Surface Water & Groundwater)

11.3.8 If the ground investigation identifies contamination to be present, appropriate methods of working will be implemented to limit disturbance of potentially contaminated soil. The OSMP (Appendix 5.3) requires the PC to '*take all reasonable steps, including the provision of any necessary works, to prevent damage by erosion, silting or flooding and to make proper provision for the disposal of all water entering, arising on or leaving the Site during the permitted operations*'. Whilst these measures would be designed to prevent degradation of the physical quality of surface waters, they will also prevent the migration of contamination (where it is found to be present) and/or sediment from stockpiled soils into surface waters.

11.3.9 Following ground investigation and subsequent assessment, if / where contamination is identified a Foundation Works Risk Assessment ('FWRA') will be prepared (as requested by the Environment Agency) to ensure that the proposed foundation method will not have an adverse impact by creating new pathways for the migration of contamination.

Land Stability Hazards

11.3.10 To mitigate safety risks associated with potentially unstable land (e.g., historical coal mine entries, shallow workings, and buried highwalls) during

the construction phase, no development or construction will be permitted within 50m of former Coal Mine Entries identified on Figure 3.1 of the CMHA (Appendix 10.2) without further investigation/assessment as agreed with the MRA and in accordance with any relevant permits that may be required.

11.3.11 Mitigation of the land stability hazards associated with the historical coal mine entries will be provided by establishing a buffer zone around each mine entry, initially set at a 50m radius. Ground investigation will be undertaken post-consent and will aim to determine (as far as is reasonably practicable) the location of historical mine entries and presence/absence of shallow mine workings. The scope and methodology of this investigation will be agreed with the MRA. Where the location of a mine entry is confirmed by ground investigation, the radius of the buffer zone will be reduced (reduction to be assessed on the basis of the findings of the ground investigation). Fencing / barriers will then be erected around the buffer zone.

11.3.12 The CMHA (Appendix 10.2) identifies areas where coal seams are mapped close to ground level and where there is a corresponding potential for unrecorded shallow coal mining, which presents a potential stability hazard. Depending on the nature of the development or activities in these areas ground investigation comprising deeper boreholes will be undertaken in to determine the presence / absence of mines (and therefore a stability hazard).

11.3.13 If stability hazards are identified, the structures will be relocated (within their corresponding Work No.) to areas where a stability hazard has not been identified. Treatment (remediation) of the mine workings is not anticipated to be undertaken.

Hazards to Soil (Resource)

11.3.14 Chapter 10 – Ground Conditions and the OSMP (Appendix 5.3) have further identified a potential for damage to soil resource / stock to occur. Full measures on soil protection will be detailed within the SMP. The

OSMP includes measures to protect soils during construction. Preparation of the SMP will be substantially in accordance with the OSMP.

Materials Management

11.3.15 The reuse of excavated soils that are chemically and physically suitable for the intended construction purpose can be undertaken subject to complying with one of the following:

- Soils that are excavated and temporarily stored prior to being returned to the original excavation would not be considered a waste. This activity does not meet the definition of a waste as the holder does not intend to discard it, nor is required to discard it.
- Article 2.1 (c) of the Waste Framework Directive[9] - '*naturally occurring material excavated in the course of construction activities where it is certain that the material will be used for the purposes of construction in its natural state on the site from which it was excavated*'.
- A Waste Exemption that is registered.
- Environment Permit - Standard rules to use waste in a deposit for recovery operations (construction, reclamation, restoration or improvement of land other than by mobile plant) or Bespoke permit.
- CL: AIRE Definition of Waste ('DoW') Code of Practice ('CoP').
- A Regulatory Position Statement.

Peat

11.3.16 The aims and policy goals presented in the England Peat Action Plan 2021[10] have been considered and in particular how protection is afforded to peatlands in national planning policy. The potential for damage to peat (the locations of which have been identified in the Peat Survey Report (Appendix 10.3)), has been identified and considered against this policy paper.

11.3.17 All Work Nos identified on the Work Plans **[REF 2.3]** other than Work No. 3 and 6 are excluded from areas where peat has been identified. Work No. 3 and 6 overlap areas where peat has been identified. Areas of identified peat deposits will generally be avoided by construction activities, particularly those which would affect excavation, compaction or drainage,

[9] The European Union. Waste Framework Directive. Document 02008L0098-20180705
[10] Department for Environment, Food & Rural Affairs. England Peat Action Plan. Available from: https://www.gov.uk/government/publications/england-peat-action-plan Accessed February 2025.

however there may be specific landscape and ecological enhancements within Work No. 3 or 6 within the areas of identified peat deposits.

11.3.18 Where activity needs to take place within identified areas of peat for these specific landscape and ecological enhancements, the following measures could be followed to ensure that any compaction or drying out of the peat resource is avoided:

- Traffic is excluded from the areas of peat by way of physical temporary fencing. For any temporary traffic that is absolutely unavoidable methods shall follow those set out in the SMP and/or the CEMP.
- Where areas of peat or soft ground are to be temporarily accessed during the works then suitable temporary access measures are used comprising either low ground pressure tracked plant or temporary trackway. Wheeled plant is not used in these areas to avoid risk of rutting.
- The PC ensures any workers in this area have proven experience of working in a peat environment for all works in those areas.
- The PC ensures that all contractor employees, sub-contractors (irrespective of whether employed by the PC or the Client), suppliers, and other visitors to the Site are made aware of the specific locations of peat on Site and in relation to their works.
- The identified areas of peat are physically identified on Site and their locations are clearly identified on Site plans.
- The CEMP will include a series of requirements and a dedicated Method Statement setting out the measures and controls to protect peat on-Site.
- The FWRA will be prepared to ensure that the proposed foundation method will not have an adverse impact by allowing drying out of peat.

11.4 Next Steps

11.4.1 As discussed above, the detailed design of the Proposed Development will be informed by ground investigation and interpretative assessment. Where necessary, remediation / mitigation measures will be included as part of the design to break construction phase contaminant linkages. The CEMP will provide construction phase controls based on the detailed design, including measures (as / if found to be necessary) which may arise following the ground investigation.

11.4.2 The CEMP will provide further detail of the Discovery Strategy for managing unexpected contamination following engagement on this strategy with the Council and Environment Agency.

12 Surface Water and Flood Risk Management

12.1 Overview

12.1.1 This section outlines construction phase mitigation in relation to surface water and flood risk management. It is based on the findings of the Flood Risk Assessment ('FRA') and Outline Drainage Strategy ('ODS') (Appendix 2.4) **[REF: 6.3]** and Water Framework Directive ('WFD') Assessment (Appendix 2.3) **[REF: 6.3]** and has been influenced by other technical disciplines such as Chapter 10 – Ground Conditions, as well as stakeholder advice (e.g. from the Lead Local Flood Authority ('LLFA') and the Environment Agency ('EA')) and established best practice.

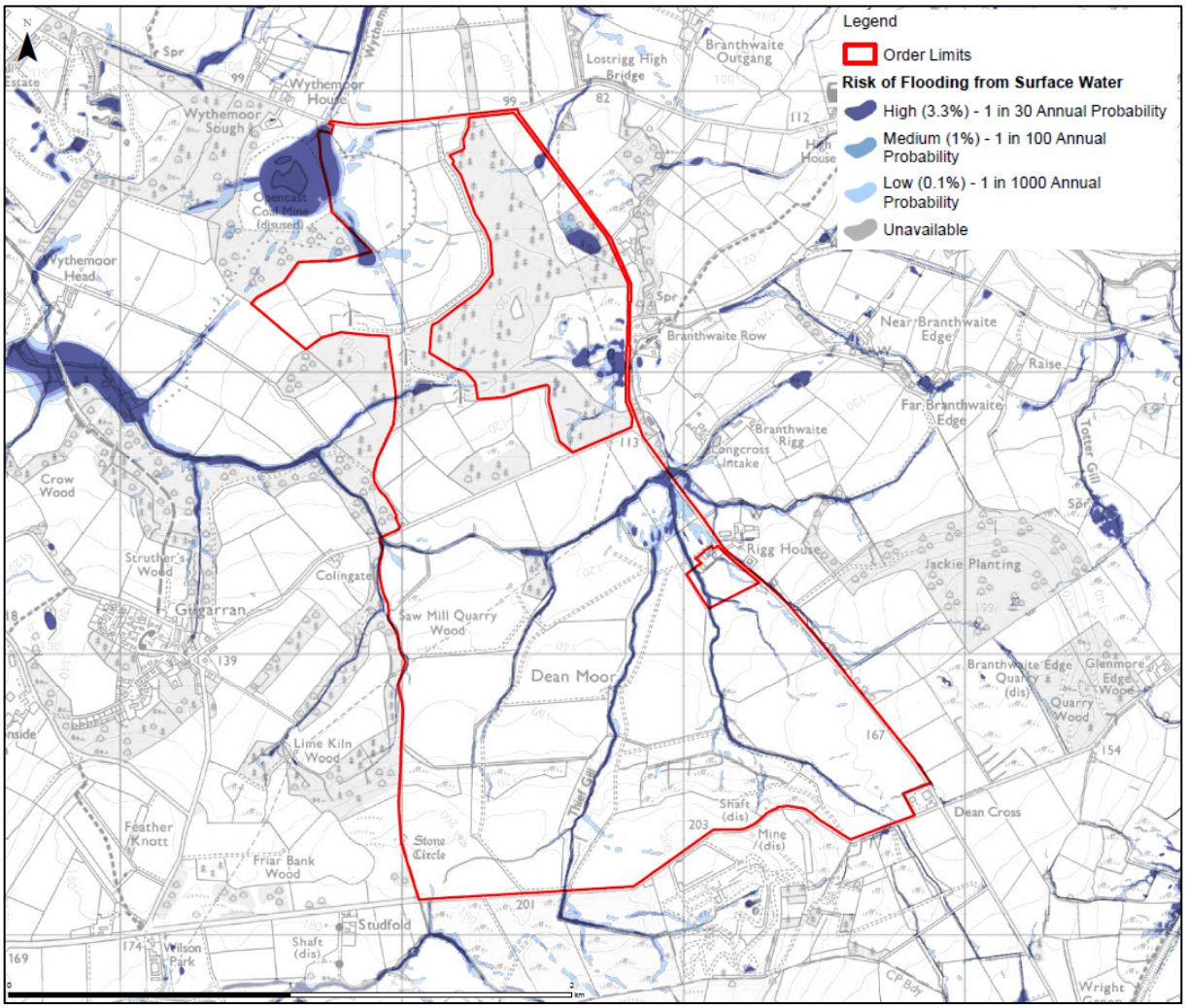
12.1.2 This section of the CEMP will only provide construction phase measures and does not represent part of the Site's operational drainage strategy except where actions in this phase, such as avoidance of ground compaction, can be influential beyond the construction works.

12.1.3 The purpose of this section is to provide an outline for the measures that will be necessary for protecting the Site from flooding, controlling the risk of pollution, and protecting the aquatic environment from the ingress of material such as soil, silt, oil, and chemicals. It will also set out how the Applicant will work with key stakeholders ahead of submission of the CEMP and for any additional permits/consents which may be required beyond the DCO.

12.2 Risks

12.2.1 As set out in the FRA, the Site is at very low risk of flooding from all sources, with no areas of fluvial floodplain within the Site (which is entirely in Flood Zone 1 'Low Probability' of river/sea flooding) and only limited area of pluvial flood risk along the ordinary watercourses and waterbodies in topographic depressions (e.g. ponds) within the Site as per Figure 12.1 below.

Figure 12.1: Extract from FRA Appendix A Open Data Flood Maps – Risk of Flooding from Surface Water (Environment Agency mapping)



12.2.2 This means that the Site itself is at very low risk of flooding, when considering the risk to the construction workers, the solar energy generation equipment being installed, and the temporary equipment (e.g. plant and machinery) required to facilitate construction.

12.2.3 This section of the OCEMP is targeted to the prevention of detrimental impacts on watercourses, both on and off Site. Water management in construction is important because it can have an impact on natural ecosystems resulting in the depletion of groundwater and surface water, nutrient runoff, pollution of aquifers, etc. These impacts can be mitigated with hydrological management tools and techniques.

12.3 Mitigation Measures

General Requirements

12.3.1 In implementing the Proposed Development, the PC's works will maintain buffers of a minimum of 8m to all watercourses. The exception is where an existing crossing is being utilised, and with any works affecting these crossings to be subject of a secondary consent.

12.3.2 Where buffers are not provided by perimeter fencing, temporary barriers should be utilised in accordance with this OCEMP. The locations of permanent barriers and the locations of any crossing points will be confirmed at detailed design. The CEMP will include details of additional temporary barriers as required by this and other sections of the CEMP as the protection of watercourses is a cross-cutting topic.

12.3.3 Confining construction works to only areas outside the buffers means many risks arising from the WFD Assessment and FRA are designed-out. This will allow this section of the CEMP to focus primarily on constraints and obligations relating to construction activities within the works areas that are not safeguarded through exclusion.

12.3.4 Other designed-in measures that form part of the Site's operational drainage strategy, but that will be implemented in construction, will also support construction phase risk mitigation. This includes:

- The detailed design will aim to utilise the existing established access track network, minimising the introduction of new trackways through the Site as much as possible, and limiting these new tracks to minimal offshoots of the existing network. This will reduce the potential impact of traffic routes around the Site as a source of soil compaction.
- All internal access tracks will be formed of a fully permeable gravel material (MOT Type 3 or similar) with no bound tarmac surfaces through the agricultural fields that would represent the introduction of new hardstanding. The exception to this could be where the LHA may prefer bound surface materials at access points from the highway (typically, around 5m). If such surfacing is proposed as part of the final design, details of drainage provision for the new hardstanding would be required.
- Buildings (e.g. PCS Units) to be placed on Site will benefit from appropriate targeted SuDS such as gravel subbases or filter drains, as

outlined in the FRA's drainage strategy, and would be established before containers are placed on the Site which would otherwise represent new hardstanding. These and other SuDS measures will be approved under the Drainage Strategy DCO Requirement. This means what is installed as part of the Site's operational drainage strategy will have already been accepted by the LLFA and EA before the works are implemented, with all targeted drainage measures put in place as part of the construction process, thereby mitigating risks for the Site in construction as they will during operations.

- The retention of vegetation in the final design, the protection of vegetation (trees, hedges, and grassland) as previously established in this OCEMP, and the conservation of soil resources as set out in the OSMP will also make a valuable contribution to Site water management.

12.3.5 Beyond that which is designed-in, a range of management and other mitigation measures are required to be implemented for proper water management. Good industry practice should be incorporated regarding the discharge of water from excavations and the reduction of pollution risk. Mitigation measures will therefore target water quality and quantity as set out to follow.

Water quality

12.3.6 Adopting best practice construction site management with adequate contingency planning and following the principles of pollution prevention guidance will reduce the risk of water pollution during the construction phase.

12.3.7 Measures to be implemented to reduce the risk of water pollution include the proper supervision of construction activities using appropriately experienced and qualified staff and supervisors, and strict adherence to Health and Safety Regulations, Codes of Practice, and method statements approved in association with any secondary consents. Other measures which could be implemented as necessary are set out below.

12.3.8 The PC and any sub-contractors will employ best practice, good housekeeping and adopt the principles set out in the Construction Industry

Research and Information Association ('CIRIA') Toolbox Talks: Environmental[11], CIRIA C5322[12], CIRIA C7413[13], and CIRIA C648[14].

12.3.9 The PC will provide additional street cleaning facilities as necessary to keep highways leading to the Site clear of mud and prevent sediment contaminating surface water runoff. Wheel washing facilities, appropriate stockpiling of topsoil, suitable timing of earthwork and earthmoving operations, and dust suppression measures will be used to prevent migration of sediment and other potentially polluting substances onto the highway and into watercourses:

a. Vehicle and plant washing will be carried out on designated areas at least 8m from any watercourse or surface water body.

b. The contractors will use well maintained plant, but the likelihood of spills will also be reduced through adoption of pollution prevention principles as set out in the section 10 of this OCEMP;

c. Where construction activities occur in close proximity to watercourses, additional silt management measures will be required. Silt fences should be erected along the boundary of watercourses to minimise silt laden runoff entering the on-Site watercourses and the use of siltbusters (or similar approved product) may be necessary;

d. All construction compounds and material and plant storage areas or staging areas will be located outside areas susceptible to flooding (Flood Zones 2/3) and areas at medium-high risk of surface water flooding) and at least 8m away from watercourses;

e. Effective contingency plans will be put in place to manage the risk associated with accidents and/or unforeseen circumstances. For example, information relating to the use and location of accidental spill kits will be relayed to the construction personnel;

f. Only light machinery would be used to install the solar panels and all HGVs would be restricted to the temporary construction compounds The exception to this will be for only specific items (PCS Units and any Grid Connection Infrastructure that must be directly offloaded from the HGV) which will only be allowed to occur in appropriate weather and soil wetness conditions and with additional mitigation measures (e.g. matting) put in place where necessary to prevent compaction or rutting;

[11] CIRIA (2016) Toolbox talks: Environmental.

[12] CIRIA (2015) The SuDS Manual (Version 6 including 2016, 2018, 2019) CIRIA C753

[13] CIRIA (2015) Environmental good practice on site guide CIRIA C741

[14] CIRIA (2016) Control of water pollution from linear construction projects. Site guide CIRIA C649.

g. Construction vehicles and plant would be restricted to agreed access routes within the Site to minimise compaction and disturbance of ground conditions;

h. The significant storage of fuels, lubricants or chemicals on-Site is not expected. A temporary fuel store would be present in the primary construction compounds to serve construction plant and vehicles. Any relevant materials would be stored in accordance with the appropriate pollution prevention principles to reduce the likelihood of spillage and with an impermeable base and suitable bunding or double skinned tanks;

i. The on-Site watercourses and the ground surface where potentially polluting construction activities are being undertaken or potential contaminating substances are stored would be inspected regularly to check for any unforeseen discharges from the Proposed Development (changes in colour, transparency, oil sheen (iridescence) or foam build up). If any deterioration in the quality of the on-Site watercourses is identified, or a spillage of a potential contaminant identified on the ground surface, this should be reported to the Site Manager and construction site management techniques reviewed and adjusted accordingly and appropriate containment and remediation measures enacted; and

j. A maintenance plan will be established so that all construction plant is routinely checked and maintained to reduce the likelihood of leakages during the construction phase. Further detail on this maintenance plan should be set out in the CEMP.

Water quantity

12.3.10 The Site's drainage regime may be temporarily disrupted during the construction phase by construction activities such as storage of materials, movement of vehicles and trenching associated with the installation of the equipment. This could cause minor increases in the runoff rates, minor disruption to overland flow routes and soil compaction. The following recommendations should help to avoid or minimise these risks.

Retention of Vegetation

12.3.11 Retaining vegetation on-Site as far as practicable is highly recommended through the construction phase. The retention of covering vegetation binds the soil together and reduce the rate of runoff from exposed soil and the rate of soil erosion.

12.3.12 Use of temporary matting / temporary trackways should be considered if areas of bare earth persist through the construction phase to minimise disturbance of soil (and mobilisation of sediment).

12.3.13 Details of the landscape maintenance and retention of vegetation across the Site will be detailed in the LEMP. As part of the completion of the construction in any part of the Site (without waiting for the completion of all construction), if necessary to alleviate the effects of any compaction, it is recommended any affected areas should be harrowed and seeded in accordance with the LEMP.

12.3.14 Grass seeding should be done at the earliest opportunity without waiting for the generating station to become operational. The PC shall also consider seeding grassland in bare or patchy parts of the Site in advance of construction works where this will benefit soil structure and help minimise runoff effects during construction.

Phasing of the Drainage Strategy

12.3.15 An Outline Drainage Strategy ('ODS') is provided within the FRA with a detailed scheme based on the final layout to be approved via a DCO Requirement. The drainage strategy takes a landscape-led rural SuDS approach that seeks to maintain existing greenfield characteristics without over-engineering or introducing unnatural features. The majority of the SuDS strategy will therefore rely on the maintenance of existing vegetation and new vegetation including boundary features and improved grassland. However, targeted SuDS will also be introduced for features capable of representing new hardstanding and a more engineered solution (e.g. pipework and attenuation tanks) may be included for the Work No. 2 – Grid Connection Infrastructure **[REF: 2.3]** depending on Electricity North West Limited ('ENW') technical requirements.

12.3.16 Other designed-in features that will be considered are targeted infiltration swales which will be based on the final layout as informed by geotechnical surveys and infiltration testing and a final flow path analysis based on this layout. Interception swales could be introduced as a permanent feature as part of the Drainage Strategy or as a temporary feature to be implemented

during construction before the Site is able to benefit from the new and improved vegetation.

12.3.17 In circumstances where little vegetation cover is present on commencement of construction, it is recommended that the interception swales are provided at the outset to intercept overland flows and act as silt traps to mitigate the disturbance of construction activities on site drainage. These interception swales would likely be located around the low-lying perimeter of the site to intercept overland flows.

12.3.18 If during construction it is evident that the surface of the Site is becoming significantly disturbed, then implementing interception swales immediately (or other temporary feature such as a cut-off ditch) would act to restrict potential runoff and act as silt traps. Interception swales would need to be remediated, and any build-up of silt removed on completion of the construction phase to ensure the features can continue to function throughout the operational lifespan of the Proposed Development if they are to be retained as part of the drainage strategy.

12.3.19 Alternatively, if the Site remains in good condition and vegetated during construction, it would be advisable to leave the construction of the permanent interception swales to the end of the construction programme so as to maximise the benefits of the existing vegetation cover. The timing of the provision of the interception swales is therefore a matter for the Site Manager to determine based on their professional experience and informed by input from the ECoW and the hydrology team that will be involved in the production of the CEMP and Drainage Strategy.

Phasing of the Construction

12.3.20 The Site has a low risk of flooding from all sources with only some higher pluvial flood risk areas along watercourses as per Figure 12.1 The risk to the majority of these areas has already been designed-out. Nevertheless, surface water flooding can occur beyond areas where the associated flood mapping indicates it is predicted, and assessments thus far (ALC Report (Appendix 2.8)) as well as anecdotal evidence from the farmer suggests some areas of the Site are slow draining and prone to becoming

waterlogged. It is understood that there is some agricultural drainage present within the Site which serves to prevent waterlogging and enhances the natural land drainage for grazing.

12.3.21 Measures to protect against damage to these areas of the Site will be more fully addressed in the SMP but there will be some crossover with this part of the CEMP. Mitigation for soil resource conservation and water management include the following in relation to the phasing or control of construction.

12.3.22 Construction activities, such as large-scale earthworks, would be paused during periods of elevated surface water flood risk (presence of extensive runoff or surface water accumulations) to minimise the disruption to on-Site overland flows, and such activities would also be minimised during heavy precipitation events.

12.3.23 Construction activities associated with any watercourse crossings would be schedule during a period of dry weather when rain is not forecast and flow within the watercourse is naturally lower. The watercourses could be temporarily dammed upstream of the proposed works. If water level rises significantly within the watercourse, flows would be over-pumped into the watercourse downstream of the proposed works.

12.3.24 Method statements for the temporary works would be agreed with the Council (as LLFA) as part of the Section 23(1) of the Land Drainage Act 1991 (as amended by the Flood and Water Management Act 2010)[15] Ordinary Watercourse Consenting (OWC) process and in line with the Council's guidance[16].

12.3.25 The PC would regularly monitor weather forecasts and register to receive flood alerts from the EA. When a flood alert is issued in the vicinity, the construction works associated with watercourse crossings (or works within

[15] HM Government (1991). Land Drainage Act 1991 c. 59, Part II, Control of flow of watercourses, Section 23.

[16] Cumberland Council. Apply for consent for works on ordinary watercourses. Available from: https://www.cumberland.gov.uk/planning-and-building-control/environment-and-planning/flooding-management-and-prevention/apply-consent-works-ordinary-watercourses Accessed January 2025.

their vicinity) would cease and staff would vacate and remove all machinery from this area of the Site as a precautionary measure.

12.3.26 A precautionary approach will also be taken to excavation work. Excavations required for cable installation or other infrastructure will be undertaken in a manner that minimises the time during which subsoil layers are exposed. Soil stockpiles will be managed to contain sediment within the locality, preventing pollution of watercourses. Additionally, the soils will be reinstated as quickly as possible and re-seeded for grass coverage to minimise the amount of bare earth present on the Site.

12.3.27 All material and plant storage areas and temporary spoil stockpiles will be located outside areas susceptible to flooding (Flood Zones 2/3 and areas at risk of surface water flooding) and at least 8m away from watercourses to avoid influencing flood flow routes and minimise risk of mobilisation of pollutants or debris which could increase blockage risk downstream. Where necessary, temporary stockpiles would be protected by silt netting when not in use.

Watercourse Consents and LLFA Engagement

12.3.28 The Proposed Development will seek to retain and reuse existing crossings, and a constraint on new crossings is provided for in the Works Plans which include existing crossings (plus a 10m buffer either side) under Work No. 3 – Associated Works while all other sections of the watercourse are within Work No. 6 – Green Infrastructure **[REF: 2.3]** and will not be potentially subject to construction activity. This means any 'new' crossings will only be the potential for upgrading or reinforcing existing crossing points across the Site as opposed to introducing any new features.

12.3.29 The 10m buffer included either side of crossings on the Works Plans is to allow for the possibility of works occurring to upgrade / reinforce these crossings. These works would be limited to within these buffers and would require a Method Statement to be approved by the Council as part of the OWC. However, should upgrade / reinforcement works not be necessary because the crossing is not required, or where the works do not require

the entirety of the buffer, there would be no works in these areas, and they will be as if included in Work No. 6 – Green Infrastructure.

12.3.30 Watercourse crossings could be required for internal access tracks, perimeter fencing, or cables. These could require culverting of an ordinary watercourse, which would necessitate OWC from the Council.

12.3.31 Other works that would require OWC include any aspects of the Drainage Strategy that rely on piped discharge to a watercourse, which is anticipated only for the Work No. 2 – Grid Connection Infrastructure. As this depends on final design specifications from the electricity undertaker that are not available until after development consent is granted, it is not possible to discuss further within this OCEMP, though the procedure for obtaining OWC will be the same for proposals to discharge as for the watercourse crossings.

12.3.32 As the Proposed Development does not propose to introduce new crossing locations, any works would be to upgrade existing crossings to make them fit for purpose for the construction and operation of the generating station. Based on the Applicant's experience implementing other solar farms it is understood that the LLFA would require plans and a method statement relating to the use of or works to each final crossing location. Based on this submission the LLFA may determine that some uses and works will not require consent and can be undertaken without a permit, whereas others will require further scrutiny and formal OWC before they are commenced.

12.3.33 The CEMP will not set out a procedure for seeking consent but will restate this OCEMP's commitment that no works with the potential to affect an ordinary watercourse will be undertaken before the LLFA either issues OWC or confirms that no OWC is required for the proposed works/use. For works where OWC is required, all works will comply with the method statements provided as part of the OWC application.

12.3.34 The PC will also comply with any monitoring requirements/requests the LLFA might have for works on the Site either in relation to OWC works or

to verify conformity to other aspects of this CEMP which are not subject to OWC but where the Council have an interest as the LLFA. This section of the CEMP will be informed by engagement with the LLFA.

12.4 Next Steps

12.4.1 The CEMP will be based on the final layout, which would specify the locations of infrastructure and any watercourse crossings within the Site. The CEMP will adhere to the principles established by this OCEMP ensuring effective hydrological management to prevent adverse impacts to water quality, both on and off Site. It will set out specific constraints or obligations for different parts of the Site, based on the final layout and the final construction programme, which must generally accord with the protections provided by this outline document. This section of the CEMP will be agreed by the Council and the Environment Agency.

13 Community and Stakeholder Engagement

13.1 Overview

13.1.1 This section outlines the methods of communication with the local community and stakeholder engagement throughout the construction phase. The CEMP will be updated to include further detail of the communication methods.

13.2 Emergency Contact Details

13.2.1 A notice displaying emergency contact details will be displayed in prominent locations on-Site – such as within the Site office. External notices will be placed at prominent locations around the perimeter of the Site, such as where PRoWs are in proximity to the Site boundary.

13.3 Public Liaison

13.3.1 If there is local interest, a Community Liaison Group ('CLG') will be established by the Community Liaison Manager to facilitate discussions with the local community and interested local groups, and maintain communication between residents, the parish councils, and the construction team. Once established, details of the CLG will be provided to the Council as a supplement to the CEMP and CTMP. If there is not local interest, evidence of the Applicant's efforts to set up a CLG will be submitted, including provision for future establishment should interest arise after the works have commenced.

13.3.2 Display boards will be installed at appropriate publicly accessible locations which will detail the relevant contact details, project information and details of the complaints and comments procedure. Details will also be included on the project website and other relevant communication methods, such as newsletters.

13.3.3 Communication will be maintained with neighbouring residents and parish councils throughout the duration of construction works to provide updates on the construction programme.

13.4 Complaints

13.4.1 A mechanism for notifying residents of any particularly noisy or dust emitting activities will be provided on the project website.

13.4.2 The Site Manager will prepare a complaints and comments log to detail the corrective actions taken to deal with relevant complaints and comments. A draft outline complaints log is provided at Appendix C. All complaints will be dealt with by the Site Manager.

13.4.3 The Site Manager will ensure that a telephone enquiry line is maintained at all times throughout the construction phase to deal with enquiries and complaints from the local community. The telephone number and email address will be publicised in the local community affected by the construction works. Contact details will be published on the project website and on signage around the Site, allowing the public to get in contact with the project team easily and via multiple methods for any queries or complaints.

13.5 Next Steps

13.5.1 This section will be updated in the CEMP with a full Complaints Handling Procedure.

14 Maintenance and Monitoring Activities

14.1 Monitoring

14.1.1 Monitoring and recording will be undertaken throughout the construction phase to demonstrate the effectiveness of the measures set out within the CEMP and related construction controls; to ensure compliance to any regulatory standards; and to enable corrective action to be taken when necessary. Details of the monitoring strategy will be included within the CEMP.

14.1.2 The PC will be responsible for monitoring construction activities and report deviations and breaches of environmental measures and procedures as set out within the CEMP and implement the necessary corrective actions. Regular formal inspections and audits will be conducted to capture these observations and provide a paper-trail of monitoring activities. This will include monitoring water levels in local watercourses during construction, adapting flood risk mitigation accordingly based on real-time data, and developing site-specific flood contingency plans with the EA and LLFA.

14.1.3 The CEMP will detail the required frequency of inspections and audit and assurances for independent internal auditing procedures. The Applicant will be informed throughout this process. The PC/Applicant will also act as the day-to-day contact with relevant stakeholders (e.g., the EA).

14.1.4 The PC would be responsible for advising employees of changing circumstances as the construction phase progresses.

14.2 Records

14.2.1 The PC or PM will retain records of environmental monitoring and implementation of the CEMP. This will allow provision of evidence that the CEMP is being implemented effectively. These records will include:

- Environmental Action Schedule documenting any actions from the PC's walkover surveys to ensure the requirements of the CEMP are being met;
- Licences and approvals;

- Results of inspections by the Health and Safety Manager and PC / ECoW / PM;
- Other environmental surveys and investigations; and
- Environmental equipment test records.

14.2.2 Any requirement for monitoring during the construction phase will be included in the CEMP and agreed with the Council.

Appendix A Framework of Legislation

General

The Waste (England and Wales) Regulations 2011

Construction (Design and Management) (CDM) Regulations 2015.

Permitting

The Environmental Permitting (England and Wales) Regulations 2016 (EPR 2016)

Ecology and Nature Conservation

Conservation of Habitats and Species (Amendment) (EU Exit) regulations 2019;

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive);

Countryside and Rights of Way (CRoW) Act 2000;

Directive 2009/147/EC on the Conservation of Wild Birds (the Birds Directive);

Natural Environment and Rural Communities (NERC) Act 2006;

Protection of Badgers Act 1992;

UK Biodiversity Action Plan (UKBAP) 1994; and

Wildlife and Countryside Act (1981, as amended).

Landscape and Visual

Countryside and Rights of Way Act, 2000; and

European Landscape Convention, 2000.

Historic Environment

Ancient Monuments and Archaeological Areas Act (1979);

National Heritage Act (2002);

The Planning (Listed Buildings and Conservation Areas) Act (1990); and

Town and County Planning Act (1990).

Hydrology and Flood Risk

Environment Act 2021;

Environmental Protection Act (EPA) 1990 (as amended);

Flood and Water Management Act 2010;

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017;

Water Act 2014;

Water Resources Act 1991; and

Water Supply (Water Quality) Regulations 2016 (as amended 2018).

Hydrogeology, Geology and Ground Conditions

Environment Act 2021;

Environmental Protection Act (EPA) 1990 (as amended);

The Contaminated Land (England) Regulations 2006;

The Landfill (England and Wales) (Amendment) Regulations 2005 ;

The Special Waste (Amendment) (England and Wales) Regulations 2001;

TSO. (2001) Control of Pollution (Oil Storage) (England) Regulations 2001;

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017; and

Contaminated Land: Applications in Real Environments (CL:AIRE) (2011). Definition of Waste: Development Industry Code of Practice.

Traffic and Transport

Transport Act 2000.

Noise and Vibration

Environmental Protection Act 1990 (EPA); and

Part III of the Control of Pollution Act 1974 (CoPA).

Climate Change

Carbon Budget Order 2021;

Climate Change Act 2008 (as amended 2019); and

Climate Change Act 2008 (as amended 2019); and

Paris Agreement 2015.

Air Quality

Air Quality Standards Regulations 2010; and

Ambient Air Quality Directive (2008/50/EC).

Appendix B Best Practice Guidance

CIRIA C741 Environmental Good Practice on Site Guide (fifth edition).

Considerate Constructors Scheme (2024)

Ecology

Bat Conservation Trust (BCT) Guidance Note 8 ‘Bats and Artificial Lighting’ (2023);

Institute of Lighting Professionals and the Bat Conservation Trust (2021). Guidance Note 1 for the reduction of obtrusive light 2021.

Noise and Vibration

“Best Practicable Means” under Section 72 Control of Pollution Act 1974 (the 1974 Act), as amended; and

British Standard BS 5228-1:2009+A1:2014: Code of practice for noise and vibration control on construction and open sites.

Ground Conditions

British Standard BS 10175:2011+A2:2017: Investigation of potentially contaminated sites. Code of practice;

British Standard BS 5939:2015+A1:2020: Code of practice for ground investigations (Page 10);

British Standards Institution (BSI). (2009) BS 6031:2009 Code of Practice for Earth Works

Construction (Design and Management) Regulations 2015 (CDM Regulations);

Department for Environment, Food and Rural Affairs (Defra) ‘Environmental Protection Act 1990: Part 2A – Contaminated Land Statutory Guidance’ (2012);

Department of Environment, Food and Rural Affairs (DEFRA) (2009), Construction Code of Practice for the Sustainable Use of Soils on Construction Sites

Environment Agency’s approach to groundwater protection (2017 and amended 2018); and

Environment Agency ‘Guidance: Land Contamination Risk Management ‘LCRM’’ (2023).

Arboriculture

British Standard BS 5837:2012: Trees in relation to design, demolition and construction. Recommendations.

British Standard BS3998:2010: Recommendations for Tree Work.

Water Resources

BSI. (2013) BS 8582: Code of Practice for Surface Water Management of Development Sites;

Construction Industry Research and Information Association (CIRIA). (2015) The SuDS Manual. 2nd ed. (C753);

CIRIA C532 Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors; and

CIRIA C768 Guidance on the Construction of SuDS.

Air Quality

Institute of Air Quality Management ‘Guidance on the assessment of dust from demolition and construction’ (2014).

Appendix C Indicative Complaints Log Template

Item	**Date Recorded**		**Reference No.**	
Name and address of Caller				
Telephone				
Time and Date of Complaint				
Location of Complaint				
Time and duration of Environmental Impact				
Description of Impact				
Subjective Comments				
Weather Conditions				
Wind strength and direction				
Any other information				
Action Taken				
Follow up call – Date and time				
Form Completed by:				
Signed and date:				

Appendix D Construction Phase Mitigation

Chapter	Receptor	OCEMP Reference
Chapter 6 – Cultural Heritage	Disturbance of below-ground archaeological remains	Section 1.4 – Complementary Plans and Cross-Cutting Issues
Chapter 6 – Cultural Heritage	Impacts on above-ground heritage receptors	Section 4 – General Requirements Section 7 – Noise and Vibration Section 8 – Control of Air Pollution Section 9 – Materials Handling and Waste Management
Chapter 7 – Landscape and Visual	Effects on landscape designations / character, landscape features, and visual receptors	Section 4 – General Requirements Section 7 – Noise and Vibration Section 8 – Control of Air Pollution Section 9 – Materials Handling and Waste Management
Chapter 8 - Biodiversity	Effects on the River Derwent and Bassenthwaite Lake SAC and the River Derwent and Tributaries SSSI	Section 10 – Pollution Control and Contamination Prevention
Chapter 8 - Biodiversity	Impacts to the CWS and the Special Roadside Verge MP K3	Section 5 – Ecological Management
Chapter 8 - Biodiversity	Habitats	Section 5 – Ecological Management
Chapter 8 - Biodiversity	Bats	Section 4.7 – Lighting Section 5.4 – Ecologically Sensitive Lighting Strategy Section 5.3 – Ecological Requirements
Chapter 8 - Biodiversity	Otters	Section 5.3 – Ecological Requirements
Chapter 8 - Biodiversity	Breeding birds	Section 5.3 – Ecological Requirements
Chapter 8 - Biodiversity	Wintering birds	Section 5.3 – Ecological Requirements
Chapter 9 – Climate Change	Construction emissions	Section 8 – Control of Air Pollution Section 10 – Pollution and Contamination Prevention
Chapter 10 – Ground Conditions	Human health exposure to potential contamination through ground disturbance	Section 4.1 – Health and Safety Section 11.3 – Management of Unexpected Contamination
Chapter 10 – Ground Conditions	Mobilisation of existing potential contamination through ground disturbance impacting upon groundwater	Section 11.3 – Management of Unexpected Contamination and Controlled Waters (Surface Water and Ground Water)
Chapter 10 – Ground Conditions	Buildings and structures exposure to potential contamination	Section 11.3 – Management of Unexpected Contamination
Chapter 10 – Ground Conditions	Loss of soil resources due to ground disturbance	Section 11.3 – Land Stability Hazards, Hazards to Soil (Resource)
Chapter 10 – Ground Conditions	Safety risks of working in vicinity of coal mines	Section 11.3
WFD (Appendix 2.3) and FRA (Appendix 2.4)	Changes to sediment processes and fine sediment input into watercourses	Section 9.2 – Materials Handling Section 11.3 – Hazards to Soil (Resource)

Chapter	Receptor	OCEMP Reference
		Section 12 – Surface Water and Flood Risk Management
WFD (Appendix 2.3) and FRA (Appendix 2.4)	Increased surface water flooding and runoff from Site infrastructure	Section 12 – Surface Water and Flood Risk Management
WFD (Appendix 2.3) and FRA (Appendix 2.4)	Flooding from fluvial sources	Section 12 – Surface Water and Flood Risk Management
WFD (Appendix 2.3) and FRA (Appendix 2.4)	Non-compliance with the Environment Agency	Section 12 – Surface Water and Flood Risk Management
WFD (Appendix 2.3) and FRA (Appendix 2.4)	Watercourse crossings	Section 12 – Surface Water and Flood Risk Management
Arboricultural Impact Assessment (AIA)	Tree removal	Section 6 – Arboricultural Management Strategy
Arboricultural Impact Assessment (AIA)	Tree planting within areas of landscaping and ecological enhancement	Section 6 – Arboricultural Management Strategy
Arboricultural Impact Assessment (AIA)	Construction works within Root Protection Areas	Section 6 – Arboricultural Management Strategy
Arboricultural Impact Assessment (AIA)	Site fencing within Root Protection Areas	Section 6 – Arboricultural Management Strategy
Arboricultural Impact Assessment (AIA)	Soft landscaping within Root Protection Areas	Section 6 – Arboricultural Management Strategy