



HELIOS RENEWABLE
ENERGY
PROJECT

Preliminary Environmental Information Report

Volume 3: Technical Appendices

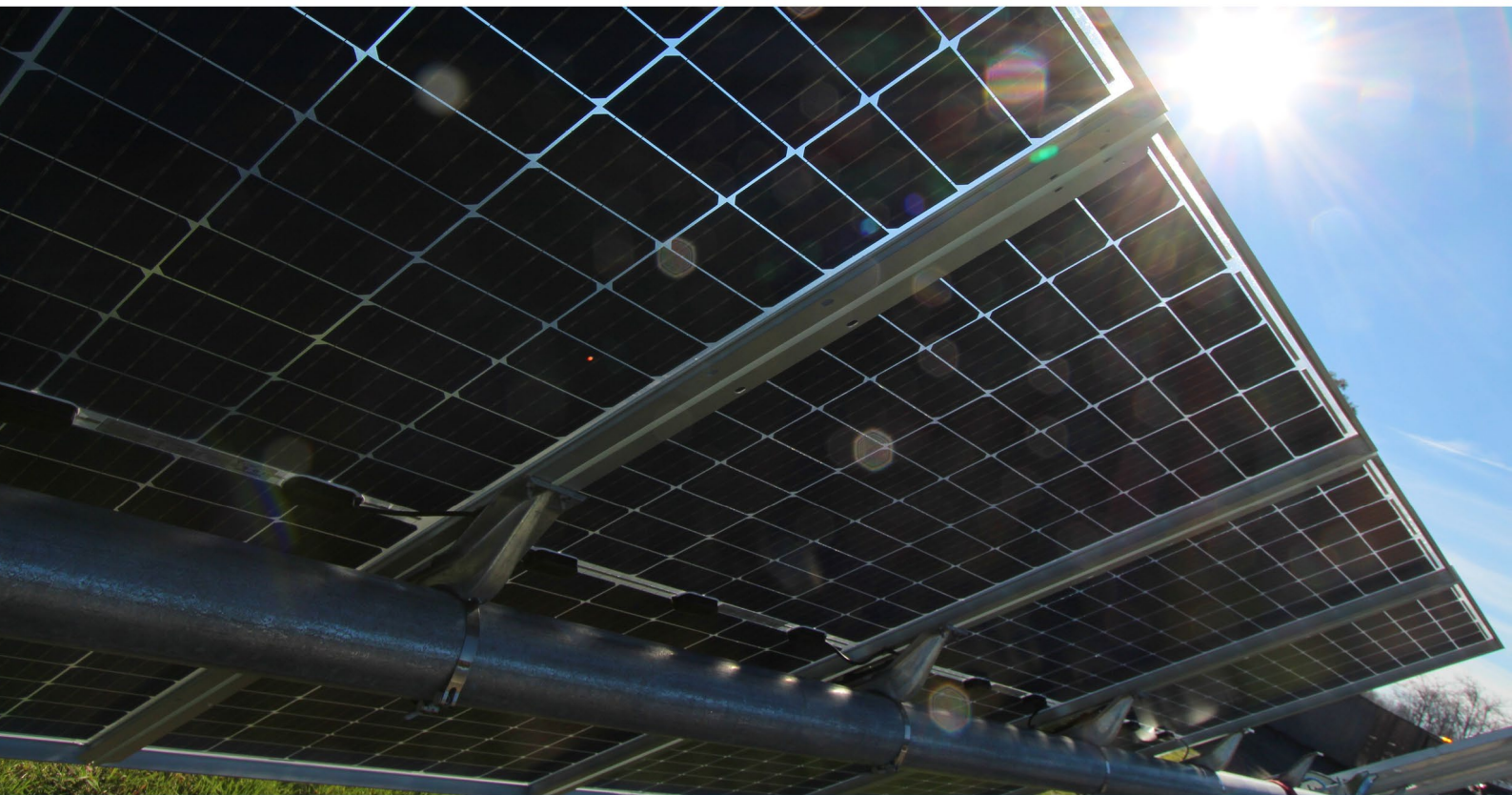
Appendix 5.1: Outline Construction
Environmental Management Plan



DRAFT OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

HELIOS RENEWABLE ENERGY PROJECT

SEPTEMBER 2023



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Appendix 1 – Legislation Framework

1. INTRODUCTION

- 1.1 This Outline Construction Environmental Management Plan (oCEMP) has been prepared on behalf of Enso Green Holdings D Ltd (“The Applicant”) as part of an application for a Development Consent Order (DCO) for the proposed construction, operation and maintenance, and decommissioning of a renewable energy generating project on land located to the south-west of the village of Camblesforth and to the north of the village of Hirst Courtney in North Yorkshire.
- 1.2 This report identifies necessary mitigation measures to reduce or prevent potential effects upon the environment and nearby sensitive receptors during the construction phase of the development. A complementary Outline Construction Traffic Management Plan (oCTMP) will be provided with the Environmental Statement, to be submitted with the DCO.
- 1.3 The oCEMP and the oCTMP will be further developed once the appointment of the Contractor(s) for the project has been confirmed and a detailed construction programme has been developed. Submission and approval of the final CEMP and CTMP will be secured by DCO requirement.

2. DEVELOPMENT PROPOSALS

Development Proposals

- 2.1 The proposed development comprises the proposed construction, operation and maintenance, and decommissioning of a renewable energy generating project on land located to the south-west of the village of Camblesforth and to the north of the village of Hirst Courtney in North Yorkshire.. The connecting cable route extends from the On Site 132kv Substation to the Point of Connection (PoC) at Drax National Grid Substation.
- 2.2 Further details of the proposed development and layout are provided separately as part of the DCO application such as ES Chapter 3 Site and Development Description.

Proposed Cable Route

- 2.3 The cable route will leave the main site on the eastern boundary and follow the A1041 in a northerly direction, before heading in a north easterly direction on the A645. The route will then enter the northern boundary of Drax Golf Course, passing under the railway line and into the Drax Sports and Social Club before re-joining the A645 and heading north to the PoC.
- 2.4 The majority of the cable construction works will comprise traditional open excavation/duct method, with the exception of watercourse crossings (where required) and the railway where Horizontal Directional Drilling (HDD) methods will be implemented to avoid any disruption to their operation.
- 2.5 The exact location of the cable within the road network will be identified by the Principal Contractor prior to commencement, and the relevant street works notices will be secured along with the appropriate traffic management procedures to minimise disruption to the surrounding local highway network.

Public Rights of Way

- 2.6 It is not anticipated that the proposals will materially affect access to the local PRoW network, with the rights of way remaining open throughout construction.

Construction Compound

- 2.7 Due to the scale of the proposal, there will be a main construction compound with satellite compounds placed throughout the site including compounds to facilitate the cable route connection.

- 2.8 The compounds will be of suitable size to allow HGVs to enter and exit in forward gear. A banksman will assist any delivery vehicles entering and exiting the site.
- 2.9 Temporary car parking areas will be allocated within the site to ensure all vehicles are parked off the local highway network. The compounds will also accommodate storage of plant, offices and welfare facilities.

3. CODE OF CONSTRUCTION PRACTICE

3.1 Code of Construction Practice (CoCP) sets out the management measures the Applicant and its contractors will be required to implement for all construction activities associated with the Project. This includes strategies, control measures and monitoring procedures for managing the potential environmental impacts during the construction phase and limiting disturbance from construction activities as far as reasonably practicable.

3.2 All construction staff will be required to follow the CoCP and implement the measures to control the environmental impacts during construction. The requirement to comply with the procedures set out within this CoCP will be included in the contract conditions for each element of the works, including the supply chain as appropriate.

Roles and Responsibilities

3.3 Whilst the key roles for the construction team have not been assigned at the time of writing, the environmental roles required to implement this CoCP are as follows.

3.4 The Principal Contractor will be responsible for following the principles of the CoCP throughout construction of the Project and for managing their sub-contractors and for ensuring they understand and comply with the environmental obligations of this CoCP.

Training

3.5 All construction staff will receive training on their responsibilities for minimising the risk to the environment and implementing the measures set out in this CoCP.

3.6 The Principal Contractor will ensure that contractors employ an appropriately qualified and experienced workforce. The Principal Contractor 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 health, safety and environmental topics, and the relevant environmental control measures pertinent to the construction activities to be carried out that day.

Health and Safety

3.7 Comprehensive health and safety assessments are an essential part of the construction process and would be carried out prior to construction by the contractor in accordance with legislation. A Construction, Design and Management (CDM) co-ordinator will be appointed and be responsible for the provision of a pre-construction information pack, as required under

the Construction (Design and Management) Regulations 2015. The appointed contractor will be required to provide a construction phase plan.

- 3.8 A weekly meeting will be held between the Client, Project Co-ordinator and designers. The Health & Safety Advisors will regularly visit site to carry out the site Health & Safety Plan. Regular visits to the site will be carried out by the nominated Health & Safety Advisors. From these visits monitoring reports will be generated.
- 3.9 Reportable accidents and dangerous occurrences will be reported in accordance with the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) Guidance.
- 3.10 Specialist contractors should be employed as necessary to advise on the management of unexpected contamination.
- 3.11 In addition to meeting the principles of this CoCP, the Principal Contractor will be required 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. Its Code of Considerate Practice sets out the Scheme's 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.
 - Protect the Environment: constructors should protect and enhance the environment.
 - Secure everyone's Safety: constructors should attain the highest levels of safety performance.
 - Value their Workforce: constructors should provide a supportive and caring working environment.

Legal and Regulatory Requirements

- 3.12 A function of this report is to make construction staff aware of their legal duties and environmental responsibilities during the construction of the Project. A framework of legislation has been compiled and is contained in **Appendix 1**.

3.13 The list is not exhaustive and does not absolve construction staff from complying with other relevant legislation. The legislation register will be reviewed and updated during the construction process.

3.14 Specific construction-related activities may be subject to regulatory controls through the provision of consents, licenses or permits, including a protected species licence.

Best Practice Guidance

3.15 Construction activities will be undertaken in accordance with the following best practice guidelines:

- Bat Conservation Trust (BCT) Interim Guidance 'Artificial Lighting & Wildlife' (2014).
- Best Practicable Means under Section 72 Control of Pollution Act (1974) as amended.
- British Standard BS 10175 (British Standards Institution (BSI), 2011 and amended 2017).
- Investigation of Potentially Contaminated Sites (BSI 10175:2011+A2:2017).
- British Standard BS 5837: 2012 (Trees in Relation to design, demolition and construction - Recommendations).
- British Standard 5228: Code of practice for noise and vibration control on construction and open site. Part 1: Noise +A1:2014.
- British Standard 5228: Code of practice for noise and vibration control on construction and open site. Part 2: Vibration.
- British Standard for the 'Code of practice for ground investigations' Page 10 (BS8485:2015+A1:2020) (BSI, 2020).
- British Standard requirements for the 'Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings' (BS8485:2015+A1:2019) (BSI, 20119).
- CIRIA C741 Environmental Good Practice on Site.
- CIRIA Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors.

- CIRIA Guidance on the Construction of SuDS.
- Environmental Protection Act 1990: Part 2A - Contaminated Land Statutory Guidance (Department for Environment, Food and Rural Affairs (Defra) 2012).
- Groundwater Protection Position Statements (Environment Agency, 2017 and amended 2018).
- Institute of Air Quality Management (2014) Assessment of dust from demolition and construction.
- Land Contamination Risk Management (LCRM) (Environment Agency, 2020).

3.16 The final CEMP will be supported by detailed Construction Method Statements, which will provide method statements for construction activities detailing how the requirements for the CoCP are met. Implementation of the CEMP and method statements will be the responsibility of the Principal Contractor (with methodologies passed on in turn to any subcontractors).

4. CONSTRUCTION PRINCIPLES

Working Hours

- 4.1 Core working hours are proposed to be 08:00 to 18:00 Monday to Friday and 08:00 to 13:00 on Saturdays unless in exceptional circumstances where the need arises, for example to ensure the continuous drilling of a HDD can be completed, as these cannot be stopped part way through. This may result in some night-time working. Some start up and closing down time may be required outside of these hours, for example between 07:00 - 08:00 and 18:00 - 19:00, which is likely to include teams arriving and leaving site. Equipment likely to cause a disturbance would not be used during these hours. No work will be conducted on Sundays or Bank Holidays.
- 4.2 Details on delivery timings will be available within the oCTMP.

Deliveries

- 4.3 Deliveries to site will be directed to the site access points through displaying suitable signage on the road network. Drivers will be asked to report to the office during working hours, and a banksman will be used where necessary.
- 4.4 Materials will be delivered and stored on site in designated areas. The designated areas will be allocated as the development is progressed depending on the phasing of construction works.
- 4.5 Vehicles will not be permitted to queue on the local highway network or deviate from the permitted construction route within the final CTMP.

Public Protection

- 4.6 Risks to public associated with the construction of the development will be covered within a Construction Phase Plan prepared by the appointed Principal Contractor to ensure a high standard of safety measures are implemented across the site to ensure they reduce any risks of potential injury to trespassers, if they gain access into the site.
- 4.7 All plant and materials will be secured and supervised outside of working hours and when not in use.

Public Liaison

- 4.8 A board will be displayed at the development site detailing the nature of the work being undertaken, with key contact details including a telephone number and postal address for any enquiries and complaints.
- 4.9 Communication will be maintained with neighbouring residents and Parish Councils throughout the duration of works to provide updates on the construction programme.
- 4.10 A register of complaints will be kept which will include the complainants name, date and time of the complaint, cause of complaint and the action taken to resolve the complaint. All complaints will be dealt with by the Site Manager.

Certification

- 4.11 All plant will have regular inspections and be stored within the site when not in use. All plant will also hold the appropriate certification and checks with copies held on file in the main site compound.

Security

- 4.12 The appointed Contractor(s) will ensure works areas are fully enclosed to ensure security of the site from trespassers / members of the public. Any off-site work areas (such as highway works) will be secured with traffic barriers as a minimum.
- 4.13 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 by the Site Manager, prior to being permitted on-site.

Signage

- 4.14 Appropriate Health and Safety signage will be erected around the site including pedestrian and traffic routes to give warning of hazards or potential dangers. Appropriate PPE will always be worn by site personnel.

Inductions

- 4.15 All site personnel will be asked to sign in and out every day. All site personnel will be inducted prior to commencing work on site with the relevant certificates and competencies being checked with copies held on site.

- 4.16 Site specific risk assessments and method statements will be produced for all activities with all personnel being briefed on their method statements prior to commencing work.

Welfare Provision

- 4.17 The Principal Contractor will provide full welfare facilities in accordance with Schedule 2 of the CDM Regulations 2015 – these facilities will be in place prior to construction works commencing on-site and this will be confirmed by the Principal Designer to the Client, following review of the Construction Phase Plan. Welfare facilities shall be placed in a convenient location on site and as a minimum these will comprise an office and canteen double, a toilet block and stores.

Emergency Contact Details

- 4.18 A notice displaying emergency contact details will be displayed in a prominent location onsite – such as within the site office. External notices will be placed at prominent locations around the perimeter of the site, where the public right of way meets the site boundary.
- 4.19 Should a pollution incident occur, the relevant external organisations would be contacted. The details will be completed on the relevant notices, for example with a spill kit, or held by the Project Manager overseeing the work.
- 4.20 All accidents, incidents and near misses (including spills, dust, noise pollution etc) will be reported to the Site Manager immediately. These will be recorded and investigated as appropriate. Details to be recorded will include: a description of the incident, potential contributory causes, adverse effects, measures implemented to mitigate adverse effects, and effectiveness of measures implemented to prevent incidents happening again.

Fire Plan / Special Site Instructions

- 4.21 All site personnel will be advised of escape routes and firefighting equipment at induction stage and copy of the fire plan will be kept in the site file.

Waste & Recycling

- 4.22 All site waste material 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 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.

4.23 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.

4.24 Works at the Project site are estimated to require the excavation of spoil, depending on the final site arrangement. This is expected in part to be accommodated on site, as part of the site cut/fill balance. In the event that any material from the site is identified as not being suitable for use on site, some material may need to be transported away from the site to a suitably licensed site.

Lighting

4.25 Whilst the majority of construction activities can be undertaken during daylight hours, at certain times of the year some construction lighting may be required to enable work to continue. In these instances, temporary lighting will be deployed, however this will be avoided as far as possible.

Monitoring

4.26 The Site Manager will be responsible for the day-to-day management of the site and will ensure that all restrictions in this oCEMP are implemented in full.

5. ENVIRONMENTAL CONTROL MEASURES

Landscape and Visual and Residential Amenity

- 5.1 To avoid loss of existing vegetation including trees, existing structural vegetation will be retained and protected during construction through the implementation of tree protection fencing and exclusion zones and will be removed following completion of the construction phase.
- 5.2 The location of such protection measures will be informed by the supporting arboricultural impact assessment and ecological surveys. The protection measures will be removed following completion of the construction phase.
- 5.3 Where works in close proximity to retained trees cannot be practically avoided, these works shall be undertaken in accordance with the current best practice, defined in British Standard (BS) 5837: 2012 Trees in relation to design, demolition and construction – Recommendations and National Joint Utilities Group (NJUG) Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees, or guidance applicable at the time.
- 5.4 Construction works will be carried out in phases to order to reduce the geographical extent of activities within the landscape. Construction compounds will be located away from sensitive visual receptors and PRoW.
- 5.5 Lighting will be limited to the construction compounds only, with temporary lighting at the grid connection works. The lighting of the on-Site substation would be in accordance with Health and Safety requirements, particularly around any emergency exits;
- 5.6 Lighting would be designed to limit any impact on sensitive receptors by directing lighting downward and away from the Site boundary and existing vegetation;
- 5.7 Hours of work on the Site would be limited as set out previously, thereby limiting the extent to which construction activities will affect visual receptors on a daily or weekly basis.
- 5.8 All unloading and loading of construction materials and equipment would be provided within the Site boundary, limiting adverse effects on character and views due to activities outside of the Site.

- 5.9 Noise, dirt and dust levels would be kept to a minimum and local roads would be cleaned regularly where dirt is spread by construction traffic, limiting adverse effects on local character due to the perception of construction activities.
- 5.10 Litter within and around the Site will be removed and the Site will be kept free from litter throughout construction activities.

Ecology

- 5.11 A series of ecological surveys have been completed for the Proposed Development, including breeding bird surveys, bats, badger and phase I habitat surveys.
- 5.12 A suitably experienced ecologist will be appointed as the Ecological Clerk of Works (ECoW) to give tool box presentations to construction staff prior to construction in respect of the requirement to protect habitat and species during construction, conduct regular site visits during construction to check compliance with ecological mitigation, and to be on call through the construction period to advise and resolve any ecological risks to habitats or species.

Measures to Protect Habitats During Construction

- 5.13 Habitat protection buffers will be maintained throughout the construction phase and will be implemented as part of a CEMP, and identified with appropriate fencing and signage along with site team briefings at 'tool box talks'.
- 5.14 A variety of artificial nesting features (generally boxes but using a variety of designs attractive to different species) will be added within existing habitats, such as on mature trees, within the hedgerow network and across woodland areas; ensuring that bird species have a wide variety of increased long-term nesting opportunities right across the Site.
- 5.15 Extensive permanent habitat enhancement measures implemented as part of the construction process (as opposed to current seasonal cropping regimes), will provide additional enhanced foraging opportunities for a variety of bat species.
- 5.16 Trees present within the Site will be retained, protected during construction. If plans change and trees require removal/felling as part of the Proposed Development (for instance to aid access requirements or for health and safety purposes), prior to removal, in accordance with current Bat Conservation Trust (BCT) guidance any trees requiring removal will be subject a preliminary roost assessment (PRA) in order to assess the trees potential to support roosting bat species. Trees with moderate or high roost potential will be subject to a detailed

climbing inspection and/or emergence/re-entry surveys in the appropriate season. If bats are confirmed roosting within the tree(s), no removal will take place until a European Protected Species Mitigation Licence (EPSML) licence (issued by Natural England) has been issued and necessary mitigation measures set in place under the supervision of a licensed ecologist. This will ensure there are no adverse impacts on roosting bats and will maintain the favourable conservation status of the roosting bat species in the wider environment.

- 5.17 If works on trees with low bat roosting potential are necessary, these will be felled using RAMs in line with BCT guidance; the trees will be soft felled in sections which are lowered to the ground and left on Site overnight (not stacked) before removal. Should a bat (or nesting bird) be found during this process then works will cease immediately and an ecologist contacted immediately for advice.

Measures to Protect Species During Construction

- 5.18 In order to avoid impacts on nesting birds and to ensure compliance with the provisions of the Wildlife and Countryside Act 1981 (as amended), vegetation removal should take place outside of the bird breeding season.
- 5.19 If vegetation works (including any crop or hedgerow removal required to facilitate development) are necessary during the breeding season, any suitable nesting habitat to be affected by works will be checked by a suitably experienced ecologist prior to works commencing via the ECoW. Nesting bird checks may need to be repeated during different phases of work or at different times during the nesting bird season, depending on the timing of construction activities. Works would be permitted to proceed only when the ecologist is satisfied that no disturbance-related offences will occur under the legislation, with appropriate protection measures set in place as necessary and supervised by the ECoW.
- 5.20 In the unlikely event that works are required after sunset measures will be put in place to manage temporary lighting used within the Site during the construction phase. This will be informed by current guidance provided within Bats and Lighting in the UK: Bats and the Built Environment Series (BCT. 2018) to avoid the potential for construction-related impacts from lighting.
- 5.21 In the unlikely event that trenching works cannot avoid habitat clearance works within 50m of the pond in suitable GCN habitat (i.e. hedgerows, ditches etc,) this will be subject to a EPSML or alternative method such as District Level Licensing ('DLL') which will ensure that the favourable conservation status of the species will be maintained.

5.22 A series of RAMs will be implemented to avoid significant impacts on reptile, amphibian and mammal populations. The RAMs will include a 'tool box talk' and watching brief by an appropriately qualified ecologist to minimise risk of accidental harm.

Flood Risk and Drainage

5.23 Sediment and surface water run-off generated during the construction phase of the Proposed Development will be managed through good practice construction techniques. Major construction works such as large-scale earthworks, will be minimised during heavy precipitation events.

5.24 The construction contractor and operating staff will register to receive flood alerts from the EA. When a flood alert is issued, the Proposed Development will be evacuated along the local highway network as a precautionary measure. The Site evacuation procedure applies to all phases of the Proposed Development. The evacuation procedure will be covered by a suitably worded DCO Requirement requiring the submission of details to be submitted to and approved by the Local Planning Authority.

5.25 Construction activities will be paused during periods of elevated surface water flood risk to minimise the disruption to onsite overland flows.

5.26 If, during construction, the Site becomes significantly disturbed, temporary swales will be constructed to intercept overland flows and act as silt traps to mitigate the disturbance of construction activities on site drainage.

5.27 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 and decommissioning phases. Measures 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 Consent Conditions;
- Contractors will employ best practice, good housekeeping and adopt the principles set out in the CIRIA Toolbox Talks: Environmental , CIRIA C532 , CIRIA C741 , and CIRIA C648;

- The contractor 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 cleaning 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;
- Vehicle and plant washing will be carried out on designated areas at least 10m from any watercourse or surface water body;
- Contractors will use well maintained plant, but the likelihood of spills will be reduced through adoption of pollution prevention principles;
- 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 onsite watercourses and the use of Siltbusters (or similar approved product) may be necessary:
- All construction compounds and material and plant storage areas should be located outside areas susceptible to flooding where practicable:
- 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;
- Only light machinery will be used to install the solar panels and all HGVs will be restricted to the temporary construction compound; and
- The significant storage of fuels, lubricants or chemicals on site is not expected. Any relevant materials will 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.

5.28 During the construction phase the onsite watercourses and the ground surface where potentially polluting construction activities are being undertaken or potential contaminating substances are stored will be inspected regularly to check for any unforeseen discharges from the Proposed Development (changes in colour, transparency, oil sheen 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 construction site manager and construction site management techniques reviewed and adjusted accordingly and appropriate containment and remediation measures enacted.

Cultural Heritage

- 5.29 With regards to impacts to below-ground archaeology, the mitigation measures to reduce the level of effect to these elements has been agreed within the Archaeological Mitigation Strategy (AMS) (Appendix 6.2 of the PEIR) and are therefore considered to be measures to be adopted by the project. No further mitigation measures are proposed.

Transport and Access

- 5.30 In order to reduce the impact of construction traffic, an outline Construction Traffic Management Plan (oCTMP) will be prepared for submission with the ES. The final version of this document will need to be approved prior to the commencement of the development, as secured by DCO requirement.

Glint and Glare

- 5.31 No mitigation measures have been identified during the construction of the Proposed Development in relation to potential effects from glint and glare.

Land Use and Agriculture

- 5.32 It has been identified that construction activities will not result in any significant adverse effects on agricultural land, soils or farm businesses.
- 5.33 Therefore, no further mitigation is required in this outline CEMP beyond what is proposed in the outline Soils Management Plan (Appendix 14.3 of the PEIR).

Noise and Vibration

- 5.34 Construction works likely to generate substantial levels of noise, aside from potential trenchless works and HGV deliveries shall be limited to daytime hours of 08:00 to 18:00 during Monday to Friday, and 08:00 to 13:00 on Saturdays, unless otherwise agreed with the local authorities. Other construction activities unlikely to generate high noise levels (e.g. site access and inductions, light vehicle movements etc.) may continue during other day-time periods.
- 5.35 For any proposed construction works to be undertaken outside of the permitted working day, particularly at night, prior consent would be sought from North

Yorkshire Council. Dispensation procedures for works would be agreed in advance and included within Construction Method Statements and the CEMP or Section 61 Agreement where adopted. Section 61 of the 1974 Act, allows a contractor to apply to the local planning authority for prior consent for construction works.

5.36 Deliveries and removal of material off-site, would be subject to the following controls:

- Planning all mass concreting operations for weekends whenever possible;
- Ensuring that construction traffic is parked off the public highway;
- Controlling the discharge of trucks from Site to avoid congestion; and
- Implementing traffic management systems at the entrance to the Site at all times to control the traffic into the Site.

5.37 If percussive piling is used for the support structures/foundations: when undertaken within 400 metres of residential properties, this should be further restricted to no more than two periods of four hours each with at least one hour of no piling between these four-hour periods and restricted to the hours of 08:00 to 18:00 Monday to Friday and 08:00 to 13:00 on Saturdays.

5.38 Noise from HDD or similar trenchless activities could generate noise when continuing at night and creating disturbance at nearby noise-sensitive receptors. Locations where HDD will be undertaken would be identified by the contractor prior to commencement. In consultation with the local authorities, noise monitoring may also be undertaken if required to control that noise from drilling at night-time periods (if relevant) does not exceed particular noise levels.

5.39 Best Practicable Means (BPM) will be applied, as far as reasonably practicable, during construction works to minimise noise and vibration at noise sensitive receptors, including neighbouring residential properties and other sensitive receptors arising from construction activities. These include, as appropriate:

- Reference to the guidance in BS 5228 which all contractors should be familiar with.
- Mobile plant and stationary plant items to be routed or located to maximise separation distance from noise-sensitive receptors (where possible), accounting for site-specific constraints;

- Using continuous flight auger piling, at locations where noise-sensitive receptors are within 20m;
- Using 'silenced' plant and equipment;
- Switching off engines where vehicles are standing for a significant period of time;
- Fitting of acoustic enclosures to suppress noisy equipment as appropriate;
- Select quieter plant units where possible; Operating plant at low speeds and incorporation of automatic low speed idling;
- Selecting electrically driven equipment in preference to internal combustion powered, hydraulic power in preference to pneumatic and wheeled in lieu of tracked plant;
- Properly maintaining all plant (greased, blown silencers replaced, saws kept sharpened, teeth set and blades flat, worn bearings replaced, etc.);
- Considering the use of temporary screening or enclosures for static noisy plant to reduce visual impacts (refer to Chapter 7 Landscape and Views of the PEIR for further details);
- Certifying plant to meet any relevant EC Directive standards;
- Undertaking awareness training of all contractors in regards to BS5228 (Parts 1 and 2) which would form a prerequisite of their appointment; and
- Provide site specific induction inclusive of good neighbourly behaviour and follow the Considerate Construction Scheme requirements.

5.40 Contractors would be required to ensure that works are carried out in accordance with Best Practice Means as stipulated in the 1974 Act. A full explanation of measures to control construction noise and vibration will be incorporated within the detailed CEMP.

5.41 With regard to the potential effects of vibration from piling activities impacting upon existing utilities in the area, particular attention would be given during the preparation of the detailed CEMP to the safeguarding of the in-ground services near the Site. At this stage, the mitigative input is limited to that set out within BS5228, which is summarised below.

- Where reasonably practicable, low vibration working methods would be employed and consideration given to the most suitable plant;
- Vibration would be controlled at source via methods such as mechanical isolation and the spread of vibration would be limited by breaking potential transmission pathways i.e. common structures; and
- Where processes could give rise to potentially significant levels of vibration, on-site vibration levels would be regularly monitored.

5.42 The detailed CEMP will set out a scheme for monthly reporting of information to local residents to advise of potential noisy works that are due to take place.

Lighting

5.43 Whilst a vast majority of construction activities can be undertaken during daylight hours, at certain times of the year some construction lighting may be required to enable work to continue. In these instances, temporary lighting will be deployed, however this will be avoided as far as practical.

5.44 Mitigation measures will be deployed to reduce or remove impacts on human and ecological receptors:

- The use of lighting will be minimised to that required for safe site operations;
- Lighting will utilise directional fittings to minimise outward light spill and glare; E.g., via the use of light hoods/cowls which direct light downwards (preferably at an angle greater than 20° from horizontal); and
- Lighting will be directed towards the site rather than towards the boundaries.

Air Quality

5.45 In order to reduce the impact of dust emissions on sensitive receptors, mitigation measures as detailed in the Institute of Air Quality Management (IAQM) guidance will be followed.

5.46 Measures are also included in the Qualitative Dust Assessment (see Appendix 2.3 of the PEIR). These include, but are not limited to:

- Develop and implement a stakeholder communications plan that includes community engagement before and during work on site;

- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environmental manager/engineer or the site manager;
- Display the head or regional office contact information;
- Develop and implement a Dust Management Plan (DMP) approved by the Local Authority which documents the mitigation measures to be applied, and the procedures for their implementation and management;
- Site Management 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;
- Make the complaints log available to the local authority when asked;
- 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;
- Hold regular liaison meetings with other high risk construction sites within 500 m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes;
- Undertake daily on-site and off-site inspections where receptors (including roads) are nearby, to monitor dust. Record inspection results, and make the log available to the Local Authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of the site boundary, with cleaning to be provided if necessary;
- Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the Local Authority when asked;
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions;

- Plan the site layout so that machinery and dust-causing activities are located away from receptors, as far as is possible;
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site;
- Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period;
- Avoid site runoff of water or mud;
- Keep site fencing, barriers and scaffolding clean using wet methods;
- 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;
- Cover, seed, or fence stockpiles to prevent wind whipping;
- 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;
- Avoid dry sweeping of large areas;
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport; and
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).

5.47 Good industry practice dust management practices will be followed during the work. As required access tracks and areas of hardstanding, such as the construction compound, on the site will be dampened down with a water bowser to prevent dust being blown. The site manager will take additional measures, as considered necessary, to prevent dust being blown.

5.48 Construction traffic is expected to be below the Environmental Protection United Kingdom (EPUK) and IAQM screening criteria for a detailed assessment. As such, the effect to air quality is considered to be insignificant and will manage the impact

of emissions associated with construction traffic on sensitive human receptors. The CTMP will manage construction traffic.

Pollution Prevention

- 5.49 Emergency contact details for the site manager will be placed on a notice board near the site entrance. The contact details will also be shared with representatives of the Parish Councils at the commencement of construction works.
- 5.50 All fuel and oil will be stored within a specified area of the construction compound. The storage will either be integrally bunded, or utilise an external bund. The bund will be impermeable to water and oil. Any contaminated run-off 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 COSHH Regulations.
- 5.51 A pollution response plan will be prepared by the contractor following appointment. The pollution response plan will follow appropriate guidance and cover matters including: Fuel delivery and fuel storage, provision and control of silt, working near waterbodies and sources of soil and groundwater contamination.
- 5.52 The pollution response plan will fully outline the measures to be adopted in the event of a spill or pollution incident. These will include:
- Stop release of fuel by removing the source or by using plastic sheeting and bunding.
 - Excavate oil contaminated soil and place in an air tight container. This must be disposed of by a specialist waste handler as special waste.
 - 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 as special waste. 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.
 - 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 and drainage ditches.

- 5.53 All incidents will be reported and it will be the responsibility of the Principal Contractor to notify relevant agencies and bodies.

Waste Management

- 5.54 Construction waste generated is expected to be restricted to general construction waste, such as off cuts of timber, wire, cleaning cloths, paper, etc. which will be sorted and either recycled or disposed of off-site to an appropriately licenced landfill by the contractors. This approach uses the waste hierarchy (reduce, reuse, recycle, recovery, landfill) by encouraging reuse and recycling of materials, such as plastic, wood and paper.
- 5.55 Some metal wastage might be generated from excess steel from the solar PV mounting structures or cuttings from underground cabling. These materials would be recycled.
- 5.56 Temporary welfare facilities will be provided during the construction phase. The construction phase facilities will include toilets, washing and drinking water that would be periodically emptied and taken off site by a licensed operator. All on site welfare facilities will be clearly signposted and maintained.

Climate Change

- 5.57 Measures will aim to ensure that, where possible, construction activities generating greenhouse gas (GHG) emissions are undertaken efficiently. To minimise emissions, the following measures will be implemented:
- Designing, constructing and implementing the Proposed Development in such a way as to minimise the creation of waste and, where possible, maximise the use of alternative materials with lower embodied carbon, such as locally sourced products and materials with a higher recycled content where feasible.
 - Reusing suitable infrastructure and resources already available within the site where possible to minimise the use of natural resources and unnecessary materials (e.g., reusing excavated soil for fill requirements).

- Increasing recyclability by segregating construction waste to be re-used and recycled where reasonably practicable.
- Adopting the Considerate Constructors Scheme (CCS) to assist in reducing pollution, including GHGs, from the Proposed Development by employing good industry practice measures.
- Implementing staff minibuses to transport construction personnel to site or using car sharing options where possible.
- Switching vehicles and plant off when not in use and ensuring construction vehicles conform to current UK emissions standards; and
- Conducting regular planned maintenance of the construction plant and machinery to optimise efficiency.

APPENDIX 1 – LEGISLATION FRAMEWORK

Ecology and Nature Conservation

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; and

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

Traffic and Transport

Transport Act 2000.

Noise

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

Paris Agreement 2015.

Air Quality

Air Quality Standards Regulations 2010; and

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



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