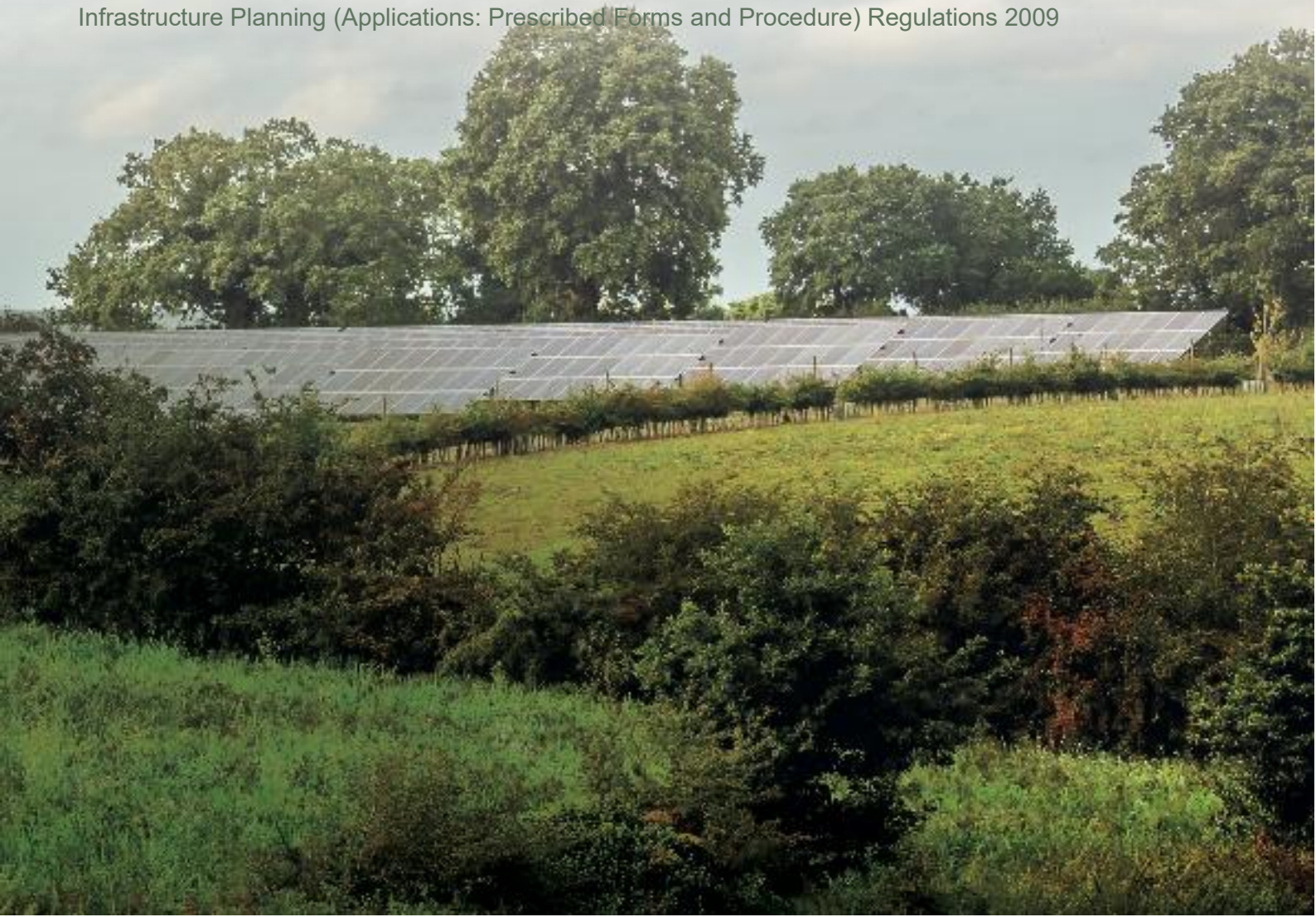
THE DROVES
SOLAR FARM

The Droves Solar Farm

Permitted Preliminary Works Environmental Management Plan (Clean)

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1 Introduction

1.1 Overview and Purpose of the document

1.1.1 The Droves Solar Farm Limited (the Applicant) has prepared this Permitted Preliminary Works Environmental Management Plan (PPWEMP), hereafter the PPWEMP, in relation to an Application for a Development Consent Order (DCO) for the construction, operation and maintenance, and decommissioning of The Droves Solar Farm (the Scheme).

1.1.2 The Scheme is being led by the Applicant, The Droves Solar Farm Limited, which is a subsidiary of Island Green Power (IGP) UK Limited. IGP is a leading international developer of renewable energy projects, established in 2013.

1.1.3 The aim of this PPWEMP is to set out the controls that will apply to the activities that would be undertaken prior to the commencement of the main construction works for Scheme, defined in the **draft DCO [APP/3.1.6]** as the 'permitted preliminary works' (PPW). This document sets out the specific, required mitigation measures and environmental commitments, for these PPW, to avoid likely significant effects. This document has been updated at Deadline 6 of the Examination of the Scheme to include extra commitments requested by the Environment Agency (EA). The document references have not been updated from the original submission at Deadline 4. Please refer to the **Guide to the Application [APP/3.1.8]** for the list of current versions of the documents.

1.1.4 This document does not address the construction, operational and maintenance, or decommissioning activities, which are subject to separate environmental management plans and procedures. An **outline Construction Environmental Management Plan (oCEMP) [APP/7.6.4]**, **outline Construction Traffic Management Plan (oCTMP) [AS-082]**, **outline Operational Environmental Management Plan (oOEMP) [APP/7.8.4]**, **outline Operational Traffic Management Plan (oOTMP) [REP3-079]**, **outline Decommissioning Strategy (oDS) [REP3-067]**, **outline Landscape and Ecological Management Plan (oLEMP) [REP3-069]**, **outline Soil Management Plan (oSMP) [REP1-062]**, **outline Public Right of Way and Permissive Path Management Plan (oPRoWPPMP) [APP-192]**, **outline Employment, Skills and Supply Chain Strategy [APP-195]** and **outline Battery Safety Management Plan (oBSMP) [APP/7.14.2]** have been prepared to accompany the DCO Application and will be secured through Requirements of the DCO.

1.1.5 It should be noted that, unlike the outline plans noted above, this PPWEMP is a detailed plan and a certified document under Schedule 13 of Article 42 of the **draft DCO [APP/3.1.4]**. As this is a detailed plan, no approval mechanism is necessary under the Requirements.

1.1.6 An Environmental Impact Assessment (EIA) has been undertaken for the Scheme and an **Environmental Statement (ES) [APP-050 to APP-179]** has been prepared in

accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations). In accordance with the requirements of the EIA Regulations, the ES contains the assessment of the likely significant effects on the environment that may be caused during the PPW, construction, operation and maintenance, and decommissioning of the Scheme and describes a range of 'industry standard' or good practice mitigation and management measures.

1.1.7 This PPWEMP is structured as follows:

- 'Introduction' – this section.
- 'Permitted Preliminary Works' – sets out the PPW and provides information regarding the roles and responsibilities for PPW and the PPW working hours.
- 'Mitigation Measures' – sets out the general mitigation measures that will apply to all PPW.
- 'Checking and Corrective Action' – sets out the monitoring, recording and review processes to be implemented.

1.1.8 Contractor(s) will be responsible for working in accordance with the environmental controls documented in this PPWEMP, pursuant to the DCO.

1.1.9 This PPWEMP has been designed with the objective of compliance with the relevant environmental legislation and the mitigation measures set out within the **ES [APP-050 to APP-179]**.

2 Permitted Preliminary Works

2.1 Overview

2.1.1 PPW are those that would be undertaken after the DCO coming into effect and before commencement of construction. Commencement is defined as beginning to carry out any material operation forming part of the authorised development other than PPW.

2.1.2 The list of PPW is defined within Article 2 of the **draft DCO [APP/3.1.4]** and comprises:

- Environmental surveys, geotechnical surveys, intrusive archaeological surveys and other investigations for the purpose of assessing ground conditions
- Removal of plant and machinery
- Above ground Site preparation for temporary facilities for the use of Contractor(s)
- Remedial work in respect of any contamination or other adverse ground conditions
- Protection, diversion and laying of apparatus
- The provision of temporary means of enclosure and Site security for construction
- The temporary display of Site notices or advertisements; or
- Site clearance (including vegetation removal, demolition of existing buildings and structures.

2.1.3 Works captured as PPW can be undertaken prior to commencement and therefore also prior to the discharge of certain requirements contained in Schedule 2 of the **draft DCO [APP/3.1.4]**. PPW do not include implementation of the Highway Improvement Areas (HIAs), installation of haul roads that cross watercourses or the establishment of new access points off the public highway. Access will be taken from existing access locations only. Topsoil stripping would be limited to those areas where temporary removal of soil is required for example for archaeological trenching or geotechnical investigation. There would be no long-term storage and management of topsoil or subsoil. Vegetation clearance will be selective and limited to the areas reasonably required for relevant discrete activities as listed above.

2.1.4 The PPWs that can be undertaken are listed in **Table 2-1**.

2.1.5 The PPW must be undertaken in accordance with relevant commitments within this PPWEMP.

2.1.6 The Contractor is responsible for identifying and securing all relevant and necessary consents for the PPW prior to the works beginning. To the extent any PPW require protected species licences, these would be obtained by the Contractor, thereby adding an additional layer of control.

Table 2-1 Preliminary works and locations

Preliminary work	Location	Summary of Work
Environmental surveys	Site-wide	Environmental surveys will include: • Arboricultural Survey • Ecology pre-commencement surveys and walkover • Transport pre-condition road surveys and • Land Use pre-condition survey • Hydrology baseline water quality monitoring • Groundwater monitoring; and • Intrusive ground investigations.
Intrusive archaeological surveys	Site-wide	As described in **ES Appendix 8.7: outline Archaeological Mitigation Strategy [REP2-016]**.
Removal of existing plant and machinery	Site-wide	If identified within the PPW areas.
Above ground Site preparation for temporary facilities for the use of Contractor(s)	Site-wide	Establishment of temporary facilities for the purposes of PPW only. In relation to the construction compound areas shown within **ES Figure 5.2 [REP1-043]**, with the exception of fencing, these areas will not be established until after PPW.
Remedial work in respect of any contamination or other adverse ground conditions	Site-wide	Remediation of contaminated land, natural geohazards and historical mining hazards, if required throughout the PPW.
Protection, diversion and laying of apparatus	Site-wide	Any existing apparatus along the route may require the need to be diverted due to clashes along the route subject to an approved electrical design.
Provision of temporary means of enclosure and Site security for construction	Site-wide	Temporary fencing would be installed where required, to secure work areas not naturally contained by existing hedgerows or fencing. Site security fencing for construction areas

		would also be installed to allow works to progress.
Temporary display of Site notices and advertisements	Site-wide	Erection of temporary Site notices and advertisements where needed.
Site clearance (including vegetation removal, demolition of existing buildings and structures (and any associated infrastructure) and removal of existing plant and machinery)	Site-wide	Site clearance would include the selective removal, cutting back or management of vegetation required to establish, temporary compound areas, survey and investigation locations, temporary fencing and working areas and associated environmental mitigation. Site clearance would be undertaken in discrete work areas, over limited periods and limited to the activities required. Activities may take place concurrently at more than one location where suitable. Clearance will be limited to the areas reasonably required for the relevant activity and will be phased where practicable so that land is not disturbed materially earlier or more extensively than necessary.

2.2 Roles and Responsibilities

2.2.1 The key roles and responsibilities during the PPW in managing environmental impacts will likely include, but are not limited to:

- **Site Manager –** Overall responsibility for activity on-site, and will be based on-Site full time.
- **Construction Project Manager –** Overall responsibility for ensuring all elements in this PPWEMP and all environmental legal and other requirements are implemented, and appropriately resourced, managed, reviewed and reported.
- **Environmental Manager** – Responsible for the overall management of environmental aspects on site, ensuring environmental legislation and best practices are complied with, and environmental mitigation and monitoring measures identified are implemented. The Environmental Manager will oversee environmental monitoring onSite and carry out regular environmental Site inspections, will liaise with relevant environmental bodies and other third parties as appropriate.
- **Archaeological Project Manager –** Responsible for monitoring the completion of all archaeological works in accordance with the programme, reporting and responding to

any incidents or non-compliance as set out in the Written Scheme of Investigation (WSI) within **ES Appendix 8.7: outline Archaeological Mitigation Strategy [REP2-016].**

- **Environmental Clerk of Works (ECoW) –** Oversee the management of, and provide advice about, environmental and ecological risks during PPW including for example, management of protected species, surface water management, pollution, air quality and noise.
- **Ecological Clerk of Works (EcoCoW) –** Management of the risks to biodiversity on PPW areas, advising protecting valued biodiversity features and providing practical solutions.
- **Flood Warden –** There will be a dedicated responsibility to be prepared for, and manage, the response to flood incidents.
- **Health and Safety Manager –** Responsible for the monitoring and controlling of health and safety compliance and related rules and regulations on-Site.
- **Community Liaison Manager –** A Community Liaison Manager will be appointed to lead discussions with local communities, and also act as the primary point of contact should there be any queries or complaints.

2.3 Working Hours

2.3.1 The core PPW working hours (excluding start-up and shut down works) will be as follows:

- Monday to Friday from 07:00 to 18:00 (daylight hours permitting);
- Saturday from 08:00 to 13:30 (daylight hours permitting); and
- No Sunday or Bank Holiday working unless crucial to the PPW or in an emergency.

2.3.2 Where practicable, deliveries would be coordinated to avoid HGV movements during the traditional network peak morning (08:00 to 09:00) and peak afternoon (17:00 to 18:00) hours. In addition, worker shift patterns will be coordinated to avoid travel during the network peak hours of 08:00-09:00 and 17:00-18:00.

2.3.3 A period of up to one hour before and after the core working hours may be used for mobilisation and close down activities which do not involve materially noise inducing operations.

2.3.4 Works may be undertaken outside core hours where reasonably necessary to respond to an emergency, prevent harm to persons or the environment and protect exposed works or utilities. Where such works occur the relevant planning authority must be notified as soon as practicable.

2.4 Ecology

Pre-Commencement Surveys

2.4.1 Prior to commencement of PPW, a number of pre-commencement ecological surveys will be undertaken, including for species such as badger. These surveys will be undertaken in line with relevant survey guidelines, including optimal timing of surveys to ensure results are sufficiently robust to inform detailed design and construction.

Lighting

2.4.2 The use of artificial lighting at night will be minimised as far as practicable between sunset and sunrise from March to October inclusive, with any unavoidable lighting required during this time to be permitted only following consultation with the EcoCoW. Lighting utilised from November to February inclusive will be designed to minimise light spill on ecologically sensitive features. These seasonal measures are designed to avoid and minimise potential impacts on protected and notable species, particularly light-sensitive species. Standard good practice measures would be employed to minimise light spill, including glare, during PPW.

2.4.3 Security lighting may be installed on temporary Site compounds and permanent structures following consultation with the EcoCoW to establish appropriate locations. Security lighting will be limited to the minimum number of luminaires required which will be defined through consultation with the EcoCoW and based on the sensitivity of the habitats potentially affected and baseline lux levels. Security luminaires will be motion-sensitive and set on a short (less than 2 minute) timer and oriented to reduce upward light spill as far as possible (i.e. horizontally oriented) in order to reduce the potential impact on light sensitive species such as bats.

2.5 Hydrology, Flood Risk and Drainage

2.5.1 The pre-construction activity for hydrology, flood risk and drainage for the baseline water quality monitoring includes the following:

- Surface water monitoring at locations on the principal watercourses downstream of the Scheme infrastructure and upstream of other non-natural influences, to be agreed with the EA
- Groundwater monitoring from boreholes surrounding the Scheme, including at Keeper's Cottage
- Regular visual inspections of surface watercourses / ditches; and
- To supplement the visual inspections, it is anticipated that there would be several surface water monitoring points for extractive sampling and analysis.

2.5.2 Where sampling is undertaken, MCERTS methods would be used where applicable and analysis completed by a UKAS-accredited laboratory. The results would be recorded to establish the baseline against which monitoring during construction and for an appropriate period following construction can be compared.

2.5.3 As the anticipated work is limited to inspections, measurements and sampling, the relevant controls would principally relate to safe access, protection of watercourse banks and buffers, avoidance of unnecessary disturbance, and pollution prevention and incident response, as listed in **Table 3-4**. No separate hydrology management plan or wider pre-construction drainage or topographical survey is required for this activity.

2.5.4 Surface water and ground monitoring surveys will be undertaken to establish a baseline prior to the commencement of the PPW, for at least six months.

2.6 Control of Noise

2.6.1 PPW will be undertaken in accordance with the best practicable means (as defined in Section 72 of the Control of Pollution Act 1974 (Ref 1-1) to minimise noise and vibration effects. Noise control measures will be consistent with the recommendations of the current version of BS 5228 'Code of Practice for Noise and Vibration Control on Construction and Open Sites' – 'Part 1: Noise' and 'Part 2: Vibration' (BS 5228-1:2009+A1:2014 and BS 5228-2:2009+A1:2014) (Ref 1-2).

2.7 Control of Light

2.7.1 Lighting may be required during PPW for safety reasons but will be temporary in nature and predominantly limited to the core PPW working hours.

2.7.2 Between the months of November and February inclusive, where lighting is considered essential, PPW temporary Site lighting in the form of mobile lighting towers will be positioned to ensure that light is directed onto the area of works only with as minimal light spillage onto the hedgerows/woodland as possible. The use of LED lighting and cowls, hoods and other similar screens will be adopted. Any working-area lighting requirements will be discussed and reviewed with the EcoCoW.

2.7.3 The following principles for lighting will be adhered to:

- Use of focused directional fittings to minimise outward light spill and glare (e.g. hoods/cowls which direct light below the horizontal plane); and
- Lighting to be directed towards the middle of the Site rather than towards the boundaries.

2.7.4 Any unavoidable artificial lighting during the hours of darkness required within the period March to October inclusive will only be permitted following consultation with the EcoCoW

in order to determine the severity of potential impacts and appropriate mitigation steps, including agreed hours of operation and numbers/specification of luminaires.

2.7.5 Security lighting may be installed on temporary Site compounds and permanent structures following consultation with the EcoCoW to establish appropriate locations. Security lighting will be limited to the minimum number of luminaires required, which will be defined through consultation with the EcoCoW and based on the sensitivity of the habitats potentially affected and baseline lux levels. Security luminaires will be motion-sensitive and set on a short (less than 2 minute) timer and oriented to reduce upward light spill as far as possible (i.e. horizontally oriented) in order to reduce the potential impact on light sensitive species such as bats.

2.8 Traffic Management

2.8.1 During PPW, the appointed contractor(s) will ensure that the impacts from works-related traffic on the local community (including local residents and businesses and users of the surrounding transport network) are minimised, where reasonably practicable, by implementing the measures set out in **Table 3-6** below.

2.8.2 Prior to the commencement of PPW, a pre-construction Highway Condition Survey will need to be undertaken as set out in Section 5.2 of the **oCTMP [AS-082]**. Any works on Site requiring vehicle movements will be minimal and would need to take note of the measures set out in Section 5 of the **oCTMP [AS-082]**.

2.8.3 During the PPW, the landowner will maintain pedestrian and vehicular use of the existing farm tracks within the Order limits to allow continued maintenance of existing woodland. The landowner is granted access to woodland parcels that do not lie immediately adjacent to the existing farm tracks. Indicative access routes to woodland parcels that do not lie immediately adjacent to the existing farm tracks are illustrated in **oLEMP Appendix 1: Green Infrastructure Strategy Plans [REP3-069]**.

2.9 Parking Provisions

2.9.1 The temporary construction compounds for the PPW will include parking areas. These parking areas will not be aggregate, and vegetation will be cleared and fencing established for these compounds.

2.9.2 Wheel cleaning facilities will be used by vehicles prior to exiting the Order limits onto the public highway if there is mud or debris from the PPW Site on the vehicles.

2.10 Recovery, Recycling and Disposing of Waste

2.10.1 In order to control the waste generated during PPW, the contractor(s) will separate the main waste streams on-site, prior to transport to an approved, licensed third party waste facility for recycling or disposal.

2.11 Security

2.11.1 Risk-based Site security during PPW will be managed by the contractor(s). Active PPW areas, compounds, plant and stored materials shall be secured using measures proportionate to the location, activity, duration and assessed security risk. Measures may include temporary fencing, gates, locks, surveillance or security attendance where reasonably necessary. Any storage of materials will be kept secure to prevent theft or vandalism. A safe system for accessing the materials storage areas would be implemented by the contractor(s)

2.12 Responding to Environmental Incidents and Emergencies

2.12.1 An emergency response plan will be shared with the relevant local authority emergency planning officer, emergency services including the local fire service, as well as the EA in relation to responding to flood warnings and events and include details for pollution prevention. The plan will detail the procedures for responding to incidents and emergencies on-site, and any reporting. Good practice guidance, including management of spillage risk, will be included in the emergency response plan.

2.13 Good Practice

2.13.1 The Considerate Constructors Scheme (CCS) will be adopted to assist in reducing pollution and nuisance from the PPW, by employing good practice measures, which go beyond statutory compliance.

2.13.2 The CCS is a national scheme that promotes good practice on construction sites through its codes of considerate practice; these commit registered sites to be considerate and good neighbours, as well as being respectful, environmentally conscious, responsible and accountable.

2.14 Public Consultation and Liaison

2.14.1 A Community Liaison Officer would be in place from the commencement of PPW to lead discussions with local communities during the PPW.

3 Mitigation and Monitoring

3.1.1 This section of the PPWEMP sets out the mitigation and management measures to be implemented as part of the PPW, as relevant to the nature of the PPW. It also sets out monitoring requirements for each mitigation measure or monitoring requirement where relevant.

3.1 Climate Change

Table 3-1 Climate Change

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Greenhouse Gas (GHG) impact on waste	Reducing waste: • Segregation of waste at source, where practical, to facilitate a high proportion and high-quality recycling • Off-Site reuse, recycling and recovery of materials and waste where reuse on-Site is not practical, e.g. through use of an off-Site waste segregation or treatment facility or for direct reuse or reprocessing off-site • Reusing suitable infrastructure and resources already available within the Site where practicable to minimise the use of natural resources and unnecessary materials (e.g. reusing excavated soil for fill requirements). General practices: • Retention of existing vegetation as far as practicable.	Regular (weekly) visual checks and Site inspections, with monthly auditing by the Environmental Manager during PPW.
GHG emissions from PPW traffic and equipment.	Appropriate standard and good practice control measures which would include: • Designing and implementing the PPW in such a way as to minimise the creation of waste and maximise the use of alternative materials with lower embodied carbon, such as locally sourced products and materials with a higher recycled content where feasible	Regular (weekly) visual checks and Site inspections, with monthly auditing by the Environmental Manager during PPW.

	• Where reasonably practicable, using lower carbon modes of transport, including Low Emissions Vehicles, by identifying and communicating local bus connections and pedestrian and cycle access routes to/ from the Scheme to all PPW staff, and providing appropriate facilities for the safe storage of cycles • Switching vehicles and plant off when not in use and ensuring PPW vehicles conform to current UK emissions standards • Conducting regular planned maintenance of the PPW plant and machinery to optimise efficiency • Protecting workers and resources from extreme weather conditions through appropriate PPE and working practices • Using equipment's cooling systems where necessary/adapting working practices and equipment used based on current weather conditions; and • Monitoring weather forecasts and the news for EA flood warnings, relevant weather warnings, and water levels of the local waterways.	
Stronger winds, heatwaves, heavy precipitation and increased risk of fires/wildfires.	The contractor will monitor weather forecasts and plan works accordingly, protecting workers and resources from any extreme weather conditions. The contractors will monitor weather forecasts and receive EA's flood alerts and plan works accordingly protecting workers and resources from any extreme weather conditions such as storms, flooding. Fire suppression system on-Site to rapidly action in case of fire.	Regular (weekly) visual checks and Site inspections, with monthly auditing by the Environmental manager during PPW.

3.2 Landscape and Visual

Table 3-2 Landscape and Visual

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Landscape and Visual effects on sensitive receptors	A tree survey would be required prior to starting PPW to re-establish the baseline. This survey would inform the tree protection zones to be applied during construction. Site hoarding and exclusion zones would be introduced around retained vegetation in accordance with the requirements of BS 5837:2012 'Trees in relation to design, demolition and construction'. An approved Arboricultural Method Statement would be adopted incorporating best practice guidance set out in British Standard 5837:2012 Trees in Relation to Design, Demolition and Construction which would ensure retained trees and other vegetation are not adversely affected during the PPW process.	None required.
Amenity and Recreation Impacts	A total of five crossing points (associated with access to Fields 27, 30, 31, 34,16, 9, 12, 13, 11 and 14) for internal access tracks across existing PRoW require diversion during the PPW. These crossing points will be overseen by spotters or banksmen for HGVs. Where closures are deemed to be necessary, these will be prioritised for overnight work, will be temporary in nature and supported by appropriate amount of notice and suitable diversions. Any diversions to routes will be appropriately signed, and the duration and length of diversions will be optimised to minimise impacts on accessibility and desirability.	None required.

3.3 Ecology and Biodiversity

Table 3-3 Ecology and Biodiversity

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Potential for obtrusive glare and light spill to impact on ecology. Potential for spillages to enter watercourses and impact ecology. Clearance or damage of habitat to facilitate works – resulting in temporary or permanent reduction in habitat extent and potential direct and indirect effects on associated species. Dust deposition on sensitive ecological receptors.	The following mitigation measures will be adopted: • An EcoCoW will be designated at the onset of the PPW, which will provide ecological supervision during the completion of any works (including ditch trenching) which have the potential to impact protected and notable species, as appropriate • Criteria under which the EcoCoW would be required in order to oversee certain activities which have the potential to impact on protected species, such as localised habitat clearance, and ditch/watercourse engineering works. These criteria would trigger the need for EcoCoW attendance and, potentially, pre-commencement surveys or preparation by an ecologist, as well as follow up monitoring or reporting • Criteria under which certain potentially impactful operations would need to be restricted to particular months or seasons in order to lessen likely adverse ecological effects (for example, hibernation or nesting season for particular species) • Restrictions on the use of fuels and other contaminants in proximity to boundary features and other sensitive habitats • Measures to limit the dust generating activities, such as when working in dry conditions	A Site walkover will be undertaken in advance of the areas where PPW will be undertaken to identify any new ecological risks, such as newly constructed badger setts. Further surveys for protected species may be conducted as required, for example where tree modification or removal is proposed where trees have potential to support roosting bats. Further surveys, including for species such as bats, otter, water vole and badger would be completed as appropriate to reconfirm the status of protected species identified, to inform mitigation requirements and support protected species licence applications, if

	• Measures to limit the mobilisation of sediments and run-off, such as when working in very wet conditions or the use of silt fencing when working in ditches or watercourses • Where identified as required by the ECoW, PPW personnel will receive a Toolbox Talk detailing the presence of sensitive ecological features and will be informed that no materials should be stored in, or vehicles drive through, buffer zones • Temporary Site lighting during PPW will be required to enable safe working during PPW during hours of darkness (likely over the winter months only) and will be designed as far as reasonably practicable to minimise potential for light spillage outside the Order limits, particularly towards valuable ecological habitats. Standard good practice measures would be employed to minimise light spill, including glare, during PPW • To avoid an offence under the Wildlife and Countryside Act 1981 (as amended), the potential loss of active nests during PPW will be avoided by either undertaking clearance of potential bird nesting habitat outside of the bird nesting season (March to August inclusive) or, if necessary, preceding any clearance with an inspection by a suitably qualified ecologist. Any nests identified will be cordoned off and protected until they cease to be active. Where necessary, the use of bird scarers or other deterrence methods will be used to minimise the risk of ground nesting birds occupying open ground once PPW have commenced • Measures to prevent the potential spread of Schedule 9 exotic invasive weed species (per the Wildlife and Countryside Act 1981 (as amended)) • A sensitive lighting strategy (set out within the **oCEMP [APP/7.6.4]**) will specify where and how any artificial lighting	required, and the requirement for any EcoCoW supervision during the PPW. Such surveys would be undertaken sufficiently far in advance of PPW to account for seasonality constraints and to allow time for the implementation of any necessary mitigation, prior to PPW commencing. Additional surveys may be required during the PPW, as advised by the Applicant's ecologist, based on the findings of the updated walkover and protected species surveys, or otherwise as identified as appropriate by the Applicant or their appointed contractor.

	will be used during PPW, which will serve to mitigate adverse impacts on ecological receptors such as bats • Temporary hoarding and working safeguards will be employed, as necessary, to protect development buffer zones around key ecological habitats • Erection of tree protection fencing around retained woody vegetation, hedgerows and trees in accordance with BS5837:2012 • Erection of temporary fencing around PPW areas, protecting retained habitats of ecological value • All contractors will be briefed as to the possible presence of protected and notable faunal species within the Site, with particular reference to the implications of legislation and licensing • Any trenches or deep pits within the Site that are to be left open overnight will be provided with a means of escape should a Badger or other mammal enter. This could simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface. This is particularly important if the trench fills with water • Any trenches/pits will be inspected each morning to ensure no animals have become trapped overnight • No fires will be permitted on Site • The storage of topsoil or other 'soft' building materials in the Site during PPW will be given careful consideration. Badgers will readily adopt such mounds as setts. So as to avoid the adoption of any mounds, these will be kept to a minimum and will be subject to inspections by Site contractors with consideration given to temporarily fencing any such mounds to exclude Badgers	

	• Food and litter will not to be left within the working area overnight • Storage of chemicals and hazardous materials in line with best practice guidelines, ensuring that they are secure, well away from the Site boundaries and cannot be accessed or knocked over by roaming animals • To minimise adverse effects as a result of lighting during the PPW, temporary lighting will be minimised, wherever practical. Where required for health and safety, security or other reasons, it will be positioned so as to minimise light spill on to hedgerows and other boundary features • Disturbance from noise will be minimised by the adoption of good working practice; and • Should additional Badger setts be discovered in locations which cannot be accommodated within the Scheme design (including where new setts are discovered in locations which disrupt or prevent PPW activities), it is anticipated that such setts would need to be closed under licence, with suitable mitigation measures/compensation provided in line with relevant licence requirements.	

3.4 Water Resources

Table 3-4 Water Resources

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Increased sediment in surface water runoff	This section addresses the management of sediment and surface water runoff generated during the PPW of the Scheme. A Pollution Prevention Plan (PPP) will be shared with Anglian Water, the local authority and the EA for their review and agreement prior to the commencement of the PPW. A minimum of 10m from drainage ditches, watercourses, IDB maintained water courses, and marl pits will be observed for all infrastructure with the exception of fencing and watercourse crossing. **Provision For Storm Events** Temporary storage volume for storm runoff from the foundations and hardstanding areas would be provided via settlement lagoons. Along the access tracks, drainage channels on the downslope would shed track runoff to adjacent rough ground approximately every 30m, to attenuate flow and allow natural filtration to remove sediments. Appropriate licensing and discharge consents will be sought before the construction phase of the Scheme.	Temporary drainage will be monitored throughout any PPW.

Increase in runoff rates	If the volume of dewatering during PPW is likely to exceed the limit outlined in the EA's Temporary dewatering from excavations to surface water: RPS 261, then permits for dewatering will be applied for by the contractor.	N/A
Chemical Pollution	**Accidental Spillage** Speed limits for vehicles transporting fresh concrete will be set at a maximum of 15 miles per hour (mph) and will be continually monitored. Maximum vehicle load capacities will not be exceeded. Although tracks will be maintained in good condition, vehicle loads and/or speeds will be reduced if rougher surfaces are identified prior to track maintenance. Appropriately sized spill kits will be provided at strategic locations, particularly where fresh concrete may be present. These will contain materials such as absorbent granules and pads, absorbent booms and collection bags. These are designed to halt the spread of spillage and will be deployed, as necessary, should spillage occur **Vehicle Washing** In the event that plant and wheel washing is required, dry wheel wash facilities and road sweepers will be provided to prevent (as far as is practicable) mud and debris being deposited on to the public roads. Signage will be put in place to direct all vehicles to use wheel wash facilities. The track section between the wash facility and the public road will be surfaced with tarmac or clean hardcore	Temporary drainage will be monitored throughout the PPW. **Surface Water Monitoring** Surface water monitoring will be undertaken at locations on the principal watercourses downstream of the Scheme infrastructure and upstream of other non-natural influences and the locations and parameters will be agreed with the EA prior to establishing the hydrochemical baseline. Groundwater monitoring will also be undertaken from boreholes surrounding the Scheme, including at Keepers Cottage. Regular visual inspections of surface watercourses / ditches are proposed,

	and the area surrounding the facilities will be kept clean and in good condition. The wheel wash facility, which will work on a closed cycle, or will utilise dry wheel cleaning, shall be operated throughout the PPW. Wheel wash facilities will be located within a designated area of hardstanding at least 50m from the nearest watercourse or 20m from the nearest surface drain. Water from the wheel wash is to be collected and tankered off site to a licensed waste carrier. Should debris be spread on to the site access or public road adjacent to the Scheme, then road sweepers will be quickly utilised to clean affected areas. Loose debris will also be periodically removed from site tracks**.** **Potential Hydrocarbon Contamination** All refuelling, oiling and greasing will take place in designated areas and on impermeable surface which provides protection to underground geology and groundwater and at least 10 m away from drains. Vehicles will not be left unattended during refuelling. Any machinery used during the PPW will be regularly maintained to minimise the potential for fuel or oil leaks and spillages to occur. All maintenance will be conducted over drip trays or suitably absorbent spill pads to minimise the potential for groundwater and surface water pollution. All machinery will be equipped with drip pans to contain minor fuel spillage or equipment leakages. Appointed refuelling personnel will be trained in the correct methods of refuelling to ensure that pollution incidents are prevented and a quick response plan is implemented should a spill occur, to minimise the impact of spills. In the event of a	especially during major excavation works, as these allow rapid identification of changes in levels of suspended solids that could indicate PPW-related effects are occurring upstream. Potential effects can then be investigated and remedial action taken to prevent further effects, if necessary. To supplement the visual inspections, it is anticipated that there would be several surface water monitoring points for extractive sampling and analysis. Details will be developed in advance of the commencement of PPW. The following indicative sampling frequency is proposed in order to establish baseline hydrochemical conditions of surface water constituents: • Twice per month for at least six months. The following indicative sampling frequencies are proposed in order to monitor

	suspected pollution incident, the EA will be informed immediately. Fuel delivery vehicles servicing the Site will only be allowed as far as the temporary PPW compounds. The temporary PPW compounds will include a bunded and impermeable refuelling area, and operations will only be permitted where they comply with the contractor's method statements. Fuel pipes on plant, outlets at fuel tanks, etc., will be regularly checked and maintained to ensure that no drips or leaks to ground occur. The following precautions will be taken: • Any flexible pipe, tap or valve should be fitted with a lock where it leaves the container and be locked when not in use • Flexible delivery pipes should be fitted with manually operated pumps or a valve at the delivery end that closes automatically when not in use • Warning notices including “No smoking” and “Close valves when not in use” shall also be displayed; and • Spill kits will be available within each item of plant or vehicle on Site and also located close to identified pollution sources or sensitive receptors (fuel storage areas, watercourse crossings, etc.) Irrespective of the buffer distances to watercourses and location of refuelling points, interceptor drip trays or similar (noting that open metal drip trays are not acceptable) will be available. Interceptor drip trays will be positioned under any stationary mobile plant to prevent oil contamination of the ground surface or water. Plant and Site vehicles are to be well maintained and any vehicles leaking fluids must be repaired or removed from Site immediately.	surface water conditions against baseline conditions: • Weekly for the first three months of the PPW • Twice a month during earthworks, e.g., access track construction, foundations; and • Once a month, for six months after the PPW. Establishing baseline conditions for surface waters will enable any trends in levels of critical parameters to be assessed and deviations from the norm identified and rectified through water management measures. Monitoring will not take place within catchments or sub-catchments where no PPW activity has occurred for a period of two weeks or more. **Monitoring Reporting** The results of laboratory analysis of water samples will be tabulated and recorded and provided

	Concrete Pouring No concrete will be poured on-site as part of PPW. **Non-Road Mobile Machinery (NRMM)** Mitigation measures in relation to NRMM, as required for the PPW, are detailed below: • All NRMM should use fuel equivalent to ultra-low sulphur diesel (fuel meeting the specification within EN590:2004) • All NRMM should comply with either the current or previous EU Directive Staged Emission Standards (97/68/EC, 2002/88/EC, 2004/26/EC). As new emission standards are introduced the acceptable standards will be updated to the most current standard • All NRMM should be fitted with Diesel Particulate Filters conforming to defined and demonstrated filtration efficiency (load/duty cycle permitting) • The ongoing conformity of plant retrofitted with Diesel Particulate Filters, to a defined performance standard should be monitored via regular checks • Implementation of energy conservation measures including instructions to throttle down or switch off idle PPW equipment; switch off the engines of trucks while they are waiting to access the Site and while they are being loaded or unloaded; and ensure equipment is properly maintained to ensure efficient energy consumption; and • NRMM and plant should be well maintained. If any emissions of dark smoke occur then the relevant machinery will stop immediately and any problem rectified. **Foul Drainage**	monthly to the EA's Water Quality email inbox.

	Portable toilet facilities will be deployed for Site personnel. The toilets will be emptied by a waste contractor thereby avoiding the need for on-Site treatment and discharge and minimising potential effects on drainage ditches and watercourses. **Chemical Storage (if required during PPW)** In the event that any potentially contaminating chemicals are required to be stored on site during the PPW, they will be kept within a secure bunded area to prevent any accidental spills from affecting hydrological resources. The bunds will have a capacity 110% of that of the fuel or chemical store, in accordance with the Control of Substances Hazardous to Health Regulations 2002, and the Control of Pollution (Oil Storage) (England) Regulations 2001. The bunded area will be within the PPW compounds and will be underlain by an impermeable ground membrane layer to reduce the potential pathways for contaminants to enter watercourses and groundwater. The chemicals storage area will be kept secure to prevent theft or vandalism. A safe system for accessing the storage area will be implemented by the contractor. Oil storage areas will be fully covered in order to prevent rainwater collecting within the bunded area. Any plant or equipment containing hazardous or polluting substances would be suitably engineered to avoid the loss of these substances to the ground. Interceptor drip trays will be positioned under any stationary mobile plant to prevent contamination of the ground surface or water. Plant and site vehicles are to be well maintained and any vehicles leaking fluids must be repaired or removed from Site immediately. This will limit the potential for fugitive releases of polluting substances.	

	Guidance Contractors will act in accordance with "EA - Approach to Groundwater Protection" and "National standard for sustainable drainage systems (SuDs)" guidance. Other guidance will be followed: • Control of Pollution Act 1974 • BS6031:2009 Code of Practice for Earthworks • BS10175:2016 Investigation of Potentially Contaminated Sites –Code of Practice. • Control of water pollution from construction sites. Guidance for consultants and contractors (C532). CIRIA, 2001 • Pollution Prevention for Businesses. Defra, 2016 • Land Contamination Risk Management. Environment Agency, 2020 • Environmental Good Practice on Site Guide C811. CIRIA, 2023 • Guidance for Safe Intrusive Activities on Contaminated or Potentially Contaminated Land. British Drilling Association, 2020 • Control of Pollution (Oil Storage) (England) Regulations 2001 • Oil Storage Regulations for Businesses. Environment Agency and Defra, 2015 • Considerate Constructors Scheme. The code of considerate practice (CCS) **PPW Compound Locations**	

	PPW compounds will be sited outside Source Protection Zone 1, where practicable.	
Water usage	It is not anticipated that more than 20m^3 of daily water will be required from Anglian Water during the PPW.	N/A

3.5 Cultural Heritage and Archaeology

Table 3-5 Cultural Heritage and Archaeology

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
PPW activities impacting upon Heritage/Archaeology assets	Where PPW will be undertaken in the relative proximity of designated assets, works, including the storage of materials, will be undertaken as far away from the assets as reasonably practicable. The **outline AMS [REP2-016]** details the overarching methodology for undertaking a programme of archaeological mitigation within the Order limits. The proposed mitigation strategy detailed in the outline AMS will be implemented as part of the PPW.	Provision for archaeological mitigation and monitoring is detailed in the outline AMS (See **ES Appendix 8.7: outline Archaeological Mitigation Strategy [REP2-016]**). The AMS must be adhered to during PPW. All archaeological works relevant to PPW will be undertaken by suitably qualified and experienced professional archaeological specialists. All archaeological works will be undertaken in line with national guidance (i.e. Historic England and CIfA guidance). The Archaeological Clerk of works and/or the Archaeological Advisors to the LPAs will monitor the completion of works in accordance with the

		programme set out in the **outline AMS [REP2-016]**.

3.6 Transport and Access

Table 3-6 Transport and Access

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Increased traffic throughout the Study Area that will impact both motorised users and non-motorised users.	**PRoW** Where a vehicle track crosses a Public Right of Way, the following measures will be implemented • The provision of banksmen to hold vehicles if a PRoW user is present and advise PRoW users of the potential presence of PPW vehicles • Wider access tracks to be considered where possible to ensure vehicles can pass PRoW users safely • Speeds to be limited to 5-10mph • Drivers will stop and give-way to any PRoW user that they encounter • Appropriate signage will be installed along the PRoW to make PRoW users aware of PPW activity. This will include information on PPW times and contact details for a Community Liaison Manager • The PRoW will be kept clear of PPW vehicles and apparatus outside of permitted PPW hours so far as is practicable to do so; and • Any damage to the surface of the PRoW will be repaired as soon as practicable. The surface will be returned to its original condition following completion of PPW.	Any unforeseen issues that arise in relation to PPW vehicle movement will be logged by the Site Manager. If necessary, the issues will be discussed with the local highway authority so that they can be resolved as appropriate.

	Specific Highway Measures • Existing accesses will be utilised • No new accesses off the public highway will be established • No highway improvement works will be undertaken as part of the PPW; and • There will be no Abnormal Indivisible Loads (AILs) movements during PPW. **Traffic Management** • Traffic Management Measures, including signage will be utilised to warn drivers of the presence of PPW related traffic. Traffic marshals or banksmen will be utilised to ensure the safe passage of PPW vehicles at access junctions. **Signage** • Signs to direct vehicles associated with the PPW will be installed along traffic routes. Delivery drivers, contractors and visitors will be provided with a route plan in advance of delivering to Site to ensure that vehicles follow the identified routes; and • All signage on the designated route will be inspected daily by the Site Manager, to ensure they are kept in a well maintained condition and located in safe and appropriate locations. **Vehicle Movements** • PPW deliveries by HGV will be coordinated to arrive/depart between 09:00-17:00. They will be coordinated to avoid vehicle movements during the traditional AM peak hour (08:00-09:00) and PM peak hour (17:00-18:00); and	

	• Banksmen will be provided at the Site accesses to indicate to PPW traffic when it is safe for them to enter and exit the Site. **Parking** Advisory signs informing contractors and visitors that parking is not permitted on-street in the vicinity of the Site or on the Site access road. Contractors and visitors will be advised that parking facilities will be provided on-Site in advance of visiting the Site and that they should not park on-street. **Wheel Washing Facility** Mud will be controlled at entry and exits to the Solar PV Sites using wheel washes and/or road sweepers. Where wheel washing is required, it will be undertaken in designated impermeable or lined areas, with wash water contained and either recycled or removed off-Site by a licensed contactor, with no uncontrolled discharge to ground or surface water. A visual inspection of vehicles will be undertaken before they depart the Site, to ensure that they are not carrying any residual debris onto the highway. **Noise Reduction and Air Quality** When on Site and when not in use, vehicle engines will be switched off. Vehicles carrying material off-Site will be sheeted to prevent the spread of dust. In dry conditions, areas near to the Site access will be sprayed with water supplied to prevent the spread of dust. **Site Security** The PPW works will be secured at all times via a perimeter fence or temporary fencing. Where existing access tracks are used that also provide access to residential properties, appropriate security measures will be put in place in consultation with the relevant property owner(s).	

	Community Engagement The details of the Community Liaison Officer will be provided to the local highway authority in advance of any work being carried out. The details will also be provided on a Site-board at the Site accesses. If anyone in the local community has any issues during the PPW, the Site Manager will be available to discuss.	

3.7 Noise and Vibration

Table 3-7 Noise Vibration

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Noise and vibration due to PPW activities causing annoyance at Noise Sensitive Receptors (NSR) and damage to properties. PPW traffic noise at residential properties.	The following Best Practicable Means (BPM) will be applied, as far as reasonably practicable, during PPW to minimise noise and vibration at NSRs, including, neighbouring residential properties and other sensitive receptors arising from PPW activities: • Ensuring that all appropriate processes, procedures and measures are in place to minimise noise before works begin and throughout the PPW programme • All contractors to be made familiar with current legislation and the guidance in BS 5228:2014 (Parts 1 and 2) which should form a prerequisite of their appointment • When works are taking place within close proximity to sensitive receptors, the screening of noise sources via the erection of temporary screens would be employed where practicable • All machinery would be regularly maintained to control noise emissions, with particular emphasis on lubrication of bearings and the integrity of silencers • All plant and equipment to be properly maintained, silenced where appropriate, operated to prevent excessive noise and switched off when not in use • As far as practicable, works will be programmed to avoid noisy operations occurring simultaneously in close proximity to the same sensitive receptor	Monthly reporting of information to and from local residents to advise of potential noisy works that are due to take place and for monitoring of noise complaints and reporting to the Applicant for immediate investigation and action.

	• As far as practicable, temporary construction compounds must be located a minimum of 250m from residential receptors; and • Adhere to the core working hours of the Scheme which are Monday to Friday 07:00 – 18:00 and between 08:00 and 13:30 on Saturdays unless otherwise approved in advance by Breckland Council (except in case of emergency). Those activities that are unlikely to give rise to noise audible at the Site boundary, or light vehicle traffic accessing the Site such as that involved with staff mobilisation, may continue outside of the stated hours.	

3.8 Socio-Economics

Table 3-8 Socio-Economics

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Disruption to users of Public Rights of Way	Recreational routes crossing or within the Order limits will be sought to be kept open during PPW, with any crossing or traffic conflict points overseen by spotters or banksmen for HGVs. Where closures are deemed to be necessary, these will be temporary in nature and supported by appropriate amount of notice and suitable diversions. Any diversions to routes will be appropriately signed, and the duration and length of diversions will be optimised to minimise impacts on accessibility and desirability.	A Community Liaison Manager will be available for members of the public to report any concerns or issues with PRoWs during PPW. The CLM will report any concerns to the responsible PPW Site manager to oversee any investigative, and if required, remediation work.

3.9 Soils and Agriculture

Table 3-9 Soils and Agriculture

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Impacts on agricultural land and soils.	Soil management Method Statements will be produced by the Contractor(s) and will include but not be limited to consideration of the following: • Details of the soil resources present • How the topsoil and subsoil will be stripped and stockpiled • Suitable conditions for when soil handling will be undertaken, for example avoiding handling of waterlogged soil • Indicative soil storage locations • How soil stockpiles will be designed taking into consideration site conditions and the nature/composition of the soil • Specific measures for managing sensitive soils • Suitable protective surfacing where soil stripping can be avoided, based on sensitivity of the environment and proposed works • Approach to reinstating soil, including measures to remove compaction, where required; and • Details of measures required for soil restoration, if necessary.	Site inspections by a suitably experienced soil scientist to identify any emerging issues. Monitoring to ensure that disturbed land and soil resources continue to fulfil all their ecological functions.

The discovery of ground contamination during groundworks	In the event of the discovery of ground contamination during PPW, relevant best practice means would be implemented, where practicable. A watching brief will be maintained throughout PPW to monitor for any unexpected contamination. A Discovery Strategy will be employed where contamination is discovered. Should any previously unidentified risks to groundwater receptors emerge during PPW, a detailed Hydrogeological Risk Assessment will be undertaken in consultation with the EA. The detailed design of the Scheme will take account of the locations of any abandoned utilities on Site to limit the potential for impacts associated with the PPW. The Scheme would be designed at this stage to avoid PPW activities in areas where abandoned utilities are identified, where practicable. In the event that contaminated land is found at any time when carrying out PPW, which was not previously identified in the ES, then no further development (unless otherwise approved in writing by the relevant authorities) shall be carried out within the identifiable perimeters of the area in which the suspected contamination is located. Such suspected contamination must be reported as soon as reasonably practicable to the local planning authority and, where necessary, the EA, and the undertaker must complete a risk assessment of the contamination in consultation with the local planning authority and, where necessary, the EA. Where the undertaker determines that remediation of the contaminated land is necessary, a written scheme and programme for the remedial measures to be taken to render the land fit for its intended purpose must be submitted to and approved in writing by the local planning authority, following consultation with the EA.	No monitoring required.

	Remediation must be carried out in accordance with that approved scheme. Training will be provided to site personnel on: • The sensitivity of the groundwater and surface water environment within the Scheme, and the procedures to follow in the event of an accidental pollution event; and • The potential for contamination to be encountered, and the procedures to follow in the event it is encountered, should be employed for all personnel carrying out activities which may encounter soil and/or groundwater contamination.	

3.10 Human Health

Table 3-10 Human Health

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Disruption to the local community	A Community Liaison Manager will be appointed, to whom any comments, concerns or complaints about the development of the Scheme can be raised, either directly by members of the public, or via elected representatives on parish or town councils, councillors, and Members of Parliament. This role will be used to continue open channels of communication between the community and the operators of the Scheme as set up during the application and DCO process, and through the discharge of requirements process. In doing so, this will mitigate impacts on community identity and influence by allowing the community to continue to be involved in the development of their local environment as the Scheme is constructed.	No monitoring required.

3.11 Other Environmental Matters

Table 3-11 Other Environmental Matters

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Telecommunication, Utilities and Television Receptors		
Telecommunication, utilities and television receptors	In advance of any intrusive PPW activities, the Applicant would liaise with all utility providers with assets in the area in regard to timelines, activities, proximity to assets and management measures. • During the PPW, there may be safe working required beneath any overhead lines in line with National Grid's technical guidance note 287 (Ref 1-3) including, for example, ensuring adequate clearances are in place when plant and equipment are being moved beneath overhead lines, and limiting any planting beneath overhead lines to low growing species; and • Measures in relation to safe working near buried utilities, particularly gas pipelines, will be in place at all phases of the Scheme. For example, safety measures set out in National Grid guidance documents for third parties working in the vicinity of high pressure gas pipelines and associated installations.	No monitoring required.
Waste		

Potential to impact on sensitive receptors (humans, wildlife, and controlled waters) if not stored and managed appropriately. Impacts on waste recycling and handling facility capacity.	The contractor will consider the objectives of sustainable resource and waste management and seek to use material resources efficiently, reduce waste at source, reduce waste that requires final disposal to landfill and apply the principles of the waste hierarchy. This would include, where reasonably practical, segregation of construction materials on-Site for appropriate re-use, recycling and recovery with landfill as a last resort. All waste management will be undertaken in accordance with the relevant regulations and waste would be transported by licensed waste hauliers to waste management sites which hold the necessary regulatory authorisation and/or permits for those wastes consigned to them.	The types, quantities and final destination of waste generated during by PPW would be identified, measured and recorded. A register of all waste loads leaving the Order limits would be maintained to provide a suitable audit trail for compliance purposes and to facilitate monitoring and reporting of waste types, quantities and management methods.
Impacts of waste to the surrounding environment.	To minimise impacts of waste on the surrounding environment, the following measures would be implemented: • Damping down of surfaces during spells of dry weather and brushing/water spraying of heavily used hard surfaces/access points across the Site as required • Burning of waste or unwanted materials will not be permitted on-Site • All hazardous materials including fuels, chemicals, cleaning agents, solvents and solvent containing products to be properly sealed in containers at the end of each day prior to storage in appropriately protected and bunded storage areas • All PPW workers will be required to use appropriate personal protective equipment whilst performing activities on-site	The types, quantities and final destination of waste generated during the PPW would be identified, measured and recorded.. A register of all waste loads leaving the Order limits would be maintained to provide a suitable audit trail for compliance purposes and to facilitate monitoring and reporting of waste types, quantities and management methods.

	• Any waste effluent will be tested and, where necessary, disposed of at a correctly licensed facility by a licensed specialist contractor/s; and • Materials requiring removal from the Site will be transported using licensed carriers and records will be kept detailing the types and quantities of waste moved, and the destinations of this waste, in accordance with the relevant regulations.	
Air Quality		
Fugitive dust emissions during the PPW.	**Communications** • Display the name and contact details of person(s) accountable for air quality and dust issues on the Site. This may be the Environmental Manager; and • Display the contractor's head or regional office contact information. **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 logbook. **Preparing and maintaining the Site** • Plan Site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.	The following monitoring will be undertaken: • Carry out regular Site inspections to record inspection results, and make an inspection log available to the local authorities when asked; and • 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. Any unforeseen issues that arise in relation to PPW vehicle movements will be

	• Erect solid screens or barriers around dusty activities or the Site boundary so that are at least as high as any stockpiles on Site. • Avoid Site runoff of water or mud. • 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. **Operating vehicle/machinery and sustainable travel** • Ensure all off-road vehicles comply with the requirements of the Non-Road Mobile Machinery (NRMM) standards, where applicable. Use stage 4 NRMM as a minimum and stage 5 where practicable. • Ensure all vehicles/machinery are switched off when stationary/not in use. • Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable. • Impose and signpost a maximum-speed-limit of 10mph on surfaced and 10mph on unsurfaced haul roads and work areas (if long haul routes are required, these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authorities, where appropriate). • Signs to direct PPW vehicles associated with the Scheme will be installed along the PPW traffic route. **Operations**	logged by the Site Manager. If necessary, the issues will be discussed with the local highway authority so that they can be resolved as appropriate.

	• 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. • Ensure an adequate water supply on the Site for effective dust/particulate matter suppression/mitigation, using non-potable water where practicable and appropriate. • Avoid scabbling (roughening of concrete surfaces) if possible; and • Ensure equipment is readily available on Site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. **Waste Management** • No bonfires or burning of waste materials. **Earthworks** • Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable. • Use Hessian, mulches or tackifiers where it is not possible to revegetate or cover with topsoil, as soon as practicable. • Only remove the cover in small areas during work and not all at once. **Trackout** • Avoid dry sweeping of large areas. In dry conditions, areas near to the Site access will be sprayed with water supplied to prevent the spread of dust. • Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	

	• A visual inspection of vehicles will be undertaken before they depart the Site, to ensure that they are not carrying any residual debris onto the highway. • If required, a road sweeper will be provided for the area surrounding access to alleviate any residual debris generated, as required. • Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the Site exit, wherever Site size and layout permits; and • Entrance gates to be located at least 10m from receptors where practicable.	
Vehicle and plant emissions during the PPW	Vehicles will be correctly maintained and operated in accordance with manufacturer's recommendations and in a responsible manner. All plant and vehicles will be required to switch off their engines when not in use and when it is safe to do so. In addition, plant and vehicles will conform to relevant applicable standards for the vehicle type as follows: • Euro 4 (Oxides of Nitrogen (NOx)) for petrol cars, vans and minibuses • Euro 6 (NOx and PM) for diesel cars, vans and minibuses; and • Euro 6 (NOx and PM) for lorries, buses, coaches and Heavy Goods Vehicles (excluding specialist abnormal indivisible loads).	The overall responsibility will be with the contractor.
Arboriculture		
Tree removal	It is unlikely that tree removal will be required as part of PPW. However, should tree removal be required, trees of lower quality and life expectancy will be preferably removed over those of	Ongoing Arboricultural Clerk of Works

	higher quality and life expectancy. Trees with a BS5837:2012 Quality Category of U shall be preferentially removed followed by Category C, B and A trees in that order of priority. Veteran trees will not be removed under any circumstances. If required, tree removals will be marked on-Site by the Arboricultural Clerk of Works (ACoW), with final decisions made during detailed Site design and cable trench micro-siting. Only qualified arboricultural contractors, in accordance with British Standard 3998:2010, will perform tree work. PPW workers will not perform tree removals unless qualified and specifically instructed. Prior to removal, legal restrictions, such as those protecting nesting birds and roosting bats, will be observed. Where trees are protected by a Tree Preservation Order (TPO), removal will only occur if deemed necessary to prevent obstruction or interference with the Scheme. The ACoW will be consulted to ensure compliance and explore alternatives before proceeding with works on TPO trees.	
Tree pruning	Prior to any necessary tree pruning, the ACoW will liaise with the PPW contractor on the requirements for pruning and the ACoW will provide a specification for the pruning works required which will then be implemented by a suitably qualified, insured and experienced arboricultural contractor working in accordance with British Standard 3998: 2010 'Tree Work – Recommendations'. Pruning works to veteran trees will be avoided and pruning will aim to prioritise trees of low quality (BS5837:2012 Category U and C trees) over trees of moderate or high quality (BS5837:2012 Category A and B trees). No tree works will be undertaken by PPW workers unless qualified and instructed to	Ongoing Arboricultural Clerk of Works

	do so. All tree pruning works will have due consideration for ecological mitigation.	
Root loss/damage from excavation or soil compaction within RPAs	In cases where PPW activities must occur within RPAs, suitable ground protection will be installed to prevent soil compaction. The type of ground protection will vary based on the weight of traffic and will comply with BS5837:2012 recommendations, ranging from scaffold boards for pedestrian use to reinforced systems for heavy machinery. Throughout PPW, movement of machinery and storage of materials will be managed to prevent encroachment into RPAs. In the event that access is required, temporary ground protection will be employed to safeguard the tree roots.	Ongoing Arboricultural Clerk of Works
Dust/sediment impacts to adjacent woodlands	Measures to limit the dust generating activities, such as when working in dry conditions. To mitigate the risk of airborne contamination, a dust suppression and management system will be implemented. Other sediment mitigation includes: • Cut-off ditches or geotextile silt-fences, installed around excavations, exposed ground and stockpiles to prevent uncontrolled release of sediment • All potentially contaminated waters (for example washdown areas, stockpiles and other areas of risk for water contamination) to have separate drainage; and • Vehicles carrying material off-Site will be sheeted to prevent the spread of dust.	No monitoring required
Damage to canopies/stems from machinery movements	To mitigate damage to tree canopies and stems from machinery, tree pruning will be carefully managed and conducted by qualified arboricultural contractors under the guidance of the ACoW Pruning will aim to prioritise trees of low quality	Ongoing Arboricultural Clerk of Works

	(BS5837:2012 Category U and C trees) over trees of moderate or high quality (BS5837:2012 Category A and B trees). No tree works will be undertaken by PPW workers unless qualified and instructed to do so. All tree pruning works will have due consideration for ecological mitigation. Tree protection fencing will be installed around RPAs before the relevant PPW begins, creating a CEZ to prevent machinery from entering protected areas. The fencing will remain in place throughout the relevant PPW and only be altered under ACoW supervision. If PPW activities must take place within RPAs, ground protection will be used to minimize soil compaction, and precautionary working methods such as hand digging will be employed. When tall machinery is working near the canopies of tree canopies the machine operator will be accompanied by a banksman who will work from ground level and ensure that moving machinery parts avoid the stems and branches of retained trees. The above measures are included within **ES Appendix 16.4: Arboricultural Impact Assessment [REP2-014]**. The Contractor is to comply with the measures set out in this document.	

4 Checking and Corrective Action

4.1 Monitoring

4.1.1 Monitoring and reporting will be undertaken by the Contractor for the duration of the PPW phase in order to demonstrate the effectiveness of the measures set out in this PPWEMP and related construction controls, and allow for corrective action to be taken where necessary.

4.1.2 As part of the monitoring process, the designated Environmental Manager will be present on-Site throughout the PPW and when new activities are commencing. The Environmental Manager will observe Site activities and report any deviations from the PPWEMP in a logbook, along with the action taken and general conditions at the time. The Applicant will be informed of any deviations from the PPWEMP as soon as possible following identification of such issues. The Environmental Manager would also act as day-to-day contact with relevant local authorities and other regulatory agencies such as the EA.

4.1.3 During PPW, the Environmental Manager will conduct walkover surveys to ensure all requirements of the PPWEMP are being met. Action from these surveys will be documented on an Environmental Action Schedule, discussed with the Site Manager for programming requirements and issued weekly for actioning.

4.1.4 The Environmental Manager will also arrange regular formal inspections and audits to ensure the requirements of the PPWEMP are being met. After completion of the works, the Environmental Manager will conduct a final review.

4.2 Records

4.2.1 The Environmental Manager/ Construction Project Manager will retain records of all monitoring, inspections and audits. These records will include:

- Results of routine Site inspections by Environmental Manager / Construction Project Manager
- Environmental surveys and investigations
- Environmental Action Schedule
- Environmental equipment test records, Licences and approvals; and
- Corrective actions taken in response to incidents, breaches of the PPWEMP or complaints received from a third party.

4.2.2 Local authorities will be notified of routine improvements, substitutions and method changes to the PPWEMP. Any meaningful reduction in protection would require prior consultation or agreement with local authorities.

5 References

(n.d.).
Ref 1-1, The Control of Pollution Act 1974. Available at: https://www.legislation.gov.uk/ukpga/1974/40(Accessed July 2025)..
Ref 1-2, BS 5228 'Code of Practice for Noise and Vibration Control on Construction and Open Sites' – 'Part 1: Noise' and 'Part 2: Vibration' (BS 5228-1:2009+A1:2014 and BS 5228-2:2009+A1:2014).
Ref 1-3, National Grid (2016). Technical Guidance Note 287: Third-party guidance for working near National Grid Electricity Transmission equipment. .

THE DROVES

SOLAR FARM