Meridian Solar Farm

EN010169

Volume 7

Other **Documents**

7.**10** Outline **Construction Environmental Management Plan** (Rev 2) (Tracked)

APFP Regulation 5(2)(q)

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

September 2026

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1. Introduction

1.1. Background

1.1.1. Meridian Solar Farm Limited (hereafter referred to as 'the Applicant') is seeking a DCO for the construction, operation and decommissioning of the Meridian Solar Project (hereafter referred to as the 'Scheme'). The decision on whether to grant the DCO will be made by the Secretary of State for Energy Security and Net Zero (Secretary of State), in accordance with the Planning Act 2008 (PA 2008)[1] (hereafter referred to as the 'DCO Application').

1.1.2. This Outline Construction Environmental Management Plan (OCEMP) has been prepared to accompany the **Environmental Statement** (ES) (Doc Ref. 6.1) and presents an outline of the measures that would be implemented to ensure the management of environmental impacts during the construction phase of the Scheme.

1.1.3. If the DCO Application is approved, a detailed CEMP will be produced following the appointment of a Principal Contractor, in accordance with Requirement 12 of the **Draft DCO** (Doc Ref. 3.1), and prior to commencement of construction. The detailed CEMP will be substantially in accordance with the measures set out in this OCEMP and will be subject to approval by the relevant planning authority, in consultation with the relevant highway authority, the Environment Agency, and Lincolnshire County Council. The detailed CEMP will also include a site waste management plan (SWMP) that must be substantially in accordance with the **Outline Site Waste Management Plan** (Doc Ref. 7.19) and must be implemented as approved.

1.1.4. This document does not address operational or decommissioning activities, which would be subject to separate environmental management plans and procedures. An **Outline Operational Environmental Management Plan** (OOEMP) (Doc Ref. 7.11) and an **Outline Decommissioning Environmental Management Plan** (ODEMP) (Doc Ref. 7.12) have been prepared to accompany the Application and will be secured as necessary through a requirement of the **Draft DCO** (Doc Ref. 3.1).

1.1.5. An Environmental Impact Assessment (EIA) has been undertaken for the Scheme, and an ES has been prepared in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations)[2]. In

[1] The Planning Act 2008, Available at: https://www.legislation.gov.uk/ukpga/2008/29/pdfs/ukpga_20080029_en.pdf [Accessed 10/10/2025]

[2] The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. Available at https://www.legislation.gov.uk/uksi/2017/572/contents/made [Accessed 10/10/2025]

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 construction phase of the Scheme and describes a range of 'industry standard' or best practice mitigation and construction management measures.

1.1.6. This OCEMP outlines how the construction mitigation measures included within the ES will be implemented and sets out the monitoring and auditing activities designed to ensure that such mitigation measures are carried out, and that they are effective.

1.1.7. It is envisaged that a detailed CEMP would be prepared, approved and implemented for individual parts of the Scheme. As a result, there could be multiple CEMPs prepared in accordance with the relevant parts of this OCEMP.

1.1.8. This document provides the likely structure of the CEMP(s) as well as outline information relevant to the CEMP(s). It indicates what additional information might be included under each sub-section within the CEMP(s).

1.1.9. The key elements of this OCEMP include:

- An overview of the Scheme;
- A description of construction environmental management, including roles and responsibilities, construction programme, and general environmental controls and management;
- A management and mitigation plan, including topic-specific measures for the management and mitigation of environmental effects;
- A summary of complementary plans and procedures;
- Description of implementation and operation; and
- Requirements for checking and corrective action.

1.1.10. In summary, this OCEMP identifies how commitments made in the EIA will be translated into actions during the construction of the Scheme. It also outlines the process for implementing these actions, including the allocation of key roles and responsibilities.

1.1.11. The Applicant and any appointed Principal Contractor(s) will be responsible for working in accordance with the environmental controls documented in the CEMP which is required to be substantially in accordance with this OCEMP, pursuant to the **Draft DCO** (Doc Ref. 3.1).

1.1.12. This OCEMP has been developed to ensure compliance with all relevant environmental legislation and to incorporate the mitigation measures identified within the ES. Any additional licences, permits or approvals required for the Scheme will be listed in the CEMP(s), together with any environmental information submitted in support of those applications.

1.2. Scheme Description

1.2.1. The Scheme comprises the construction, operation (including maintenance) and decommissioning of a solar photovoltaic (PV) electricity generating station with associated infrastructure, including co-located Battery Energy Storage System (BESS), Inter-Array Connections to link the land parcels that form the Solar Development Areas, and an up to 13 kilometres (km) overhead line Grid Connection (with one short undergrounded section) which would run north towards a point of connection (PoC) at the proposed Weston Marsh B National Grid Electricity Transmission (NGET) substation, to the north of Weston. The Scheme will have an operational life of 40 years.

1.2.2. The Solar PV generating station, associated BESS, onsite substations and other associated infrastructure would be located within four land parcels (A, B, C and D) referred to collectively as the Solar Development Area.

1.2.3. The Inter-Array Connections are the areas within which connection cables would link the land parcels of the Solar Development Area. The configuration of the Inter-Array Connections (up to 132kV) would comprise underground cabling between Land Parcels A & B and an overhead line between Land Parcels C & D.

1.2.4. The Grid Connection Route is the area between the Solar Development Area and the National Grid Weston Marsh B Substation in which a 400kV overhead line (the 'Grid Connection') would be located. There is one section where the Grid Connection goes underground to avoid conflicts with existing overhead lines.

1.2.5. A full description of the Scheme is included in **ES Chapter 2: The Scheme** (Doc Ref. 6.1). An overview of the Scheme and its environmental impacts is provided in the **ES Non-Technical Summary** (Doc Ref. 6.1).

2. Construction Environmental Management

2.1. Introduction

2.1.1. This section sets out the general arrangements for the construction of the Scheme.

2.2. Roles and Responsibilities

2.2.1. Key roles and responsibilities during the construction phase for managing environmental impacts are likely to involve multiple contractors assigned to specific tasks, such as distinct contractors for the Solar Development Area and others for the Grid Connection works, these will likely include, but are not limited to:

- **Principal Contractor** – Appointed by the Applicant to construct the Scheme.
- **Site Manager** – Holds overall responsibility for on-site activities on- and will be based on-site full time.
- **Construction Project Manager** – Overall responsibility for ensuring all elements of the DCO, CEMP(s), and relevant environmental legal and other requirements are implemented, appropriately resourced, managed, reviewed and reported.
- **Environment Manager** – Oversees the management of environmental aspects on-site, ensuring compliance with environmental legislation and best practices. Responsible for implementing mitigation and monitoring measures, conducting regular site inspections, reporting, and responding to incidents or non-compliance. Liaises with relevant environmental bodies and third parties as appropriate.
- **Environmental Clerk of Works (ECoW)** – Advises on and manages environmental risks during construction including, protected species, surface water and groundwater, pollution, air quality and noise. This role may be combined with the Environment Manager and /or Flood Warden.
- **Ecological Clerk of Works (EcoCoW)** – Manages biodiversity risks on construction sites, advises on protection of valued ecological features and provides practical solutions.
- **Archaeological Clerk of Works** – Advises on and monitors archaeological mitigation measures, and conducts watching briefs.
- **Project Arboriculturalist** – Advises on the management and protection of retained trees.

- **Flood Warden** –Responsible for preparing and managing responses to flood incidents and warnings, using the Floodline Warnings Direct or equivalent service.
- **Health and Safety Manager** –Monitors and enforces health and safety compliance and regulations on-site.
- **Community Liaison Officer** – Leads engagement with local communities through a Community Liaison Group established in accordance with Requirement 4 of the **Draft DCO** (Doc Ref. 3.1). Acts as the primary point of contact for queries or complaints throughout construction and commissioning.

2.2.2. These roles and responsibilities are indicative and will be confirmed in the detailed CEMP(s).

2.3. Construction Programme

2.3.1. For the purposes of the ES, it is assumed that construction work will commence in 2029. The construction phase is anticipated to be up to four years. It is currently anticipated that the Scheme will commence commercial operation in 2033.

2.3.2. Details on construction phasing will be provided within the detailed CEMP(s) to be agreed with the local planning authorities post consent.

2.4. Working Hours

2.4.1. Core construction working hours on-site will run from 07:00 to 19:00 (with working days comprising one 12-hour shift) on Monday to Friday and 08:00 to 13:30 on Saturday (with working days comprising one 5-hour shift), and employees travelling to and from the Order Limits outside these times.

2.4.2. It is anticipated there would be no Sunday or Bank Holiday working, except for the following operations which may take place outside the core working hours:

- The installation and removal of conductors, pilot wires and associated protective netting (included but not limited to) across public roads or watercourses;
- The jointing of underground cables;
- The continuation of any work activity commenced during the core working hours to a point where they can securely and or safely be paused;
- Any highway works requested by the Local Highway Authority to be undertaken on a Saturday or Sunday or outside the core working hours;

- The testing or commissioning of any electrical plant installed as part of the authorised development including undertaking of any identified corrective activities;
- The completion of works disrupted or interrupted by severe weather conditions;
- Activity necessary in the instance of an emergency where there is a risk to persons or property;
- Security monitoring;
- Non-intrusive surveys;
- Intrusive surveys;
- Oil processing of transformers or reactors in substation sites;
- Delivery to the transmission works of abnormal indivisible loads and any highway works requested by the Local Highway Authority to be undertaken outside the core working hours;
- Mechanical and electrical installation works within buildings once erected and enclosed;
- Concrete pours for foundations;
- Continuous activities associated with trenchless cable installation; and
- Night working for cable or overhead line installation within public highways.

2.4.3. Where on-site works are to be conducted outside the core working hours, they will comply with the restrictions stated in the detailed CEMP and any other restrictions agreed with the relevant planning authorities.

2.5. Control of Noise

2.5.1. Consents under Section 61 of the Control of Pollution Act 1974[3] would be voluntarily obtained for the Scheme where noisy works outside of normal working hours are anticipated. This would include agreed construction noise limits for nearby noise sensitive receptors and in accordance with any other restrictions agreed with the relevant planning authorities.

2.5.2. Abnormal or emergency construction traffic movements may occur outside of normal working hours. In the event of these occurrences, specific noise mitigation measures will be put in place to reduce potential noise impacts at nearby noise sensitive receptors.

[3] Control of Pollution Act 1974. Available at https://www.legislation.gov.uk/ukpga/1974/40 [Accessed 13/10/2025]

2.6. Control of Light

2.6.1. Construction temporary site lighting, in the form of mobile lighting towers will be required in areas where natural lighting is unable to reach (e.g. sheltered/confined areas) and during core working hours within winter months. Artificial lighting would be provided to maintain sufficient security and health and safety for the Order Limits and construction staff, whilst adopting mitigation principles to avoid excessive glare and minimise spill of light to nearby receptors (including ecology and residents) outside of the Order Limits as far as reasonably practicable.

2.6.2. All construction lighting will be deployed in accordance with the following recommendations to prevent or reduce the impact 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 below the horizontal plane, preferably at an angle greater than 20° from horizontal); and
- Lighting will be directed towards the middle of the Site rather than towards land outside of the Order Limits.

2.7. Traffic Management

2.7.1. During construction, the Principal Contractor will ensure that the impacts from construction 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 the **Outline Construction Traffic Management Plan** (CTMP) (Doc Ref. 7.13) and **Outline Public Rights of Way Management Plan** (PRoW-MP) (Doc Ref. 7.15) submitted with the DCO Application.

2.7.2. The **Outline CTMP** (Doc Ref. 7.13) sets out the proposals to manage construction traffic during the construction of the Scheme and considers the management of all freight traffic (i.e. heavy goods vehicles (HGVs)).. To reduce the potential impact of HGV deliveries, the arrival and departure times will be managed to minimise the number of HGVs travelling to the Scheme during the network peak hours (defined by National Highways as 08:00 – 09:00 and 17:00 – 18:00) for the local highway network.

2.7.3. The HGV timing restrictions proposed to be implemented at this stage are:

- Avoiding arrivals or departures on a weekday between 07:00-09:00 and 17:00-18:00 ('shoulder' peaks to the identified network peaks);
- No arrivals or departures on a Saturday before 08:00 or after 13:00; and
- No arrivals or departures on Sundays or public holidays.

2.7.4. Exceptions to these restrictions may occur where required to facilitate construction outside the core working hours, as described within Section 2.4.

2.7.5. A detailed CTMP will be developed by the Principal Contractor in consultation with the appropriate local planning authorities and will be secured by a requirement of the **Draft DCO** (Doc Ref. 3.1). The detailed CTMP would also include a section on construction staff travel patterns and measures to encourage travel by alternative modes to single occupancy vehicle.

2.8. Construction Compounds

2.8.1. A construction compound is a secure, temporary site that acts as a hub for the construction works, which may contain administrative offices, material storage, equipment and plant maintenance areas, access, and welfare facilities for workers. It is enclosed by fencing and may include a hard-standing surface, generators for power, and waste management systems.

2.8.2. Indicative locations for construction compounds are shown in **ES Figure 2-6** and **ES Figure 2-7** (Doc Ref. 6.2). Flexibility is sought within the **Works Plans** (Doc Ref. 2.3) for the locations and layouts of the detailed construction compounds.

2.9. Parking Provision

2.9.1. The proposed car parks for the Scheme will be situated within the construction compounds in each part of the Site. The Scheme is to provide shuttle bus services to transfer staff to and from the Site and provides an appropriate level of construction staff car parking on-site to minimise the number of construction staff vehicles on the highway network. For the purposes of the ES, it has been assumed that up to 55% of the workers at peak construction would use the shuttle bus. Workers will utilise these car parks and will be transported to the various locations within the Solar Development Area via the minibus shuttle service; refer to the **Outline CTMP** (Doc Ref. 7.13) submitted alongside the DCO Application for further details.

2.10. Wheel Wash

2.10.1. A self-contained wheel wash will be installed at every access point to be used by vehicles prior to exiting the Site onto the public highway, if there is mud or debris on the construction site. The waste from this facility will be separated and transported to an approved licensed third party waste facility for recovery, recycling or disposal as per the section below.

2.11. Recovery, Recycling and Disposing Waste

2.11.1. In order to control the waste generated during preparation and construction, the Principal Contractor will separate the main waste streams on-site prior to transport to an approved, licensed third party waste facility for recovery, recycling or disposal.

2.11.2. A SWMP will be prepared by the Principal Contractor in accordance with the **Outline SWMP** (Doc Ref. 7.19) submitted with the DCO Application. This document will specify the waste streams estimated and monitored and goals set with regards to the waste produced.

2.11.3. The Waste Duty of Care will be followed for all waste generated on-site, ensuring all waste will be stored, handled, transported and disposed of safely and legally, using authorised carriers and permitted facilities with records retained as required. All waste to be removed from the Order Limits will be undertaken by fully licensed waste carriers and taken to suitably licensed waste facilities and managed in line with the requirements of the Waste (England and Wales) Regulations (2011)[4] and the Hazardous Waste (England and Wales) Regulations (2005)[5]. The Scheme will apply the waste hierarchy, in priority order; prevention, preparation for reuse, recycled, other recovery and disposal.

2.12. Responding to Environmental Incidents and Emergencies

2.12.1. An Emergency Response Plan (ERP) will be developed by the Principal Contractor in consultation with the relevant local authority emergency planning officer, emergency services including the local fire service, as well as the Environment Agency in relation to responding to flood warnings and potential pollution incidents.

2.12.2. The ERP will detail the procedures for responding to incidents and emergencies on-site, and any reporting requirements. ~~The ERP will~~

~~2.12.2.~~2.12.3. An Outline Flood Risk ERP will be developed and submitted at Deadline 2. The Outline Flood Risk ERP will detail the procedures for responding to flood incidents and emergencies on-site, and also include details of the evacuation plans for the Site on receipt of a flood warning.

[4] The Waste (England and Wales) Regulations 2011. Available at: https://www.legislation.gov.uk/uksi/2011/988/contents/made [Accessed 13/10/2025]

[5] The Hazardous Waste (England and Wales) Regulations 2005. Available at https://www.legislation.gov.uk/uksi/2005/894/contents/made [Accessed 13/10/2025]

2.13. Consents, Licences and Permits

2.13.1. Any additional construction licences, permits or approvals that are required will be listed in the detailed CEMP(s), including any environmental information submitted in respect of them.

2.14. Good Practice Measures

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

2.15. Security

2.15.1. Site security during construction will be managed by the Principal Contractor(s). Working areas will be appropriately fenced. The type of fencing installed will depend on the area to be fenced and will take into consideration the level of security required in relation to the surrounding land and public access, rural or urban environment and arable or stock farming. For some locations the fence used may also serve to provide acoustic and visual screening of the work sites and reduce the potential for disturbance to users of the surrounding areas. Fencing will be regularly inspected and maintained and removed as part of the demobilisation unless otherwise specified. Any storage of materials will be kept secure to prevent theft or vandalism. A safe system for accessing the materials storage areas will be implemented by the Principal Contractor(s).

2.15.2. There will be designated security staff during construction who will manage the Order Limits and may patrol the perimeter.

3. Management and Mitigation Plan

3.1.1. This section of the OCEMP sets out the mitigation measures to be included as a minimum in the detailed CEMP(s). It also sets out monitoring requirements and the responsible party identified for each mitigation/ enhancement measures or monitoring requirement.

Table 3-1: Agriculture and Soils

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Potential loss of soil resource. Potential for surface soil compaction in some areas through trafficking of vehicles/plant and poor handling.	The **Outline Soil Management Plan (SMP)** (Doc Ref. 7.14) submitted alongside the DCO Application details the threats to soil resource during the construction phase and required management measures. Full details will be provided in the detailed SMP which will be secured by a DCO Requirement.	As set out in the **Outline SMP** (Doc Ref. 7.14) submitted alongside the DCO Application, a dedicated soil survey of the areas within the Inter Array Connection and Grid Connection Route, where soil disturbance is proposed, will be required. In addition, the detailed SMP will require the recording of material source area, location and maximum dimensions of the soil storage bunds, creating a log of the approximate volume of each soil unit stored.	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed in the CEMP(s).

Table 3-2: Air Quality

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Increased particulates and deposited dust from construction activities, material transportation, storage and handling, and use of haul roads.	Appropriate standard and best practice control measures will be included in the detailed CEMP(s), which will include, but not be limited to: Communication: • Develop and implement a stakeholder communications plan that includes community engagement before work commences 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 environment manager or the site manager. • Display the head office or the regional office contact information. • Develop and implement a Dust Management Plan (DMP), which will include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and will include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the Site. The DMP may include monitoring of dust deposition, dust flux, real-time PM_{10} continuous monitoring and/or visual inspections.	Measures in the detailed CEMP(s) will include: • Undertaking daily on-site and off-site inspections on working days, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. Road surface cleaning to be provided if necessary. • Carrying 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.	Monitoring by Environment Manager / Environmental Clerk of Works

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	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 250m of the Site boundary, to ensure plans are coordinated 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. Monitoring: • Undertake daily on-site and off-site inspection, 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	• Increasing 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. • Agreeing approach to monitoring with the local authority ahead of construction commencing. Data will be collected before any work commences on-site to provide a comparative baseline should real-time airborne particulate or dust deposition monitoring be required.	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	surfaces such as street furniture, cars and window sills within 100m 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. • Agree dust deposition, dust flux, or real-time PM_{10} continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on-site or, if it is a large site, before work on a phase commences. Further guidance is provided by the Institute of Air Quality Management (IAQM) on monitoring during demolition, earthworks and construction. Preparing and maintaining the Site: • Plan Site layout so that machinery and dust causing activities are located away from receptors, as far as is reasonably practicable.		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• Avoid Site runoff of water or mud. See Table 3-7 for more details on pollution prevention measures. • Keep Site fencing, barriers and scaffolding clean using wet methods. • Remove materials that have a potential to produce dust from Site as soon as reasonably practicable, 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, if stockpile will be present for more than 1 year. Operating vehicle/machinery and sustainable travel • Ensure all vehicles switch off engines when stationary - no idling vehicles. • Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where reasonably practicable to do so. • Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10mph on unsurfaced internal access tracks and work areas and consider use of matts as temporary surface protection on haul routes. On long haul routes, such as those proposed through the Grid Connection Route, these speeds may be increased with suitable		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	additional control measures provided, subject to agreement with the Local Authority. • Produce a detailed Construction Traffic Management Plan to manage the sustainable delivery of goods and materials. • Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing). Operations: • 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 possible and appropriate. • Use enclosed chutes and conveyors and covered skips. • Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• Ensure equipment is readily available on-site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event. Waste: • Burning of waste or unwanted materials will not be permitted. Earthworks: • Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as reasonably practicable. • Use Hessian, mulches or tackifiers where it is not reasonably practicable to re-vegetate or cover with topsoil, as soon as reasonably practicable. • Only remove the cover in small areas during work and not all at once. Construction: • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place. • Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	systems to prevent escape of material and overfilling during delivery. • For smaller supplies of fine powder materials, ensure bags are sealed after use and stored appropriately to prevent dust. Track-out: • Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the Site. • Avoid dry sweeping of large areas. • Ensure vehicles entering and leaving sites are covered, where appropriate, to prevent escape of materials during transport. • Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. • Record all inspections of haul routes and any subsequent action in a site log book. • Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the Site, where reasonably practicable). • 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. • Access gates to be located at least 10m from receptors, where possible.		

Table 3-3: Climate Change

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Greenhouse Gas (GHG) emissions associated with the manufacture of Scheme components relevant to construction GHG emissions associated with water, energy and	Appropriate standard and good practice control measures will be included in the detailed CEMP(s), which will include, but not be limited to: • Where reasonably practicable, the use of alternative materials with lower transport GHG emissions such as locally sourced products and materials with a higher recycled content; • Low carbon design specifications, such as energy-efficient lighting and durable construction materials to reduce maintenance and replacement cycles;	Auditing during construction. To be confirmed in detailed CEMP(s).	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed in the detailed CEMP(s).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
fuel use for construction activities, transportation of materials and workers to the Order Limits and the transportation and disposal of waste.	• Adopting the Considerate Constructors Scheme (CCS) to assist in reducing pollution, including GHGs, from the Scheme by employing good industry practice measures which go beyond statutory compliance; • Use of shuttle buses to reduce the use of private vehicles by construction workforce for travelling to Site. In addition, promote the goal that all construction staff are encouraged to use lower carbon modes of transport by identifying and communicating local bus and rail connections and pedestrian and cycle access routes to/from the Scheme. This will be outlined in a Travel Plan as part of the CTMP; • Switching vehicles and plant off when not in use and ensuring construction vehicles conform to European Union (EU) vehicle emissions standards for the types of plant vehicles to be used; • Increasing recyclability by segregating construction waste to be reused and recycled where reasonably practicable; • Designing, constructing and implementing the Scheme in such a way as to minimise the creation of waste.		Monitoring by Environment Manager / Environmental Clerk of Works.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Changing climatic hazards (increased summer maximum temperatures, increased winter precipitation, increased frequency and severity of storms, increased frequency and severity of heatwaves, reduced summer rainfall)	Appropriate standard and best practice control measures will be included in the detailed CEMP(s), which will include, but not be limited to: • Siting materials, equipment, welfare cabins, temporary access routes (etc.) outside of areas that are prone to flooding during construction and decommissioning, where possible, and considering flood protection measures, where this has not been possible; • Consideration would be taken during periods of heatwaves to mitigate against the risks posed to workers and construction. To protect workers, measures include air-conditioned welfare cabins, appropriately shaded areas erected throughout the Site, increased breaks, water availability and adjusted working hours (the Health and Safety (H&S) Plan would include these mitigations). Further to this, dust can become a significant issue during heatwaves and periods of drought. The use of dust suppressers would increase during these periods. Certain construction processes can be hindered by high temperatures. Higher temperatures speed up the concrete curing process, however, can cause issues with strength leading to potential cracks in foundations/structural elements. To prevent this, the contractor may propose alternative methods	Auditing during construction. To be confirmed in detailed CEMP(s). Principal Contractor to monitor weather reports and schedule construction appropriately.	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed in the detailed CEMP(s). Monitoring by Environment Manager / Environmental Clerk of Works.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	and materials, or, where necessary, activities would be scheduled to occur outside of the window of the heatwave; • Appointing an H&S Manager who is responsible for monitoring weather forecasts, weather warnings and alerts, utilising the Met Office - Long-range forecast to inform the planning of construction works, in order to minimise risks to the workforce, damage to equipment and delays to the construction programme. The Scheme would establish an extreme weather emergency response plan and toolbox talks would be carried out to ensure all workers are aware of the risks and mitigations, to account for potential climate change impacts, such as flooding and heatwaves. • A geotechnical "pull-test" will be undertaken prior to construction to confirm piling depth required for PV substructures. • Design specifications for solar panel construction methods will be followed to ensure the assemblies are resilient to high wind speeds. • Overhead lines will be designed to meet industry standards which account for changing climatic conditions, including high wind speeds and high temperatures.		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• To embed resilience to projected increases in temperature and rainfall, use heat and water resistant materials or insulation for cabling. • Land and soil movements caused by increased rainfall and soil instability can displace or damage cables. To prevent this, soil assessments would be conducted before installation and protective encasements would be used, if required.		

Table 3-4: Cultural Heritage

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Potential for impact upon archaeological deposits. Temporary impacts on the setting of below ground Scheduled Monuments and other built heritage assets during construction	Prior to construction, the following mitigation measures will be adopted to further inform the detailed design of the Scheme and to avoid or minimise impacts on buried archaeological deposits and surface earthworks: • Where reasonably practicable, heritage assets have been avoided by the Scheme in order to reduce or remove potential impacts upon them. These avoidance measures have been implemented in a staged, iterative manner as the potential impacts of the Scheme are understood. • Within the Solar Development Area, two Scheduled Monuments and dense groupings of buried archaeological remains have been	All archaeological work will be undertaken in line with an Archaeological Mitigation and Management Strategy. Site specific Archaeological Project Designs will be submitted and agreed with Lincolnshire County Council (LCC).	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed in the detailed CEMP(s)

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
associated with increased visual and noise intrusion.	identified their location and extent informed by the results of the baseline surveys and archaeological evaluation (see **ES Chapter 8: Cultural Heritage** (Doc Ref. 6.1)). These areas have been defined to preserve archaeological remains and will be excluded from the development of physical infrastructure. The two Scheduled Monuments will have a 20m buffer around them. • A German Dornier 217 bomber aircraft (F8+CN 4279) crashed within PV land parcel D4 during the Second World War. No physical infrastructure is proposed in this field, instead it will be retained as a habitat management area. • In the area of potential debris relating to the crash of two Lancaster bombers in field A-1-11, the construction of the Scheme will be undertaken following the implementation of appropriate risk assessments and the granting of an application for a Protection of Military Remains Act (1986) licence. The exact location of the crash site of a British Spitfire is unknown but would be considered as part of the same risk assessment. • Areas of soft landscaping around parts of the perimeter of the Scheme have been built into the design of the Solar Development Area. The aim is to screen the panel arrays and associated		Monitoring by Environment Manager / Archaeological Clerk of Works.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	infrastructure from view and thus reduce impact upon the settings of sensitive heritage assets. • Prior to construction a further phase of archaeological evaluation will be undertaken in areas not previously assessed, and results will inform final design and mitigation. This will include fields within the Solar Development Area and within the Grid Connection Route. • A programme of archaeological mitigation will be set out in an Archaeological –Mitigation and Management Strategy, prepared prior to construction. The strategy will include detailed archaeological mitigation measures and public engagement and dissemination plans. • An outline process for dealing with the unexpected discovery of archaeological remains during construction will be set out in the Archaeological Management and Mitigation Strategy and/or Principal Contractor's detailed CEMP. • Other mitigation measures during construction may include, but are not limited to ensuring the Scheduled Monuments are protected from accidental damage, siting haulage and access routes away from sensitive receptors, routing trenches adjacent to access routes to minimise disturbance, use of low noise generators, dust		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	suppression near heritage assets, placement of security and work lights to minimise light spill with sympathetic screening of works. • Cabling between solar PV modules would be above ground, fixed to solar PV module mounting frames to reduce the potential for disturbance. An additional phase of archaeological evaluation will be undertaken at the pre-construction phase. This includes: • Geophysical survey within the Grid Connection Route; • Archaeological evaluation trenching within the Grid Connection Route; • Archaeological evaluation trenching on the Underground Inter-Array Connection between Land Parcels A and B; • Archaeological evaluation trenching of the fields delayed due to the risk of unexploded ordnance; and • Archaeological evaluation trenching within the 150m buffer that has been maintained around the crash site of a Lancaster Bomber in field A-1-11. Any further evaluation in this area will be undertaken under a 1986 Protection of Military Remains Act (POMRA86) license.		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility

Table 3-5: Ecology and Nature Conservation

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
General Measures			
Habitat loss or gain associated with changes in land use, for example temporary works associated with Site clearance, and permanent land-take associated with the construction of the Scheme. Habitat degradation resulting in the reduction in the condition of a habitat and its suitability for some or all of the species it supports. Species mortality associated with	Appropriate standard and good practice control measures will be included in the detailed CEMP(s), which will include, but not be limited to: The design of the Scheme will comply with good practice and environmental protection legislation during construction e.g. prevention of surface and ground water pollution, fugitive dust management, noise prevention or amelioration. The Scheme will implement standard environmental protection measures during construction to ensure no indirect impacts occur, these will include: • Dust control measures as summarised within Table 3-2, would be managed through the implementation of IAQM/ Environmental Protection UK (EPUK)-led measures, including damping down, control of trackout, stockpile and surface management, haul-route speed restrictions, and site layout designed to locate dust-generating activities away from sensitive receptors.	Auditing of implementation and effectiveness during construction. To be confirmed in detailed CEMP(s). Pre-construction surveys will be undertaken to validate and, where necessary, update the baseline survey findings. The purpose of these pre-construction surveys is to ensure mitigation during the construction phase is based on the latest protected species information. This will also be required for any protected species licensing that may be identified as	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed in the detailed CEMP(s). Monitoring by Ecological Clerk of Works (EcoCoW).

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
mortalities due to construction activities, for example Site clearance. Introduction of invasive species due to the movement of personnel, equipment and plant machinery.	• Pollution prevention measures as summarised within Table 3-6 and Table 3-7, such as measures relating to fuel/chemical storage, refuelling controls, spill kits, washout areas, silt/sediment controls; no uncontrolled discharge to drains/ ditches; • Soils/vegetation management, as summarised within Table 3-1 and within this table, such as method statements; phased vegetation clearance; trench management (covers/ramps); toolbox talks; ECoW oversight; • Biosecurity measures, including Invasive Non-Native Species (INNS) identification; plant/material hygiene; containment and disposal; • Traffic and routing would be managed through defined routing and traffic management measures to minimise increases on the affected road network (ARN), consistent with the IAQM/EPUK screening logic. • Implementation of measures to avoid mammals being trapped, injured or killed within construction working areas, through excluding or preventing them from falling into excavations. If excavations are required to be left open overnight, ramps will be provided to allow animals a means of escape.	being necessary at detailed design stage.	

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	• Existing watercourse crossing points will be used for construction access, where reasonably practicable, to avoid additional watercourse crossings being required. • Night-time working would, where practicable, be avoided near flooded fields, drains, and sensitive wintering bird areas in order to limit disturbance. **Habitat Avoidance Measures** Micro-siting of infrastructure would be undertaken to avoid, where practicable, woodland blocks, hedgerows, tree lines, reedbeds and Habitats of Principal Importance (HPI) once protected species surveys have been undertaken. Where reasonably practicable the following buffers from key habitat features have been applied: • All woodland – at least 15m; • Trees with bat roost potential – at least 30m and clearly demarcated; • Badger setts – at least 30m and clearly demarcated; • All trees within hedgerows and individual trees – protected by clearly defined root protection areas, concordant with the requirements for each individual tree as detailed in the **ES Appendix 12-**		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	8: Arboricultural Impact Assessment (Doc Ref. 6.3); • Watercourses - where reasonably practicable, at least 10m from the bank-top of the watercourse; • Standing water – at least 20m; • Hedgerows – where reasonably practicable, at least 5m. Any works that need to be completed within the above buffer zones must first be approved by the ECoW or EcoCoW, as appropriate, and supervised at their discretion.. If methods of works within these zones cannot be done in such a way that the EcoW/EcoCoW is confident that they will avoid a breach in wildlife legislation or any active wildlife license, then further surveys and wildlife licensing as required will be undertaken prior to works commencing. **Vegetation Clearance** Vegetation clearance will be undertaken in advance of construction and where reasonably practicable at an appropriate time of year so as to avoid incidental injuring or killing of protected and notable species. Vegetation clearance will be undertaken during the autumn/ winter months (October to February inclusive) to avoid the core nesting bird period, where reasonably		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	practicable i.e. typically March to September (inclusive); and, during the winter months when reptiles and amphibians are in hibernation. Should any vegetation clearance be required within the nesting bird period, this will be checked, prior to vegetation removal, for the presence of nesting birds, by a suitably qualified ornithologist. If active nests are found, then these will be avoided with appropriate buffer zones put in place and the area monitored until the young birds have fledged and/or the nesting attempt has ceased. During the breeding bird season, daily pre-use checks of construction vehicles, plant and temporary structures would also be undertaken to identify any bird nests. Potential nesting material would be removed prior to the nest having been established. In areas where reptiles have been identified, vegetation will be cut in a phased approach, firstly cutting to 30 cm, then, following a period of no less than 24 hours, to 15 cm and then to ground level, after another 24 hours. Piles of debris which could be used as refugia for a variety of protected and notable species will be destructively searched and removed from the working		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	areas, outside the winter months (November to February inclusive), to avoid the risk of killing and injury to species that could be hibernating over winter. Piles of debris suitable for refugia for hibernating species will not be disturbed over the winter months, and clearly demarcated if present. Hedgerow removals required are shown indicatively on the **Hedgerow Regulations and Tree Preservation Orders Plan** (Doc Ref. 2.12). **Security Fencing** A security fence will be implemented early in the construction phase to prevent disturbance from construction activity in proximity to peripheral habitats and retained habitats within the Order Limits. The fence design will include gaps to allow mammals that may use woodland habitats, including small deer, Badger, Brown Hare and Hedgehog, to pass underneath at strategic locations, so as not to avoid creating barriers to dispersal. **Methods for Watercourse Crossing** • Watercourse crossing methods would protect banks, control sediment, and maintain flow. Where open-cut or culvert installation is required, flow would be maintained throughout the works.		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	• Pre-works hydromorhpological surveys would be undertaken for any intrusive crossings, on the basis of which reinstatement post-removal of the crossings would aim to provide an improved channel form. Reinstatement works would be carried out (where relevant and appropriate to do so) between 10 and 15m upstream and downstream of the crossing to ensure the reinstated improved channel form merges into the existing channel form, subject to agreement with the Internal Drainage Boards. • Pipe culverts for access road crossings will typically only be appropriate on small, seasonally dry channels. On permanently wet watercourses, bridge crossings will be used where practicable and safe to do so, except where the crossing forms part of a public highway access point (bellmouth access) or where an alternative crossing solution is justified through the detailed design process. In such cases, it must be demonstrated that there would be no significant adverse effects on fish. The Environment Agency would be consulted as part of the detailed design process, and suitable mitigation measures incorporated into the crossing design. **Wildlife Legislation Compliance**		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	To comply with relevant wildlife legislation, pre-construction surveys, for protected species will be undertaken to ensure mitigation during the construction phase is based on the latest protected species and invasive species information; as the status of transient species such as badger, otter, water voles and bats may have changed in the interim period.		
Disturbance / displacement resulting from a change in normal conditions (light, noise, vibration, human activity) that result in individuals or populations of species changing behaviour or range.	Where lighting is required, it will conform to best practice guidelines; Bats and artificial lighting in the UK: Guidance Note 08/23 (GN08/23) (ILP 2023)[6]; with respect to minimising disturbance to bats and other protected and notable species know to be present and active during the night. The following principles will be applied, where relevant: • Apply the mitigation hierarchy: avoid lighting sensitive habitats/commuting routes/roosts; where unavoidable, minimise intensity, duration, spectrum and spill; then mitigate with shielding/controls. • Maintain dark corridors along key linear features (hedgerows, treelines, watercourses) and around any known/suspected roosts. Target 0–1 lux at	To be confirmed in detailed CEMP(s).	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed in the detailed CEMP(s). Monitored by the Ecological Clerk of Works.

[6] Institution of Lighting Professionals (2023) Bats and artificial lighting in the UK: Guidance Note 08/23. Available at: https://theilp.org.uk/resource/gn08-bats-and-artificial-lighting-pdf.html [Accessed 13/10/2025]

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	ground level on these features (≤0.5 lux preferred for the most sensitive corridors). • Use the lowest lighting class and levels that meet safety requirements; dim to the minimum practical illuminance. • Use warm-spectrum light sources (correlated colour temperature ≤2700 K) with no UV/near-UV content to reduce attractiveness to insects and disturbance to bats. • Use full cut-off luminaires with directional control, shields/baffles/cowls; mount at the lowest feasible height and aim away from sensitive features and Site boundaries. • Control operation temporally: PIR/infrared presence detection, dimming, and curfews; switch off when not needed. • Plan and verify: produce a temporary lighting plan with isolux plots showing predicted spill onto sensitive features; set compliance points; verify in situ with lux spot checks; adapt as needed.		
Impact to designated sites and protected and/or notable habitats and species.	The Scheme design has evolved to avoid all sites statutorily designated for their biodiversity importance and to avoid or minimise impacts on sites that are non-statutorily designated for their biodiversity importance. Measures embedded within the Scheme design ensure that designated sites are not adversely impacted during construction include siting construction routes and areas	To be confirmed in detailed CEMP(s).	The overall responsibility will be with the Principal Contractor. Specific responsibilities

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	away from designated sites, where possible, incorporating suitable buffer zones and erection of temporary construction fencing to avoid incursion into exclusion zones.		will be confirmed in the detailed CEMP(s). Monitored by the EcoCoW.
Additional site and species specific mitigation measures			
Impacts on designated sites	**The Wash SPA/Ramsar Site and Nene Washes SPA/ Ramsar Site** • There are no routes for construction traffic that pass within 200m of these sites, thus, avoiding any potential degradation to sensitive habitats. • Areas of Functionally Linked Land (FLL) of potential value in supporting species associated with these sites have been identified adjacent to the River Welland, at Fleet Drain, to the west of Delgate Bank and to the north of Parcel D (as shown on Figure 4 of ES Appendix 9-14: Habitats Regulations Assessment (HRA) Report (Doc Ref. 6.3). • Where practicable, high-noise works, such as piling, within 1100m of these locations would be avoided during the wintering and migratory bird sensitive period September to March. • Where high-noise works within 700m to 1100m of FLL areas are to be carried out within the sensitive period, standard noise-reduction measures will be	To be confirmed in detailed CEMP(s).	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed in the detailed CEMP(s). Monitored by the Ecological Clerk of Works.

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	employed, and an ecologist would be present to monitor bird activity. If birds show signs of significant disturbance, works would be paused until birds have moved away or additional noise-reduction measures are in place. • Where high noise works within less than 700m of FLL areas are to be carried out within the sensitive period, additional noise reduction measures, such as alternative piling methods and/or temporary noise screening, will be employed to reduce peak noise levels within the FLL areas to below 60dB. An ecologist would be present to monitor bird activity; if birds show signs of significant disturbance, works would be paused until birds have moved away. • Visual screening (e.g. opaque mesh covering on Heras fencing) will be installed between the FLL areas and any work locations within 600m of the FLL areas. **Slys Connection LWS** • Within the Order Limits, Land Parcels D-2 and D-3, removal or degradation may occur owing to the installation of access routes at two locations within this LWS. To limit disturbance to habitat inside the LWS during construction, the working area will be kept to a minimum inside the LWS and		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	no spoil, materials or vehicles will be stored within the LWS. • A security fence will be implemented early in the construction phase to prevent construction activity from intruding into the remainder of the LWS. **South Holland Main Drain, West LWS** • Within the Order Limits Land Parcel B-5, to limit disturbance to habitat inside the LWS during construction, the working area will be kept to a minimum inside the LWS and no spoil, materials or vehicles will be stored within the LWS. • A security fence will be implemented early in the construction phase to prevent construction activity from intruding into the remainder of the LWS. • Vegetation clearance in these areas will also be minimised as much as is reasonably practicable. **Wheatmere Drain LWS** • Within the Grid Connection Route, to limit disturbance to habitat inside the LWS during construction, the working area will be kept to a		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	minimum inside the LWS and no spoil, materials or vehicles will be stored within the LWS. • A security fence will be implemented early in the construction phase to prevent construction activity from intruding into the remainder of the LWS. **Other adjacent LWSs** (such as Crowland Falls Pits LWS, New River LWS, River Welland LWS, Fred's Pit LWS, High Bank Gull LWS, Lambert Drain to Highstock Drain Connection LWS, Crowland Ponds LWS, Lambert Drain LWS) A security fence will be implemented early in the construction phase to prevent construction activity from intruding into the LWS.		
Impact on habitats and protected and notable species	Pre-construction checks/surveys will be undertaken for badger, otter, water vole, and bats. Micro-siting will be implemented informed by survey results and fenced buffers will be implemented where required. The detailed CEMP(s) will outline all ecological mitigation for habitats, protected and notable species, which will likely include combined pre-construction surveys, protected species mitigation, translocation (if required), monitoring and post construction reinstatement plans. Subject to confirmation following pre-construction surveys, the below measures would apply.	To be confirmed in detailed CEMP(s). Pre-construction surveys will be undertaken for protected and invasive species to validate and, where necessary, update the baseline ecology survey findings. It is accepted that species populations and distributions can fluctuate	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed in the detailed CEMP(s).

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	Running water • Site surface water will drain from the Scheme's Sustainable Drainage Systems (SuDS) based drainage system to local receiving watercourses via a new ditch, where reasonably practicable, as this avoids the need to construct an engineered outfall. However, if engineered outfalls are required, the location, position and orientation of them will be carefully designed to minimise any adverse impacts on aquatic habitats. • In the case of any construction of watercourse crossing, culverting of water bodies, and the extension of existing culverts, construction will ensure that connectivity is maintained along watercourses to allow Eel passage and connectivity for other aquatic species. Fish rescues may be required if draw-down or over-pumping are required during construction. **Breeding and Wintering Birds (including skylark)** • Vegetation clearance would be scheduled outside the March to September bird nesting season where practicable; where this is not possible, nesting bird checks would be undertaken within 48 hours prior to the commencement of works.	and change over time, and therefore, the requirement for mitigation and licensing (if required) should be based on current data at the time of the activity. Such surveys would be undertaken sufficiently far in advance of construction works to account for seasonality constraints and to allow time for the implementation of any necessary mitigation and licensing (if required), prior to construction. Additional surveys may be required during the advance works, site clearance and construction phase 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	Monitored by the Ecological Clerk of Works.

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	• To reduce potential impact on wintering bird migration, where practicable, night works will be avoided near flooded fields and drains. • Night lighting at compounds near sensitive riparian spans and wintering bird areas (consistent with disturbance controls) would be minimised. **Bats** • The lowest practicable lighting levels would be applied, using warm-spectrum LED luminaires with directional fittings and baffles or cowls to prevent light spill onto hedgerows, tree lines and riparian corridors. • Where practicable, linear habitats will be retained or a buffer applied. **Badger** • Mammal permeability: where fencing is required, ground-level gaps to maintain connectivity for small/medium mammals (e.g., badger) would be provided. **Reptiles** • Staged clearance (≥10°C); hand searches; trench covers/ramps; toolbox talks; timing to avoid hibernation wherever practicable. • Any required management of vegetation within the Scheme will be undertaken in accordance with	Applicant or their appointed contractor. Immediately prior to site clearance and the start of construction in each relevant part of the Site, further site walkover surveys would be undertaken by the ECoW (or ecologist) to confirm whether the risks remain as previously assessed and/or to confirm the correct implementation of impact avoidance measures (e.g. protected species stand-offs). The scope of the required walkovers would be defined on a case-by case basis, in consultation with the project team, or other relevant statutory consultees as necessary, based on the specific risks. The surveys should be undertaken by a suitably qualified ecologist and completed as per the	

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	legislative requirements associated with protected and notable species likely to be present at the Site. Where required pre-start checks by an ecologist and presence of ECoW supervision will be provided. **Fish** Where construction activities have the potential to directly impact fish, the following principles will be followed: • Avoidance of key fish migration timings wherever reasonably practicable, e.g., avoiding key fish migration seasons (e.g., ~~April~~March to June for European Eel); • Where reasonably practicable, construction will be undertaken during daylight hours to avoid the need for artificial light, noting that non-intrusive (e.g., trenchless methods) operations may be 24-hours; • If required, fish rescue and/or translocation during drain-down of watercourses or water bodies, and during the installation of culverts or over-pumping for open trenching through watercourses/ditches.	industry standard for water vole surveys (Strachan et al 2011[7]).	

[7] Strachan, R., Moorhouse, T. & Gelling, M. (2011) Water vole conservation handbook (3rd Ed.). Wildlife Conservation Research Unit, Oxford.

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	• Implementation of pollution prevention measures as set out in this OCEMP~~.~~ which will prevent introduction of sediment, surface water run-off and pollution events which may degrade watercourses and reduce suitability for spawning, foraging, shelter and dispersal, should notable fish be present. Maintenance of flow throughout the construction phase via pipes and avoidance of impeding structures, including screens or mesh, will ensure fish can continue to move up and downstream. **Otter and Water Vole** • All ditches and watercourses will be retained and the construction of the Scheme will be offset by 10m from watercourses, where reasonably practicable. • A Natural England Class License CL31 would be applied to displace individuals from less than 50m of occupied bank only where unavoidable; riparian planting and soft engineering measures would be implemented to maintain habitat connectivity, and methods would be agreed with the relevant Internal Drainage Boards where applicable. • Pre-construction surveys will be undertaken of all ditches and watercourses to reaffirm the baseline conditions in respect to Otter and Water Vole		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	distribution. The purpose of these preconstruction surveys is to ensure mitigation during the construction phase is based on the latest species information. Should there have been any changes to Otter or Water Vole distribution within the Order Limits, mitigation measures, where required, will be updated accordingly. **Invasive species** • Pre-construction surveys will be undertaken to provide an update on the presence and location of any invasive species, the findings of which will inform the production of a Biosecurity Management Plan. The Biosecurity Management Plan will set out procedures to ensure that no invasive species are brought onto the Order Limits (e.g., Wildlife and Countryside Act 1981 Schedule 9 species). In the event that any future infestations of invasive non-native species are identified prior to and/or during the construction process, exclusion zones will be established around them, and an ECoW contacted for advice, as required. • Biosecurity measures relating to invasive non-native species (INNS) would include identification, plant and material hygiene protocols, and appropriate containment and disposal procedures.		

Table 3-6: Ground Conditions

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Hazards to human health associated with inhalation, ingestion or contact with made ground or groundwater contaminated by metal, inorganic and organic chemicals. Hazards to controlled waters associated with leaching of contaminants from soils, lateral groundwater migration, or	Intrusive geo-environmental ground investigation works will be undertaken prior to commencing development to evaluate soil and groundwater quality. The work will also verify the proposed mitigation measures so that unacceptable pollutant linkages do not exist on completion of the Scheme. The geo-environmental investigation will be designed with due consideration of the requirements of BS10175: 2026: Investigation of Potentially Contaminated Sites – Codes of Practice (BSI)[8]. This will include infiltration testing and groundwater monitoring to confirm the viability of an infiltration drainage scheme. Results will be reviewed by the appointed Principal Contractor, including any additional investigation or mitigation measures beyond the impact avoidance measures stated here. Any further assessment of land contamination will: • Follow the risk management outline provided in Environment Agency's Land Contamination Risk	To be included in the detailed CEMP(s)	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed in the detailed CEMP(s).

[8] British Standards Institution (2026) BS 10175:2026 Investigation of potentially contaminated sites – Code of practice. London: BSI. Available at: https://doi.org/10.3403/30473646 [Accessed 18 February 2026]

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
contaminated discharge to watercourses or made ground or groundwater. Hazards to ecological receptors associated with chemical contaminants in made ground and groundwater, discharge to watercourses, sedimentation / dust deposition, physical damage to habitat, and increased	Management guidance[9], when dealing with land affected by contamination; • Refer to the CL:AIRE Guiding principles for land contamination[10]; • Consider using the National Quality Mark Scheme for Land Contamination Management which involves the use of competent persons to ensure that land contamination risks are appropriately managed; and • Refer to the contaminated land pages on gov.uk for more information. Good practice avoidance and mitigation measures proposed include: • All workers would be required to wear Personal Protective Equipment (PPE) including where appropriate, dust masks, gloves, use ground gas monitoring equipment and hygiene facilities; • Containment measures would be implemented, including drip trays, bunding or double-skinned		

[9] Environment Agency (2023) Land contamination risk management (LCRM) Guidance. Available at: https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm [Accessed 10/10/2025]

[10] CL:AIRE (2016) Guiding principles for land contamination (GPLC). Available at: https://claire.co.uk/home/news/index.php?option=com_content&view=article&id=192&catid=41&Itemid=256 [Accessed 10/10/2025]

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
human disturbance during construction. Contamination of ground gas to any on-site buildings.	tanks of fuels and oils; all chemicals would be stored in accordance with their Control of Substances Hazardous to Health (COSHH) guidelines, whilst spill kits would be provided in areas of fuel/oil storage; • Use of appropriate Site control measures to minimise the migration of contaminated dusts and soils from the Site to adjacent areas; • All plant and machinery would be kept away from surface water bodies wherever reasonably practicable, checked regularly and, where necessary, the use of drip trays would be employed. Refuelling and delivery areas would be located away from surface water drains; • An emergency spillage action plan will be produced, which staff will be required to have read and understood prior to commencement of work, and provisions made to contain any leak/spill. Environment Agency to be notified in the event of any suspected pollution incidents; • A 'Discovery Strategy' protocol will be drawn upon to ensure that any contamination identified during construction is assessed by a specialist in land contamination. This will include but not be limited to stopping works in the area and ensuring the identified contamination does not pose a risk until an environmental specialist undertakes an		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	assessment and a method is agreed to deal with the identified contamination. If required, the Local Planning Authority and the Environment Agency will be notified; • Should any potentially contaminated ground, including isolated 'hotspots' of contamination and/or potential deposits of asbestos containing materials (ACM), be encountered, the Principal Contractor would be required to investigate the areas and assess the need for containment or disposal of the material. The Principal Contractor would also be required to assess whether any additional health and safety measures are required; • The Local Authority and the Environment Agency must be contacted in the event that contamination is identified, and the Environment Agency's Land Contamination Risk Management (LCRM) guidance must be followed; • To further minimise the risk of contaminants being transferred and contaminating other soils or water, construction workers would be briefed as to the possibility of the presence of such materials; • In the event that contamination is identified, appropriate remediation measures would be taken		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	to protect construction workers, future Site users, water resources, structures and services; • The Principal Contractor would be required to place arisings and temporary stockpiles away from watercourses and drainage systems, whilst surface water would be directed away from stockpiles to prevent erosion; • The risk to surface water and groundwater from run-off from any contaminated stockpiles during construction works will be reduced by implementing suitable measures to minimise rainwater infiltration and/or capture runoff and leachates, through use of bunding and/or temporary drainage systems. These mitigation measures will be designed in line with current good practice, follow appropriate guidelines and all relevant licenses/permits; • The Principal Contractor will ensure that all material is suitable for its proposed use and would not result in an increase in contamination-related risks on identified receptors, including any landscaped areas and underlying groundwater; • Any waters removed from excavations by dewatering would be discharged appropriately, subject to the relevant permits/ licenses being obtained;		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• Any subsurface land drainage encountered during construction will be avoided or rerouted where reasonably practicable or an alternative drainage solution provided if required. Where any subsurface land drainage is crossed by Scheme's infrastructure, the Applicant will use the relevant best-practice construction methodology to ensure the integrity and functionality of the land drainage is protected. In the event of damage, it will be reinstated or an alternative drainage solution will be provided. • The Principal Contractor will implement a dust suppression/management system in order to control the potential risk from airborne contamination migrating off-site to adjacent sites; and • Piling design and construction works will be completed following the preparation of a piling risk assessment.		
Risk of Unexploded Ordnance (UXO)	A potential for UXO in land parcels A & D has been identified. A detailed UXO risk assessment for land parcels A & D will be undertaken pre-construction to confirm the appropriate measures to be implemented. Depending on the outcome of the detailed UXO risk assessment, such measures may include:	Further UXO surveys and / or an EOD Engineer in a watching brief role, subject to the outcome of a detailed UXO risk assessment.	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• Where disturbance of previously undisturbed ground is proposed and where the extent is likely to be within the effective capabilities of survey equipment, a non-intrusive geophysical UXO survey may be required. This would identify signs of sub-surface anomalies which may model as the threat spectrum UXO in advance of said works. If the survey proves partially or wholly ineffective, an Explosive Ordnance Disposal (EOD) Engineer should be present in the UXO watching brief role to monitor works and to identify any suspicious items that may be UXO related. • A UXO-specific Emergency Response Plan would be held on-site to guide and plan actions to be undertaken in the event of a suspected or real UXO discovery. • A UXO Safety and Awareness Briefing would be carried out prior to works that involve a possibility of an explosive ordnance encounter. Prior to these works, all personnel working on the Site would receive a briefing on the identification of threat spectrum UXO and what actions they would need to take to keep people and equipment away from such a hazard and to alert Site management. • Information concerning the nature of the UXO threat would also be held in the Site office and displayed for general information on noticeboards		in the detailed CEMP(s).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	- both for reference and as a reminder for ground workers. • An on-call EOD Engineer service may be required for intrusive works. The On-Call EOD Engineer will be able to identify and/or advise on the appropriate course of action in the event of any suspicious and/or real UXO finds. • As Low As Reasonably Practicable (ALARP) safety sign-off certification will be implemented to provide an independent source of evidence that the Principal Contractor has followed industry best practice and has successfully managed and reduced UXO risks to ALARP.		

Table 3-7: Hydrology and Flood Risk

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Pollution of surface water or groundwater due to deposition or spillage of soils, sediments, oils, fuels, or other construction chemicals, or	Standard and good practice mitigation measures will apply to the construction phase. This will be detailed in a Water Management Plan (WMP). The WMP (which will be produced post consent) will also include details of pre, during and post-construction water quality monitoring. This will be based on a combination of visual / olfactory observations and in situ monitoring using a handheld water quality meter.	Water quality monitoring of potentially impacted watercourses will be undertaken to aid detection of any potential pollution events so they can be dealt with quickly and effectively. Reflecting the level of risk, it is	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
through uncontrolled Site run-off including dewatering of excavations. Potential impact on baseflow to watercourses from temporary dewatering of excavations or changes in hydrology.	Where reasonably practicable, works within at least 10m of all watercourses will be avoided, except where works must be undertaken close to or in watercourses (e.g. where watercourses are crossed for access or cable installation, for the placement of new surface water outfalls or in a handful of locations where temporary works cannot avoid encroaching on the buffer zone for the installation of pylons supporting the OHL) to reduce the risk from potential hazards such as chemical and soils spills into watercourses and avoid potential direct impacts to the watercourse and protected species. The Principal Contractor will comply with the following Guidance for Pollution Prevention (GPP): • GPP 1: Understanding your environmental responsibilities – good environmental practices[11]; • GPP 2: Above ground oil storage[12]; • GPP 3: Use and design of oil separators in surface water drainage systems[13];	anticipated that this will be based on a combination of visual observations and in situ monitoring upstream and downstream of the working area. Water quality monitoring is anticipated to be required 6 months prior to the preliminary works starting (pre-construction), during construction and for a few months post completion. Routine grab samples may be required for testing water stored by temporary drainage prior to discharge whilst complying with any Water Discharge Activity Permits. Details of water	in the detailed CEMP(s).

11 Northern Ireland Environment Agency (NIEA) (2021). Understanding your environmental responsibilities – good environmental practices: GPP 1.

12 NIEA (2021). Above ground oil storage tanks: GPP 2.

13 NIEA (2022). Use and design of oil separators in surface water drainage systems: GPP 3.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer[14]; • GPP 5: Works and maintenance in or near water[15]; • GPP 6: Working on construction and demolition sites[16] • GPP 8: Safe storage and disposal of used oils[17] ; • GPP 13: Vehicle washing and cleaning[18]; • GPP 18: Containing major spillage and firewater at industrial sites[19]; • GPP 19: Vehicles: Service and Repair[20]; • GPP 20: Dewatering underground ducts and chambers[21];	quality monitoring will be set out within the WMP. A drainage survey will be undertaken to confirm the position of existing field drainage. A Pre-works Hydromorphological and Riparian Corridor Survey will be undertaken to record channel features/habitats and	

14 NIEA (2017). Treatment and disposal of wastewater where there is no connection to the public foul sewer: GPP 4.

15 NIEA (2018). Works and maintenance in or near water: GPP 5.

16 Environment Agency (EA) (2012). Working at construction and demolition sites: PPG6.

17 NIEA (2021). Safe storage and disposal of used oils: GPP 8.

18 NIEA (2021). Vehicle Washing and Cleaning: GPP 13.

19 NIEA (2021) Containing major spillage and firewater at industrial sites: GPP18.

20 NIEA (2021). Vehicle: Servicing and Repairs: GPP 19.

21 NIEA (2021). Dewatering underground ducts and chambers: GPP 20.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• GPP 21: Pollution Incident Response Plans[22]; • GPP22: Dealing with spills[23]; and • GPP26: Safe storage – drums and intermediate bulk containers[24]. Additional good practice to be followed is detailed in the following key documents: • British Standards Institute (2009) BS6031:2009 Code of Practice for Earth Works[25]; • British Standards Institute (2013) BS8582 Code of Practice for Surface Water Management of Development Sites[26]; • C753 (2015) The SuDS Manual (second edition)[27]; • C811 (2023) Environmental good practice on site guide (fifth edition)[28];	provide the baseline, against which reinstatement will be designed.	

[22] NIEA (2021). Pollution incident response planning: GPP 21.

[23] NIEA (2018). Dealing with spills: GPP 22.

[24] NIEA (2021). Safe Storage of Drums and Intermediate Bulk Containers (IBCs): GPP 26.

[25] BSI (2009). BS6031:2009 Code of Practice for Earth Works.

[26] BSI (2013). BS8582 Code of Practice for Surface Water Management of Development Sites.

[27] Construction Industry Research and Information Association (CIRIA) (2015). C753: the SuDS Manual (second edition).

[28] CIRIA (2023). C811 Environmental good practice on site guide (fifth edition).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• C648 (2006) Control of water pollution from linear construction projects, technical guidance[29]; • C609 (2004) Sustainable Drainage Systems, hydraulic, structural and water quality advice[30]; • C532 (2001) Control of water pollution from construction sites – Guidance for consultants and Principal Contractors[31]; and • C736F (2014) Containment systems for prevention of pollution[32]. Requirements set out in the above guidance will be listed in or appended to the detailed CEMP(s). Management of Construction Runoff • All reasonably practicable measures will be taken to prevent the deposition of fine sediment or other material in, and the pollution by sediment of, any existing watercourse, arising from construction activities. The measures will accord with the principles set out in industry guidelines including the CIRIA report 'C532: Control of water pollution		

[29] CIRIA (2006). C648: Control of water pollution from linear construction projects, technical guidance.
[30] CIRIA (2004). C609: Sustainable Drainage Systems, hydraulic, structural and water quality advice.
[31] CIRIA (2001). C532: Control of water pollution from construction sites – Guidance for consultants and Principal Contractors.
[32] CIRIA (2014). C736F: Containment systems for prevention of pollution.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	from construction sites'[33] ~~and.~~ CIRIA report 'C648 Control of water pollution from linear construction sites'[34]~~.~~ and CIRIA report 'C736: Containment systems for the prevention of pollution'[35]. Measures may include use and maintenance of temporary lagoons, tanks, bunds and fabric silt fences etc. or silt screens as well as consideration of the type of plant used. • A temporary drainage system will be developed to prevent runoff contaminated with fine particulates from entering surface water drains without treatment. This will include identifying all land drains and water features in the Order Limits and ensuring that they are adequately protected using drain covers, sand or pea gravel bags (the latter being more appropriate in or near watercourses), earth bunds, temporary lagoons, tanks, geotextile silt fences, straw bales, silt screens, and silt mats etc., or proprietary treatment (e.g. lamella clarifiers or flocculation if absolutely necessary and with the appropriate approvals from the Environment Agency) and road sweepers or wheel washes on entry and exit to the Site. If flocculants are used, a		

[33] CIRIA (2001). C532: Control of water pollution from construction sites – Guidance for consultants and Principal Contractors.
[34] CIRIA (2006). C648: Control of water pollution from linear construction projects, technical guidance.
[35] CIRIA 736 (2014) Containment systems for the prevention of pollution.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	specialist contractor would be involved and a Water Discharge Activity Permit would be required. Infiltration to ground (e.g. by spraying water onto grass fields) may also be an option. Consideration of the type of plant used, seeding or covering earth stockpiles, and the timing of works are all important factors contributing to the generation of fine sediment in runoff. A programme of maintenance and inspection would be implemented for the temporary drainage system. • Scheme construction foul drainage is expected to be provided by self-contained cesspits (or similar sealed tank), regularly emptied by a waste management contractor. • The relevant sections of BS 6031: Code of Practice for Earthworks[36] will be followed for the general control of Site drainage. • Where practical, earthworks will be undertaken during the drier months of the year and earth moving works will avoid periods of very wet weather as far as possible, to minimise the risk of generating runoff contaminated with fine		

[36] BSI (2009). BS6031:2009 Code of Practice for Earth Works.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	particulates. However, it is likely that some working during wet weather periods will be unavoidable, in which case other mitigation measures (see below) will be implemented to control fine sediment laden runoff. Water may also be required to dampen earthworks during dry weather to reduce dust impacts, and any runoff generated will need to be appropriately managed in accordance with the pollution prevention principles described in this table. • To protect watercourses from fine sediment runoff, topsoil/subsoil will be stored a minimum of 20m from watercourses on flat lying land. Where this will not be reasonably practicable, and it is to be stockpiled for longer than a three-week period, the material will either be covered with geotextile mats, seeded to promote vegetation growth, or runoff prevented from draining to a watercourse without prior treatment. • Appropriately sized runoff storage areas for the settlement of excessive fine particulates in runoff will be provided. • Construction site runoff will either be treated on-site and discharged under a Water Discharge Activity Permit to Controlled Waters from the Environment Agency (potentially also including infiltration to ground) or to the nearest public		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	sewer with sufficient capacity for treatment following discussions with Anglian Water, or else removed from Site for disposal at an appropriate and licensed waste facility. • Equipment and plant are to be washed out and cleaned in designated areas within the Order Limits only, where runoff can be isolated for treatment before disposal as outlined above. • The water supply to be used for dust suppression will be determined by the Principal Contractor. The Principal Contractor will ensure the use of a suitable water supply throughout construction, which may include the reuse of water captured on-site, from an agricultural irrigation reservoir or other commercial source but will not be abstracted from local watercourses. Mains supply is not expected to be used, unless otherwise agreed with Anglian Water. • Mud deposits will be controlled at entry and exit points to the Order Limits using wheel washing facilities and/or road sweepers operating during earthworks activities or other times as required. • Debris and other material will be prevented from entering surface water drainage, through maintenance of a clean and tidy Site, provision of		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	clearly labelled waste receptacles, grid covers and the presence of Site security fencing. • A Silt Management Plan will be produced as part of the detailed CEMP. Protection of existing field drainage • The Principal Contractor shall ensure that existing field drainage systems are not compromised as a result of construction. Field drainage systems will be maintained during construction and reinstated so far as reasonably practicable to a condition that is as effective as the previous condition on completion. • The Principal Contractor will coordinate drainage surveys to establish the existing drainage position including any related field drainage that may be affected by the Scheme and these will be marked where encountered. The Principal Contractor shall record the location, condition and characteristics (e.g. depth of installation, pipe type and diameter) of drains cut or disturbed by construction of the Scheme. • Any field drainage affected by the Scheme shall be either reinstated or diverted to secondary channels if reasonably practicable. Landowners and occupiers shall be informed, through the Environment Manager of the design and timing of		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	drainage works required during construction and following completion of the works, including, where relevant, in relation to pipe layout, falls, dimensions and outfalls. • British Standards Institute (2013) BS8582 Code of Practice for Surface Water Management of Development Sites specifically highlights Internal Drainage Boards as critical stakeholders. The Principal Contractor will ensure continuous engagement with South Holland Internal Drainage Board and North Levels Internal Drainage Board to ensure physical maintenance access to their managed watercourses throughout the pre-construction period and construction period. Unhindered operational and maintenance access to all IDB-managed watercourses will be preserved at all times.		
Leakage or accidental spillage of construction materials and potential pollutants	Management of Spillage Risk • Fuel will be stored and used in accordance with the Control of Substances Hazardous to Health Regulations 2002[37], ~~and~~ the Control of Pollution (Oil Storage) (England) Regulations 2001[38]~~.~~ and the	Water quality monitoring of potentially impacted watercourses will be undertaken. To be	To be confirmed in detailed CEMP(s).

[37] Her Majesty's Stationary Office (HMSO) (2002). Control of Substances Hazardous to Health Regulations 2002.
[38] HMSO (2003). Control of Pollution (Oil Storage) (England) Regulations 2001.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
used on-site, migrating to nearby surface watercourses or infiltrating to groundwater.	Oil storage regulations for businesses guidance[39]. Particular care will be taken with the delivery and use of concrete and cement as it is highly corrosive and alkaline. Headwalls for any required outfall construction, where green ditches are not practicable, will be of precast construction. • Fuel and other potentially polluting chemicals will either be in self-bunded leak proof containers or stored in a secure impermeable and bunded area (minimum capacity of 110% of the capacity of the containers, which includes 10% more capacity than is needed). • Any plant, machinery or vehicles will be inspected before every use and maintained to ensure they are in good working order and clean for use in a sensitive environment. This maintenance is to take place off-site if reasonably practicable or, if on-site, only at designated areas, such as the Site compounds. Only construction equipment and vehicles free of all oil/fuel leaks will be permitted on the Site. Drip trays will be placed below static mechanical plant.	confirmed in detailed CEMP(s).	

[39] Environment Agency and DEFRA (2023) Oil storage regulations for businesses. Available at: https://www.gov.uk/guidance/storing-oil-at-a-home-or-business [Accessed 22/07/2026]

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• The Pollution prevention for businesses guidance[40] will be followed to avoid pollution from oil and chemical storage, and other construction activities. • All washing down of vehicles and equipment will take place in designated areas and wash water will be prevented from passing untreated into watercourses. • All refuelling, oiling and greasing of plant will take place above drip trays or on an impermeable surface which provides protection to underground strata and watercourses, and away from drains as far as reasonably practicable (and a minimum of 20 m). Vehicles will not be left unattended during refuelling. • As far as reasonably practicable, only biodegradable hydraulic oils will be used in equipment working in or over watercourses. • All fixed plant used will be self-bunded.		

[40] DEFRA and Environment Agency (2026) Pollution prevention for businesses. Available at: https://www.gov.uk/guidance/pollution-prevention-for-businesses [Accessed 16/09/2026]

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• Mobile plant is to be in good working order, kept clean, fitted with absorbent plant 'nappies' at all times and are to carry spill kits. • The WMP (which will be produced post consent) will include details for pollution prevention and will be prepared and included alongside the detailed CEMP. • Spill kits and oil absorbent material will be carried by mobile plant and located at high risk locations across the Scheme and regularly topped up. All construction workers will receive spill response training and tool box talks. • The area of construction will be secure to prevent any vandalism that could lead to a pollution incident. • If water is encountered during below ground construction, suitable dewatering methods will be used. Any groundwater dewatering required in excess of the exemption thresholds will be undertaken in line with the requirements of the Environment Agency (under the Water Resources Act 1991)[41] and the Environmental Permitting		

[41] HMSO (1991) Water Resources Act 1991. Available at: https://www.legislation.gov.uk/ukpga/1991/57/contents [Accessed November 2025]

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	Regulations (2016)[42]. This is to ensure that impacts on water quality, resources and any flood risk are adequately managed. • Construction waste/debris are to be prevented from entering any surface water drainage or water body. • Surface water drains on public roads trafficked by plant or within the construction compounds will be identified and, where there is a risk that fine particulates or spillages could enter them, the drains will be protected (e.g. using covers or sand bags) or the road regularly cleaned by road sweeper. • Suitable facilities for concrete wash water (e.g. geotextile wrapped sealed skip, container or earth bunded area) will be adequately contained, prevented from entering any drain, and removed from the Site for appropriate disposal at a suitably licensed waste facility. • Water quality monitoring of potentially impacted watercourses will be undertaken to ensure that		

[42] HMSO (2016) Environmental Permitting Regulations 2016. Available at: https://www.legislation.gov.uk/uksi/2016/1154/contents [Accessed November 2025]

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	pollution events can be detected and can be quickly and effectively dealt with. • Site welfare facilities will be appropriately managed, and all foul waste disposed of by an appropriate contractor to a suitably licensed facility (if it is not possible to connect to the public sewer).		
Risks associated with the construction of open cut watercourse crossings to groundwater and surface waterbodies	Watercourse crossings with intrusive techniques Watercourse crossings are indicatively shown on **ES Figure 2-3** (Doc Ref. 6.2). Following construction, reinstatement of trenched channels will aim to provide an improved channel form with enhancement works to be carried out (where relevant and appropriate to do so and subject to consultation with Internal Drainage Boards) up to 15 m upstream and downstream of the open trench. It is anticipated that enhancements will consist of soft engineering techniques and improvements to the riparian corridor to improve channel diversity and biodiversity. These measures will be set out within a **Water Framework Directive (WFD) Mitigation and Enhancement Strategy**, which will be produced to accompany the detailed CEMP. Measures to be implemented while using intrusive techniques are set out below:	As set out above and to be confirmed in detailed CEMP(s).	To be confirmed in detailed CEMP(s).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• A **Pre-works Hydromorphological and Riparian Corridor Survey** will be undertaken to record channel features/habitats and provide the baseline, against which reinstatement will be designed. • Where reasonably practicable intrusive watercourse crossings will be carried out during drier periods of the year or during a period of dry weather where flows in the watercourse are low (this may be baseflow or where the channels are very small and not as well connected to groundwater, they may even be dry). However, this cannot be guaranteed and so any water flow within the watercourse would need to be over-pumped/flumed through the works area to maintain a dry trench and to reduce pollution risks. • Bank and bed sediments must be stored separately and in distinct layers as excavated on geotextile layers so they can be reinstated as found following completion of the works. • The banks and the bed will need to be appropriately reprofiled with the inclusion of suitable geomorphic features with the aim to provide betterment on the original channel. Banks will be replanted with suitable riparian species.		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• A suitable geotextile will need to be pinned in place to provide bank protection while new planting establishes (or other suitable measures provided to prevent soil erosion and bank instability). • Temporary fencing may also need to be installed where local land use will remain unchanged and fields are used for livestock (to prevent bank poaching). • All temporary crossings will be removed after completion of the construction works and the watercourses reinstated informed by a Pre-works Hydromorphological and Riparian Corridor Survey. Any reinstatement would be undertaken between 5 and 15m upstream and downstream of the open trench or culverted access track crossing (within an easement of 15m either side). The banks and the bed will need to be appropriately reprofiled with the inclusion of suitable geomorphic features and geological layers would be restored to correct layering. Channel substrate would be kept separate from the rest of the excavated material so that the channel habitat can be correctly restored. If contaminated sediment is found and has to be removed from Site, channel substrate would be restored using local materials of similar geology/grain size.		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• Any enhancement would need the permission of the IDBs and be compatible with their current and future management and maintenance requirements.		
Risks associated with the use of drilling fluids for non-intrusive techniques for construction~~.~~ to groundwater and surface waterbodies	Watercourse Crossings with Non-Intrusive Techniques. • Trenchless watercourse crossings are indicatively shown on **ES Figure 2-3** (Doc Ref. 6.2). Typical trenchless crossing details have been provided within **ES Chapter 2: The Scheme** (Doc Ref. 6.1). Cable crossings of the South Holland Main Drain in Parcel D will be undertaken via trenchless methods. • A **Pre-works Hydromorphology and Riparian Survey** will be carried out for each watercourse as a precautionary measure to ensure there is a record of the channel conditions prior to the works commencing to install cables beneath the bed. • ~~Where open cut techniques are used to install cables beneath water features, water flow will be maintained and a dry working area temporarily created. The watercourses will be reinstated as found.~~ • A **Site specific Fracture Risk Assessment** will be produced prior to commencing works to define the	As set out above and to be confirmed in detailed CEMP(s).	To be confirmed in detailed CEMP(s).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	methodology / mitigation required based on ground conditions. • The send and receive pit excavations will be located at least 10m from the watercourse (measured from the water's/channel edge under normal flows) under which they will be directional drilled. • Cables will be installed at a suitable depth to avoid impacting the channel or the bed, subject to design and ground conditions (at a minimum of 3m depth and maximum of 7m bgl). • Cables beneath the South Holland Main Drain will be installed at a suitable depth to avoid impacting the channel or the bed, subject to design and ground conditions (at a minimum of 5m depth and maximum of 7m bgl). • Any wastewater / drilling fluids which are not recycled must be stored and removed from the Site by a suitable waste management contractor and disposed of at a licensed wastewater facility. • Where any leakage of bentonite water is observed in the watercourse during non-intrusive drilling techniques for the installation of cabling, or there is an increased perceived risk (i.e. lack of drilling mud returns), the cable drilling operation must be suspended, remediation action implemented, and		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	subsequently the methodology for that crossing re-evaluated. A bentonite management plan will include measures to deal with a spill as a result of the non-intrusive drilling techniques. Any frack out would be assessed individually to determine the correct course of action. In general, the procedure is: ▪ Stop drilling, place sand bags and bund; ▪ Dig out and suck out via a gully sucker tanker lorry; ▪ Inject additive through drill rods; ▪ Closely monitor.		
Impacts to watercourses from vehicle access track use and construction	Watercourse Crossings for Access Tracks • Access track watercourse crossings are indicatively shown on **ES Figure 2-3** (Doc Ref. 6.2). Access track crossings across the South Holland Main Drain will require bridge crossings. • A **Pre-works Hydromorphology and Riparian Survey** of the channel of each watercourse to be crossed by access tracks will be undertaken. This is to ensure there is a formal record of the condition of each watercourse prior to commencement of works. The survey is a precautionary measure so that, should there be any unforeseen adverse impacts, there is a record	To be confirmed in detailed CEMP(s).	To be confirmed in detailed CEMP(s).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	against which any remedial action can be determined. • Existing crossings to be utilised where reasonably practicable for permanent access tracks, which may require widening / strengthening. Culverts to be avoided where reasonably practicable, however, where necessary it is expected the least impacting design that is reasonably practicable is proposed (e.g. arch rather than box, and box culverts in preference to pipes). Obstructions to fish movement will be avoided in line with legal requirements of the Salmon and Freshwater Fisheries Act 1975 and the Eels (England and Wales) Regulations 2009. • Pipe culverts for access road crossings will typically only be appropriate on small, seasonally dry channels. On permanently wet watercourses, bridge crossings will be used where practicable and safe to do so, except where the crossing forms part of a public highway access point (bellmouth access) or where an alternative crossing solution is justified through the detailed design process. In such cases, it must be demonstrated that there would be no significant adverse effects on fish. The Environment Agency would be consulted as part of the detailed design process, and suitable		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	mitigation measures incorporated into the crossing design. • New access points across watercourses will result in the loss of channel. Any culvert inverts would need to allow for natural bed formation and processes. Compensatory habitat enhancement is also proposed upstream and downstream of any permanent crossing on a 'length for length' basis, or better. • Any culverts will be sized at detailed design in order to not impact on flow conveyance and be sized to ensure capacity for the peak flow rate. Also to be considered at detailed design stage is to ensure the crossing is perpendicular to the flow, and connectivity is maintained for aquatic species and riparian mammals, with a mammal ledge if there is sufficient room. Perched inverts that create a drop from the structure to the downstream bed level will be avoided. • Where bridges are proposed, these would be located in suitable locations where there will be minimal impact to the channel, of a clear span design, and reinstatement would take place following removal of any temporary bridges. The works would be carried out according to good industry practice methods.		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• Soffit height of any new bridge must be a minimum of 600mm above the 1 in 100yrs + climate change allowance flood level. All abutments must be set back a minimum 1m from the top of bank. All parapets and railings need to be permeable and open as possible with a minimum 100mm spacing. • Where existing access tracks within 9m of a watercourse are to be used, before and after photographs of the tracks will be undertaken to demonstrate that their use during construction has not caused damage to banks.		
Temporary changes in flood risk from changes in surface water runoff and exacerbation of localised flooding, due to deposition of silt, sediment in drains, and ditches. Changes in flood risk due to the construction of PV panels, which may	Management of Flood Risk • Where reasonably practicable, temporary construction compounds will be located outside of areas of fluvial Flood Zones 2 and 3 including allowances for climate change. However, it is anticipated that some temporary construction compounds may be located in Flood Zone 2 and 3a breach scenario flood extent for River Welland, where this is unavoidable. Whilst located in this extent, they benefit from defences associated with the floodplain of the River Welland, resulting in low residual long term flood risk. It is proposed that safe refuge is provided at these compounds by locating a welfare cabin, either raised on a platform or stacked on top of the ground floor unit, set above the relevant defended 0.1% AEP +	To be confirmed in detailed CEMP(s).	To be confirmed in detailed CEMP(s).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
alter runoff from the site. Any flooding during construction could result in flooding of construction equipment and/materials, causing release of pollutants to nearby surface watercourses or infiltrating to groundwater.	28% climate change River Welland breach flood depth at the location, with 300mm freeboard provided. • In addition, it is anticipated that temporary construction compounds may be required within the Flood Zone 3b extent of the South Holland Main Drain Gotts catchment. Where this is required, it is proposed that safe refuge is provided at these compounds by locating a welfare cabin, either raised on a platform or stacked on top of the ground floor unit, set above 1% AEP + 13% climate change South Holland Main Drain flood depth at the location, with 300mm freeboard provided. No material storage would be provided within the Flood Zone 3b extent area. • No temporary construction compounds will be located within the flood extents of 1% AEP + 28% climate change of the Postland Catchment and 1% AEP + 13% climate change South Holland Main Drain Catchment (with the exception of the Gotts catchment, as explained above). • Topsoil and other construction materials will be stored outside of the 1 in 100 year floodplain extent including climate change, where feasible. If areas located within Flood Zone 2/3a are to be utilised for the storage of construction materials, this will be done in accordance with the applicable		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	flood risk activity requirements of the regulating authority, if required. • Connectivity will be maintained between the floodplain and the adjacent watercourses, with no changes in ground levels within the floodplain as far as reasonably practicable, except where bunding is proposed. • During the detailed design phase, the Principal Contractor will comply with Paragraph 5.8.34 of NPS EN-1[43], by taking advice from the local authority emergency planning team, emergency services and, where appropriate, from the local resilience forum to produce an evacuation plan for the construction phase. • The Principal Contractor will monitor weather forecasts on a monthly, weekly and daily basis, and plan works accordingly. For example, works in the channel of any watercourse will be avoided or halted were there to be a significant risk of high flows or flooding.		

[43] Department for Energy Security and Net Zero (DESNZ) (2025). NPS for Renewable Energy Infrastructure (EN-1).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• The Site office and supervisor will be notified of any potential flood occurring by use of the Floodline Warnings Direct or equivalent service. • A 24-hour availability and ability to mobilise staff in the event of a flood warning will be maintained. • All plant, machinery and material will be capable of being removed in a flood for the duration of any holiday close down period where there is a forecast risk that the Site may be flooded. • Details of the evacuation and Site close down procedures will be displayed in the Site office. • Arrangements for removing any potentially hazardous material and anything capable of becoming entrained in floodwaters, from the temporary works areas will be established. • The Principal Contractor will sign up to Environment Agency flood warning alerts and describe in the Emergency Response Plan the actions it will take in the event of a flood event occurring. These actions will be hierarchical meaning that as the risk increases the Principal Contractor will implement more stringent protection measures. • If water is encountered during below ground construction, suitable dewatering methods will be used. Any groundwater dewatering required in		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	excess of the exemption thresholds will be undertaken in line with the requirements of the Environment Agency (under the Water Resources Act 1991 (as amended)[44] and the Environmental Permitting Regulations 2016[45]. • Safe egress and exits are to be maintained at all times when working in excavations. When working in excavations, a safety foreman is to be present at all times. • An 8m buffer from the EA land ownership boundary in Land Parcel A will be maintained and access provided to the EA for the maintenance of the Crowland and Cowbit Washes Flood Storage Reservoir.		

Table 3-8: Human Health

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Details with respect to mitigation measures relevant to human health, including minimising severance and amenity impacts on relevant receptors, are set out in the following tables: Air Quality (Table 3-2), Table 3-3Landscape and Visual (Table 3-9), Noise and Vibration (Table 3-10), Socio-Economics and Land Use (Table 3-11), and Transport and Access (Table 3-12).			

[44] HMSO (1991). Water Resources Act 1991 (as amended). Available at https://www.legislation.gov.uk/ukpga/1991/57/contents [Accessed 13/10/2025]
[45] HMSO (2016). Environmental Permitting (England and Wales) Regulations 2016. Available at: https://www.legislation.gov.uk/uksi/2016/1154/contents [Accessed 13/10/2025]

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Relevant mitigation measures are also set out in; • **Outline Construction Traffic Management Plan (OCTMP)** (Doc Ref. 7.13) • **Outline Public Rights of Way Management Plan (PRoW-MP)** (Doc. Ref. 7.15) • **Outline Landscape and Ecology Management Plan (OLEMP)** (Doc. Ref.7.16) Relevant enhancement measures are set out in: • **Outline Skills, Supply Chain and Employment Plan** (Doc Ref 7.17).			

Table 3-9: Landscape and Visual

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Loss of existing landscape features, e.g. vegetation. Direct, physical changes to the landscape associated with the visibility of construction activities.	The **Outline Landscape and Ecology Management Plan (OLEMP)** (Doc Ref. 7.16). sets out measures proposed to mitigate the potential impacts and effects on landscape (and biodiversity) features, and to enhance the landscape and biodiversity value of land within the Order Limits. In summary, mitigation measures in the OLEMP include: • Protect retained trees and vegetation via construction exclusion zones and tree protective fencing (see below Tree Works); • Lighting at the minimal levels of lux and luminance as necessary for safe working	Pre-construction tree survey to be undertaken by an Arboriculturist. Specific details will be confirmed in detailed CEMP(s).	Specific Responsibilities to be confirmed in detailed CEMP(s) and **OLEMP** (Doc Ref. 7.16).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Progressive installation of Scheme infrastructure as a new and incongruous element to the landscape.	practices during the temporary construction lighting (see Table 3-5); • Lighting would utilise directional fittings to minimise outward light spill and glare (e.g. via the use of light hoods/cowls which direct light below the horizontal plane, preferably at an angle greater than 20° from horizontal); • Lighting would be directed towards the middle of the Site rather than towards land outside of the Order Limits. • Landscape and biodiversity management and enhancement measures including replacement planting; • Landscape, arborists and ecological clerk of works to ensure that the landscape and ecology requirements of the detailed CEMP(s) are adhered to, and that the construction works are monitored; • Fencing around the work areas within the Solar Development Area will be implemented early in the construction phase; and • An implementation timetable for maintenance and management proposals will be developed, including an annual landscaping maintenance plan.		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	Tree Works • Tree works will be undertaken in accordance with the **ES Appendix 12-8: Arboricultural Impact Assessment** (Doc Ref. 6.3). Should the requirement for additional tree works be identified, this will be discussed with the Project Arboriculturist and no works will be undertaken without the prior consent of the relevant Local Planning Authority. • A pre-construction tree survey will be undertaken, and an Arboricultural Method Statement will be developed for locations where construction works are likely to affect trees. This will include a final Tree Protection Plan which will contain an updated summary of arboricultural impacts associated with the detailed design, a specification for tree works and protection measures, supervision requirements and the methodology for works in proximity to retained trees. These will be taken into account by the appointed Principal Contractor. No ancient or veteran trees will be removed. • All tree work is to follow the principles of British Standard (BS) BS3998: 2010 Tree work –		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	Recommendations[46] and must be carried out by suitably qualified Principal Contractors. • Where works in close proximity to retained trees cannot be practically avoided, these works will be undertaken in accordance with current best practice, defined in BS5837: 2012 Trees[47] 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[48]; and • All necessary protective measures such as fencing or ground protection, will be installed prior to the commencement of any site clearance or construction works and will be approved in advance by the Project Arboriculturist.		

46 BSI (2010). BS3998: 2010 Tree Work – Recommendations.

47 BSI (2012). BS5837: 2012 Trees.

48 The National Joint Utilities Group (NJUG) (2007). Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees.

Table 3-10: Noise and Vibration

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Ground-borne vibration due to construction activities throughout the Solar Development Area, Inter Array Connection and Grid Connection Route causing annoyance at Noise Sensitive Receptors (NSR). Construction traffic, plant and machinery noise at nearby NSR.	Where reasonably practical, measures defined in Annex B of BS 5228-1 and Section 8 of BS 5228-2 will be adopted. Mitigation measures will be put into place to ensure that construction noise is minimised at all times throughout the construction programme. Best Practicable Means (BPM) will be applied, as far as reasonably practicable, during construction works to minimise noise and vibration at NSRs, including, neighbouring residential properties and other sensitive receptors arising from construction activities, including, as appropriate: • Ensuring that all appropriate processes, procedures and measures are in place to minimise noise before works begin and throughout the construction programme. • All contractors to be made familiar with current legislation and the guidance in BS 5228 (Parts 1 and 2)[49] which will form a prerequisite of their appointment.	A construction noise monitoring scheme shall be developed in the detailed CEMP. The detailed CEMP would also set out a scheme for the provision of monthly reporting information during construction to and 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. Noise complaints will be monitored and reported to	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed in the detailed CEMP(s). Monitoring by Environment Manager / Environmental Clerk of Works

[49] BSI (2014). Code of practice for noise and vibration control on construction and open sites – Part 1: Noise and Part 2: Vibration.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• Where reasonably practicable, noise and vibration are controlled at source (e.g. the selection of inherently quiet plant and low vibration equipment), review of the construction programme and methodology to consider quieter methods, consideration of the location of equipment on-site and control of working hours. • Use of modern plant, complying with applicable UK noise emission requirements. • Hydraulic techniques for breaking concrete or rocks to be used in preference to percussive techniques, where reasonably practicable. • Drop heights of materials will be minimised. • Plant and vehicles will be sequentially started up rather than all together. • Off-site pre-fabrication where reasonably practicable. • Use of screening locally around significant noise producing plant and activities. • Regular and effective maintenance by trained personnel will be undertaken to keep plant and equipment working to manufacturer's specifications. • All construction plant and equipment to be properly maintained, silenced where appropriate,	the Applicant for immediate investigation and action. A display board will be installed on-site, and a website will be set up. These will include contact details for the Community Liaison Officer or alternative with whom nuisance or complaints can be lodged. A logbook of complaints will be prepared and managed by the Site Manager. Further details are to be confirmed in the detailed CEMP(s). Section 61 consents would be obtained where noise works are anticipated by the appointed Principal Contractor or work outside of core hours is required.	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	operated to prevent excessive noise and switched off when not in use. • Loading and unloading of vehicles, dismantling of site equipment or moving equipment or materials around the Order Limits to be conducted in such a manner as to minimise noise generation, as far as reasonably practicable. • All vehicles used on-site shall incorporate reversing warning devices as opposed to the typical tonal reversing alarms to minimise noise disturbance where reasonably practicable. • Provision of information to the relevant local authority and local residents to advise of potential noisy works that are due to take place. • Unnecessary revving of engines will be avoided, and equipment will be switched off when not in use. • Plant will always be used in accordance with manufacturers' instructions. Care will be taken to locate site equipment away from noise-sensitive areas. Where reasonably practicable, loading and unloading will also be carried out away from such areas. • Regular liaison meetings will be held with other high-risk construction sites within 500m of the Scheme (or greater, if applicable), to ensure plans	The Section 61 would form the basis of noise limits and monitoring requirements including monitoring locations, noise monitoring methods and frequency, and the noise control measures to be employed.	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	are coordinated and noise and vibration is minimised. It is important to understand the interactions of the off-site transport / deliveries which might be using the same routes. • The exact methodology for trenchless crossing activities will not be finalised until a Principal Contractor is appointed, a hierarchy of mitigation measures will be followed and outlined in the detailed CEMP. • Where trenchless activities may occur within 250m of sensitive receptors at night, the option for open cut cable laying will be explored as an alternative to trenchless methods; • The potential for the use of quieter equipment than listed in **ES Appendix 13-3: Construction and Operational Noise Modelling** (Doc Ref. 6.3) will be explored by the Principal Contractor; and • Depending on the location, plant and timing of works, temporary acoustic fencing will be installed around noise generating plant, as reasonably practicable, to screen receptors from noise emissions. Potential HDD works located between 100 m and 250 m from a sensitive receptor may require temporary acoustic fencing to fully screen noise-generating plant in order to avoid significant noise effects.		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• Prior to construction works being undertaken, liaison will be undertaken with occupiers of sensitive receptors that may be adversely affected by construction noise and vibration. For Peak Particle Velocity (PPV) vibration levels anticipated to exceed 1.0 mm/s, prior warning will be provided on the timings and duration of vibration generating activities. Due to uncertainty in the overhead line routing of neighbouring cumulative developments (ID5 and ID13), the Scheme needs to consider the alternative option of undergrounding the overhead line between High Road and the proposed Weston Marsh B Substation, which is facilitated through Work Number 14 of the **Draft DCO** (Doc Ref. 3.1). Sensitive receptors located within 100 m of any potential HDD works would be likely to experience significant noise effects even following implementation of reasonable and practicable mitigation. Accordingly, no HDD works will take place within 100 m of a residential receptor north of High Road.		

Table 3-11: Socio-Economics and Land Use

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Disruption to local residents, businesses and community facilities due to severance associated with traffic. Impacts on agricultural land holdings. Creation of jobs, including for local workers living with a 60-minute drive time.	The **OCTMP** (Doc Ref. 7.13) sets out measures to mitigate traffic impacts which will reduce access for residents, businesses and community facilities. Sustainable travel for staff will be promoted via a shuttle bus strategy. Also, mitigation and management measures for construction works relating to Transport and Access are included in Table 3-12. **Outline SMP** (Doc Ref. 7.14) sets out how loss of soil material and loss of soil functional capacity for supporting agricultural production will be avoided during construction of the Scheme. **Outline Skills, Supply Chain and Employment Plan** (Doc Ref 7.17) sets out measures to maximise benefits for local residents and businesses, including any proposed employment or skills schemes.	As set out in the **OCTMP** (Doc Ref. 7.13), the **Outline SMP** (Doc Ref. 7.14) and the Transport and Access (Table 3-12) section of this document. As set out in the **Outline Skills, Supply Chain and Employment Plan** (Doc Ref 7.17).	As set out in the **OCTMP** (Doc Ref. 7.13), **Outline SMP** (Doc Ref. 7.14) and the Transport and Access (Table 3-12) sections of this document. As set out in the **Outline Skills, Supply Chain and Employment Plan** (Doc Ref 7.17).

Table 3-12: Transport and Access

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Increased severance, congestion, fear and intimidation to pedestrians and cyclists associated with the increase in HGV and LGV movements. Disruption to the surrounding highway network associated with Abnormal Indivisible Loads (AILs). Increased congestion and driver delay due to travel to and from the Scheme by construction staff.	The **OCTMP** (Doc Ref. 7.13) submitted alongside this DCO Application sets out measures to manage construction traffic within the vicinity of the Order Limits along the local highway network during the construction period of the works, in order to limit any potential disruptions and implications on the wider transport network, as well as for the existing road users. It identifies the management of freight traffic, i.e. Heavy Goods Vehicles (HGVs), as well as staff vehicles. Full details will be provided in the detailed CTMP which is to be produced in general accordance with the **OCTMP** (Doc Ref. 7.13). Measures to manage impacts on PRoWs are set out within the **Outline PRoW Management Plan** (Doc Ref. 7.15). Mitigation measures will include: • Providing suitable points of access for construction vehicles to accommodate swept paths and designed with adequate visibility, with any supporting improvements (e.g. vegetation clearance) to take place within the highway boundary and/ or the Order limits if required; • Delivering internal construction routes through the Solar Development Area, to allow vehicles to access all areas via the site access points;	Set out within the **OCTMP** (Doc Ref. 7.13), including carrying out road condition surveys pre-construction, during construction and post-construction.	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed in the detailed CEMP(s).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Increase in delay to vehicles, pedestrians, cyclists and equestrians due to an increase in vehicle movements and a reduction in pedestrian/ cycle amenity. Change in route connections and amenity for pedestrians, cyclists and equestrians due to the Scheme.	• Providing an internal access track to facilitate the construction of the Grid Connection Route; • Maintaining access to/ along PRoW and Common Land or otherwise providing temporary diversion routes where necessary to seek to avoid any closures or potential conflicts with the Scheme (e.g. for the Grid Connection Route) where reasonably practicable. The diversion routes will be agreed with the local authorities prior to construction. It should be noted that in two cases (Crow/12/1 and Wstn/3/1), a temporary PRoW closure is unavoidable, and in these instances the duration of the closure will be minimised; • Providing sufficient protection/separation between existing PRoW and construction routes where necessary; • Managing areas where the proposed construction route crosses any existing PRoW/ Common Land (where these are unable to be diverted) or local access roads, by maximising visibility between construction vehicles and other users (pedestrians and road users), implementing traffic management with a default priority that construction traffic will give-way to other users. This includes several PRoW/ Common Land crossing points as detailed within the **Outline PRoW-MP** (Doc. Ref. 7.15); • Restricting HGV movements and abnormal loads to certain routes (see HGV Routing Plan in **ES Figure 15-**		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	3 and Abnormal Load Routing Plan in **ES Figure 15-4** (Doc. Ref. 6.2)); • Minimising HGV movements during certain times of the day (e.g. between 07:00 and 09:00, as well as between 17:00 and 19:00), to avoid increasing traffic levels on the surrounding highway network during the SRN network peak hours (defined by National Highways as 08:00 – 09:00 and 17:00 – 18:00); • Shuttle service providing transport between local settlements and the Scheme; • Implementing a Delivery Management System to control the bookings of HGV deliveries from the start of the construction period. This will be used to regulate the arrival times of HGVs via timed delivery slots, as well as to monitor compliance of HGV routing; • Implementing a monitoring system to record the route of all HGVs travelling to and from the Scheme, to record any non-compliance with the agreed routing plan/ delivery hours and to communicate any issues to the relevant suppliers to ensure the correct routes and times are followed; • Developing a communications strategy including regular meetings with contractors to review and address any issues associated with travel to/ from the Scheme, as well as to relay information including any		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	restrictions and requirements which should be followed; • Encouraging local construction staff to car share to reduce single occupancy car trips, by promoting the benefits of car sharing such as reduced fuel costs and by providing dedicated parking spaces for those car sharing within the compounds. A formal Car Share Scheme will be implemented to match potential sharers and to help staff identify any colleagues who could potentially be collected along their route to/ from site; • Providing sufficient (but limited) on-site car parking within the construction compounds to accommodate the expected peak parking demand of construction staff within the site; • Implementing local off-site highway improvements to accommodate construction vehicles and abnormal loads travelling to the Scheme e.g. carriageway widening, pavement protection, removal of street furniture, vegetation clearance including overhanging trees and lifting overheard cables if required (**Outline CTMP** (Doc. Ref. 7.13)); • Positioning of suitably qualified banksmen at the proposed accesses for the Scheme and at internal crossing points, to allow all vehicle arrivals and departures to be safely controlled during the construction period;		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• Vegetation clearance at the proposed access points where required to achieve appropriate levels of visibility at these locations. Drawings showing the proposed access points, visibility splays and swept paths are held within **Outline CTMP** (Doc. Ref. 7.13): • Providing sufficient cycle parking spaces within the site to encourage construction staff to travel by bicycle where viable. The number of spaces provided will be dependent on the compound design; • Should it be necessary, access for emergency vehicles will be achievable via all proposed construction and operational accesses; • A specialised haulage service will be employed to allow abnormal loads to transfer components with the necessary escort, permits and traffic management, with the applicant consulting with the relevant highways authorities to ensure the correct permits are obtained. The Police will also be given advanced notification under the Road Vehicle Authorisation of Special Types Order 2003; and • The opportunity to combine mitigation (including some of the above measures) with any relevant cumulative schemes, such as the Grimsby to Walpole Project and Weston Marsh to East Leicestershire Project, will be explored in order to reduce cumulative impacts during the construction phase. This could include sharing the shuttle service to transport		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	construction workers to/ from multiple sites or sharing construction compounds to consolidate trips.		

Table 3-13: Utilities

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Potential interference with existing utilities infrastructure above and below ground in close proximity to the Scheme.	Measures to minimise the risk of damage to utilities during construction will include: • Infrastructure that crosses the Scheme will be mapped and avoided through the detailed design, where reasonably practicable. • Where existing utilities cannot be avoided or where works are required within or across the easement zones of these utilities, consultation and agreement of detailed design, mitigation and construction methods will be sought with the relevant statutory undertakers prior to works commencing in accordance with the protective provisions included in the **draft DCO** (Doc Ref. 3.1).	To be included in the detailed CEMP(s).	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed in the detailed CEMP(s).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• Ground penetrating radar, trial trenching or other appropriate techniques will be used before excavation to identify any known and unknown utilities. • Measures to prevent damage to Anglian Water assets from construction activities, plant and machinery, including potential impacts associated with compaction and vibration will be implemented. This will include consideration of the location and construction of haul and access roads, bellmouths and crossings, with appropriate measures implemented, where required, to protect Anglian Water assets during construction. • Protective provisions are included within the **Draft DCO** (Doc Ref. 3.1) for statutory undertakers whose assets may be affected, and further bespoke protective provisions are being negotiated with statutory undertakers where necessary.		

Table 3-14: Other Environmental Topics - Major Accidents and Disasters

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
All works will be undertaken in accordance with relevant Health and Safety legislation and guidance. Details of fire, police, emergency services and hospitals will be publicised and included in the Site induction.			

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Further risks of major accidents and disasters are covered in: Climate Change (Table 3-3), Hydrology and Flood Risk (Table 3-7), Transport and Access (Table 3-12), and Utilities (Table 3-13).			

Table 3-15: Other Environmental Topics - Materials and Waste

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
Disposal of waste. Potential to impact on available landfill capacity. Potential to impact on sensitive receptors (humans, wildlife and controlled waters) if waste is not stored and managed appropriately.	The Scheme will prioritise waste prevention, followed by preparing for reuse, recycling and recovery and lastly disposal to landfill as per the waste hierarchy. All management of waste will be in accordance with the relevant regulations and waste will 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. A SWMP will be developed in accordance with the **Outline Site Waste Management Plan (OSWMP)** (Doc Ref. 7.19), submitted with the DCO Application, to set out: • The waste streams that will be generated; • How the waste hierarchy will be applied to these wastes; • Good practice measures for managing waste and materials;	The types, quantities and final destination of waste generated during the construction phase will be identified, measured and recorded through the SWMP. A register of all waste loads leaving the Order Limits will be maintained to provide a suitable audit trail for compliance purposes and to facilitate monitoring and reporting of waste types, quantities and management methods.	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed in the detailed SWMP and CEMP.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Responsibility
	• Roles and responsibilities for waste management; and Waste recovery targets. Further requirements for materials and waste management are set out within the **OSWMP** (Doc Ref. 7.19).		

4. Complementary Plans and Procedures

4.1.1. In addition to this OCEMP, the following plans submitted with the DCO Application provide requirements for the construction works:

- **Outline Soil Management Plan (OSMP)** (Doc Ref. 7.14);
- **Outline Public Rights of Way (PRoW) Management Plan** (Doc Ref. 7.15);
- **Outline Construction Traffic Management Plan (OCTMP)** (Doc Ref. 7.13);
- **Outline Landscape and Ecology Management Plan (OLEMP)** (Doc Ref. 7.16);
- **Outline Skills, Supply Chain and Employment Plan (OSSCEP)** (Doc Ref. 7.17); and
- **Outline Site Waste Management Plan (OSWMP)** (Doc Ref. 7.19).

4.1.2. Alongside the detailed CEMP, a suite of complementary environmental plans and procedures for the construction phase will be developed, as discussed in the sections above:

- Emergency Response Plan;
- Dust Management Plan;
- Archaeological Mitigation and Management Strategy;
- Water Management Plan;
- WFD Mitigation and Enhancement Strategy;
- UXO Emergency Response Plan;
- Silt Management Plan; and
- Arboricultural Method Statement and Tree Protection Plan.

4.1.3. These plans and procedures will build on the principles and procedures set out in this OCEMP and described in the ES. These supporting and supplementary plans and procedures will be clearly outlined in the detailed CEMP(s) and cross referenced.

5. Implementation and Operation

5.1.1. The CEMP(s) will set out all roles, responsibilities and actions required in respect of implementation of the measures described in this OCEMP, including:

- An organogram showing team roles, names and responsibilities;
- Training requirements for relevant personnel on environmental topics;

- Information on-site briefings and toolbox talks that will be used to equip relevant staff with the necessary level of knowledge to follow environmental control procedures;
- Measures to advise employees of changing circumstances as work progresses;
- Communication methods;
- Document control;
- Monitoring, inspections and audits of site operations; and
- Environmental emergency procedures.

6. Checking and Corrective Action

6.1. Monitoring

6.1.1. To meet the requirement of the detailed CEMP(s), environmental monitoring of the Scheme and its impacts will be undertaken throughout the construction phase.

6.1.2. As part of the monitoring process the Principal Contractor will allocate a designated Environment Manager, who will be present on-site throughout the construction process and when new activities are commencing. The Environment Manager will observe site activities and report any deviations from the detailed CEMP(s) in a logbook, along with the action taken and general conditions at the time. The Applicant will be informed of any deviations from the detailed CEMP(s) as soon as reasonably practicable following identification of such issues. The Environment Manager would also act as day-to-day contact with relevant local authorities and other regulatory agencies, such as the Environment Agency.

6.1.3. During construction, the Environment Manager will conduct walkover surveys to ensure all requirements of the detailed CEMP(s) 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.

6.1.4. The Environment Manager/Project Manager will arrange regular formal inspections to ensure the requirements of the detailed CEMP(s) are being met. After completion of the works, the Environment Manager will conduct a final review.

6.2. Records

6.2.1. The Environmental Manager/Project Manager will retain records of environmental monitoring and implementation of the detailed CEMP(s). This will allow provision of evidence that the detailed CEMP(s) are being implemented effectively. These records will include:

- Environmental Action Schedule;
- Licences and approvals;
- Results of inspections by Environment Manager/ Project Manager;
- Other environmental surveys and investigations; and
- Environmental equipment test records.

6.2.2. The detailed CEMP(s) will be updated as necessary, with a full review as required (at least quarterly) throughout the construction period.

6.2.3. A brief report will be produced and submitted to the relevant local authorities on a quarterly basis and following completion of commissioning. This will summarise the monitoring process, observed deviations from the detailed CEMP(s) and the corrective actions taken.

7. Management Review

7.1.1. The detailed CEMP(s) will be signed off on completion of the construction works and will form the basis of the OEMP, which will be used to manage the environmental performance of the Scheme through operation.