

Tillbridge Solar Project EN010142

Volume 7 Framework Construction Environmental Management Plan Document Reference: EN010142/APP/7.8

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1. Introduction

1.1 Background

- 1.1.1 Tillbridge Solar Ltd (hereafter referred to as 'the Applicant') is seeking consent for the construction, operation and decommissioning of the Tillbridge Solar Project (hereafter referred to as the 'Scheme'). This will require an application for a Development Consent Order (DCO), which has been submitted to the Planning Inspectorate, with the decision of whether to grant a DCO being made by the Secretary of State for Energy Security and Net Zero (Secretary of State) pursuant to the Planning Act 2008 (PA 2008) (Ref. 1) (hereafter referred to as the 'Application').
- 1.1.2 This Framework Construction Environmental Management Plan (CEMP) has been prepared to accompany the Environmental Statement (ES) **[EN010142/APP/6.1]** and presents a framework for the management of environmental impacts during the construction phase of the Scheme, with the aim to provide a clear and consistent approach to environmental mitigation during construction.
- 1.1.3 If the Application is approved, a detailed CEMP will be produced for the Scheme following the appointment of a Principal Contractor in accordance with a requirement of the DCO and prior to commencement of construction. The detailed CEMP will be required to be in substantial accordance with the measures included in this Framework CEMP, and approved the relevant planning authorities.
- 1.1.4 This document does not address operational or decommissioning activities, which would be subject to separate environmental management plans and procedures. A **Framework Operational Environmental Management Plan (OEMP) [EN010142/APP/7.9]** and a **Framework Decommissioning Environmental Management Plan (DEMP) [EN010142/APP/7.10]** have been prepared to accompany the Application and will be secured as necessary through a requirement of the DCO.
- 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) (Ref. 2). In accordance with the requirements of the EIA Regulations, the ES contains the assessment of the likely significant effects on the environment that may be caused during the construction phase of the Scheme and describes a range of 'industry standard' or best practice mitigation and construction management measures.
- 1.1.6 This Framework CEMP 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 Framework CEMP.

- 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). This Framework CEMP is designed with the objective of ensuring compliance with the relevant environmental mitigation measures set out within the ES.
- 1.1.9 The key elements of this Framework CEMP include:
- An overview of the Scheme and associated construction programme;
 - Prior assessment of environmental impacts (through the EIA);
 - Reduction of potential adverse impacts through design and other mitigation measures;
 - Monitoring of effectiveness of mitigation measures;
 - Corrective action procedure; and
 - Links to other complementary plans and procedures.
- 1.1.10 In summary, this Framework CEMP identifies how commitments made in the EIA will be translated into actions during Scheme construction and includes a process from implementing the actions through 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 Framework CEMP, pursuant to the DCO.
- 1.1.12 This Framework CEMP has been designed with the objective of compliance with the relevant environmental legislation and the mitigation measures set out within the ES. Any additional licences, permits or approvals that are required will be listed in the CEMP(s), including any environmental information submitted in respect of them.
- 1.1.13 This document ~~has been~~was updated to take into account comments raised by Interested Parties through their relevant representations. At Deadline 3, this document ~~has been~~was updated in response to the Examining Authority's First Written Questions. At Deadline 5, this document was updated in response to the Examining Authority's Second Written Questions and comments received from the Environment Agency. The document references have not been updated from the original submission. For the most up-to-date documents, the reader should access these through the **Guide to the Application [EN010142/APP/1.2(Rev05Rev07)]** and Schedule 13 of the **draft DCO [EN010142/APP/3.1(Rev04Rev06)]**.

1.2 Scheme Description

- 1.2.1 The Scheme will comprise the construction, operation (including maintenance), and decommissioning of ground-mounted solar photovoltaic (PV) arrays. The Scheme will also include associated development to support the solar PV arrays.
- 1.2.2 The Scheme is made up of the Principal Site, the Cable Route Corridor and works to the existing National Grid Cottam Substation. The Principal Site

comprises the solar PV arrays, electrical substations, grid balancing infrastructure, cabling and areas for landscaping and ecological enhancement.

- 1.2.3 The associated development element of the Scheme includes but is not limited to access provision; a Battery Energy Storage System (BESS), to support the operation of the ground mounted solar PV arrays; the development of on-site substations; underground cabling between the different areas of solar PV arrays; and areas of landscaping and biodiversity enhancement.
- 1.2.4 The Scheme also includes a 400kV underground Cable Route Corridor of approximately 18.5km in length connecting the Principal Site to the National Electricity Transmission System (NETS) at the existing National Grid Cottam Substation. The Scheme will export and import electricity to the NETS.
- 1.2.5 A full description of the Scheme is included in **Chapter 3: Scheme Description** of the ES [EN010142/APP/6.1]. An overview of the Scheme and its environmental impacts is provided in the ES **Non-Technical Summary** [EN010142/APP/6.4].

2. Construction Environmental Management and Programme

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 in managing environmental impacts will likely include, but are not limited to:
- a. **Principal Contractor** – Appointed by the Applicant to construct the Scheme.
 - b. **Site Manager** – Overall responsibility for activity on-site and will be based on-site full time.
 - c. **Construction Project Manager** – Overall responsibility for ensuring all elements in the DCO, CEMP(s) and all environmental legal and other requirements are implemented, and appropriately resourced, managed, reviewed and reported.
 - d. **Environment Manager** – Responsible for the overall management of environmental aspects on-site, ensuring environmental legislation and best practices are complied with, and environmental mitigation and monitoring measures identified are implemented. The Environment Manager will oversee environmental monitoring on-site and carry out regular environmental site inspections, reporting and responding to any incidents or non-compliance. The Environment Manager will liaise with relevant environmental bodies and other third parties as appropriate.
 - e. **Environmental Clerk of Works (ECOW)** – Oversee the management of and providing advice about environmental risks during construction including, for example, management of protected species, surface water management, pollution, air quality and noise. This role may be merged with Environment Manager and /or Flood Warden.
 - f. **Ecological Clerk of Works (EcoCoW)** – Management of the risks to biodiversity on construction sites, advising protecting valued biodiversity features and providing practical solutions.
 - g. **Flood Warden** – There will be a dedicated responsibility to be prepared for, and manage, the response to flood incidents and warnings, by using the Floodline Warnings Direct or equivalent service.
 - h. **Health and Safety Manager** – Responsible for the monitoring and controlling of health and safety compliance and related rules and regulations on-site.
 - i. **Community Liaison Officer** – A Community Liaison Group will be set up in accordance with the relevant DCO requirement prior to construction and will continue through until final commissioning of the Scheme as a formal forum for local issues to be raised. A Community

Liaison Officer will be appointed to lead discussions with local communities, and also act as the primary point of contact should there be any queries or complaints.

- 2.2.2 These roles and responsibilities are indicative and will be confirmed in the detailed CEMPs.

2.3 Construction Programme

- 2.3.1 The current expectation is that construction of the Scheme will take between 24-36 months.

- 2.3.2 Allowing sufficient time to receive consent and to discharge the DCO Requirements, it is anticipated that the earliest that site preparation and enabling works on-site for the Scheme would start is late 2025. The construction phase is anticipated to be a minimum of 24 months and a maximum of 36 months. The peak construction year for the purpose of the EIA is anticipated to be 2026; this assumes commencement of construction in 2025 and that the Scheme is built out rapidly over a 24-month period, with all sites constructed concurrently.

- 2.3.3 The construction of the Cable Route Corridor will be undertaken in four concurrent phases over the construction programme. It is anticipated that each phase would have a dedicated team for the trenched cable element and there would be an additional two teams dedicated to construction of the trenchless crossings. The detailed sequencing will be determined by the Principal Contractor, once appointed, however, it is anticipated that one team would start at National Grid Cottam Substation and one at Substation B within the Principal Site with the other two starting at separate points along the Cable Route Corridor. The individual cable route teams will travel to construction compounds within their dedicated works area and therefore, there will be limited overlap of construction traffic along the local highway network by the four construction teams. The only overlap of teams along the local highway network would be where two work areas join. It is anticipated that this would not be for more than two months.

- 2.3.4 More details on the 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 07:00 to 13:00 on Saturday (with working days comprising one 6-hour shift), and employees travelling to and from the Order limits outside these times. Where on-site works are to be conducted outside the core working hours they will comply with the restrictions stated in the CEMP and any other restrictions agreed with the relevant planning authorities. No construction activities will take place on Bank Holidays and Public Holidays.

2.5 Control of Noise

- 2.5.1 Consents under Section 61 of the Control of Pollution Act 1974 (Ref. 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.

2.6 Control of Light

- 2.6.1 Construction temporary site lighting, in the form of mobile lighting towers with a power output of 8 kilo volt-amperes (kVAs), 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:
- a. The use of lighting will be minimised to that required for safe site operations;
 - b. 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
 - c. Lighting will be directed towards the middle of the Order limits rather than towards land outside of the boundaries.

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 **Framework Construction Traffic Management Plan (CTMP) [EN010142/APP/7.11]** and **Framework Public Rights of Way Management Plan [EN010142/APP/7.16]** submitted alongside the Application.
- 2.7.2 The **Framework CTMP [EN010142/APP/7.11]** 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)), as well as staff traffic to the car parks located on the Principal Site.
- 2.7.3 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 DCO. 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.

- 2.7.4 In the event that the construction schedules associated with this Scheme and other schemes in the area overlap (i.e. with the Cottam Solar Project, West Burton Solar Project and the Gate Burton Energy Park), a joint Construction Traffic Management Plan (Joint CTMP) could be produced as set out under Section 8.5 of the **Framework CTMP [EN010142/APP/7.11]**. This would set out construction traffic management and control measures relevant to those areas where the construction vehicle routes for the schemes would overlap, to reduce and manage any potential cumulative effects.

2.8 Parking Provision

- 2.8.1 Car parking for the Principal Site will be capped at a maximum of 500 spaces, off the main access routes during construction. The Scheme is to provide shuttle bus services to transfer staff to and from the Principal 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. Workers will utilise these car parks and will be transported to the various locations within the Principal Site via minibus shuttle service; refer to **Framework CTMP** submitted alongside the Application **[EN010142/APP/7.11]**. Smaller parking areas will be provided for the Cable Route Corridor staff at each compound.
- 2.8.2 A self-contained wheel wash will be installed at every access point to be used by vehicles prior to exiting the Principal Site onto the public highway if there is mud or debris on the construction site.

2.9 Recovery, Recycling and Disposing of Waste

- 2.9.1 In order to control the waste generated on-site during site 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 recycling, recovery or disposal.
- 2.9.2 A Construction Resource Management Plan (CRMP) (also referred to as a Site Waste Management Plan) will be prepared by the Principal Contractor, which will specify the waste streams to be estimated and monitored and goals set with regards to the waste produced. The CRMP will be finalised with specific measures to be implemented prior to the start of construction, in accordance with a requirement of the DCO.
- 2.9.3 The Waste Duty of Care will be followed for all waste generated on-site. 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) (Ref. 4) and the Hazardous Waste (England and Wales) Regulations (2005) (Ref. 5). The Scheme will apply the waste hierarchy, in priority order; prevention, preparation for reuse, recycled, other recovery and disposal.

2.10 Responding to Environmental Incidents and Emergencies

- 2.10.1 An Emergency Response Plan (ERP) will be developed 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 events.
- 2.10.2 The ERP will detail the procedures for responding to incidents and emergencies on site, and any reporting and will include details of the evacuation plans for the site on receipt of a flood warning.

2.11 Consents, Licences and Permits

- 2.11.1 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.

2.12 Best Practice Measures

- 2.12.1 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.

2.13 Security

- 2.13.1 Site security during construction will be managed by the Principal Contractor(s). The site security fencing will remain in place throughout the duration of the construction period. Any storage of materials will be kept secure to prevent theft or vandalism. A safe system for accessing the materials storage areas would be implemented by the Principal Contractor(s).
- 2.13.2 There will be designated security staff during construction who will manage the Order limits and patrol the perimeter.

3. Management and Mitigation Plan

3.1.1 This section of the Framework CEMP sets out the mitigation and management 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: 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 may 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 Scheme. This may be the environment manager/engineer or the Site manager. - Display the head or regional office contact information. - Develop and implement a Dust Management Plan (DMP) (which will be produced post consent), which may include measures to control other emissions, approved by the Local Authority. The DMP may include monitoring of dust deposition, real-time PM₁₀ continuous monitoring and/or visual inspections. 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.	Measures in the detailed CEMP(s) will include: - Undertaking 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. 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	Monitoring by Environment Manager / Environmental Clerk of Works

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	• Make the complaints log available to the local authority when asked. • Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the logbook. • Hold regular liaison meetings with other high-risk construction sites within 500m of the Scheme (or greater, if applicable), to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/ deliveries which might be using the same strategic road network routes. Preparing and Maintaining the site • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is practicable. • Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period where construction activities are within 100m of receptors. • Avoid site runoff of water or mud. • Keep site fencing, barriers and scaffolding clean using wet methods. • Remove materials that have a potential to produce dust from the Scheme as soon as possible, unless being reused on-site. If they are being reused on-site cover as described below. Operating vehicle/machinery and sustainable travel • Ensure all vehicles switch off engines when stationary - no idling vehicles.	to the local authority when asked. • 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
	• Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable. • Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate). • Produce a Construction Traffic Management Plan to manage the sustainable delivery of goods and materials. • Implement an integrated Travel Plan within the Traffic Management 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 from temporary water tanks where practicable and appropriate. Opportunities for rainwater harvesting for non-potable water supply will be explored. • Ensure equipment is readily available on-site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.		
	Waste		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	- Burning of waste or unwanted materials will not be permitted on-site. Earthworks - Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable. - Use Hessian, mulches or tackifiers where it is not practicable to re-vegetate or cover with topsoil, as soon as practicable. - Only remove the cover in small areas during work and not all at once. Construction - Avoid scabbling (roughening of concrete surfaces) where practicable - 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 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. This may require the sweeper being continuously in use. - Avoid dry sweeping of large areas.		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	• Ensure vehicles entering and leaving sites are covered 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 logbook. • Implement temporary matt covered haul routes, which are regularly damped down with fixed or mobile sprinkler systems (sourced via water from the temporary water tanks) and regularly cleaned. • 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 practicable.		

Table 3-2: Climate Change

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
Greenhouse Gas (GHG) emissions associated with the manufacture of battery and solar PV components.	Appropriate standard and best practice control measures will be included in the detailed CEMP(s), which may include, but not be limited to: - 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 and maximise the use of alternative materials with lower embodied carbon, such as locally sourced products and materials with a higher recycled content where feasible; - Reusing suitable infrastructure and resources where practicable to minimise the use of natural resources and unnecessary materials (e.g. reusing excavated soil for fill requirements); - Liaising with construction personnel for the potential to implement staff minibuses and car sharing options; - Implementing measures in accordance with the Framework CTMP submitted alongside the DCO [EN010142/APP/7.11] to reduce the volume of construction staff and employee trips to the Scheme, while encouraging the use of lower carbon modes of transport by identifying and communicating local bus connection and pedestrian/cycle access routes to/from the Scheme to all construction staff, and providing appropriate facilities for the safe storage of cycles; - Switching vehicles and plant off when not in use and ensuring construction vehicles conform to current emissions standards; and	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).
GHG emissions associated with water, energy and fuel use for construction activities, transportation of materials and workers to the Order limits and the transportation and disposal of waste.			Monitoring by Environment Manager / Environmental Clerk of Works.

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	Conducting regular planning maintenance of the construction plant and machinery to optimise efficiency.		
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 may include, but not be limited to: - Topsoil and other construction materials will be stored outside of the 1-in-100 year floodplain extent where feasible. If areas located within Flood Zone 2/3 are to be utilised for the storage of construction materials, this would be done in accordance with the applicable flood risk activity permits, 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 practicable. - During 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. - The construction laydown area site office and supervisor will be notified of any potential flood occurring by use of the Floodline Warning Direct or equivalent service.	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.

Table 3-3: 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 associated with increased visual and noise intrusion.	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: - Avoidance – where 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 Principal Site 26 Sensitive Archaeological sites have been identified, their location and extent informed by the results of the baseline surveys and archaeological evaluation (see Figure 3-1 of the ES [EN010142/APP/6.3]. These areas have been defined to preserve archaeological remains and will be excluded from development and photovoltaic panels. - Within the Cable Route Corridor extensive archaeological remains identified by surveys and archaeological evaluation undertaken for an adjacent solar project east of Cow Pasture Lane, Cottam. The remains will be avoided and preserved through the use of a trenchless crossing rather than open cut trenching (Figure 3-11 of the ES [APP-140]). - Reduction – areas of soft landscaping around parts of the perimeter of the Scheme have been built into	All archaeological work will be undertaken in line with an Archaeological Mitigation Strategy (AMS). Site specific Written Schemes of Investigation (WSI) will be submitted and agreed with 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
	the design of the Principal Site. The aim is to screen the panel arrays and associated infrastructure from view and thus reduce impact upon the settings of sensitive heritage assets. • A programme of archaeological mitigation will be set out in an Archaeological Mitigation Strategy post-DCO submission. • An outline process for dealing with the unexpected discovery of archaeological remains during construction will be set out in the Archaeological Mitigation Strategy and/or Principal Contractor's detailed CEMP. • Other mitigation during construction may include, but are not limited to, siting haulage and access routes away from sensitive receptors, use of low noise generators, placement of security and work lights to minimise light spill with sympathetic screening of works. • Appropriate setbacks have also been incorporated into the Scheme design, limiting visibility from key routes through the landscape. Buffer areas have been included around sensitive heritage assets where practicable to ensure they are excluded from the Scheme footprint and are not directly impacted by the Scheme. • Within the Cable Route Corridor, the proposed cable route alignment will account for the following: - a 20m buffer zone in which no construction activity will take place will be established along		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	the northern side of the Fleet Plantation scheduled monument [NHLE 1008594]; - the use of trenchless methods to install the high-voltage (HV) cables rather than open cut trenching avoidance/preservation buried peat deposits [MNT27156] of potential Neolithic date within the floodplain of the River Trent; and - the use of trenchless crossing rather than open cut trenching (Figure 3-11 of the ES [APP-140]) to avoid impacts to the extensive complex of Iron Age and Romano-British enclosures, field system and trackway [MNT4983; AEC032] east of Cow Pasture Lane, Cottam.		

Table 3-4: 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 installation of the Scheme.	Appropriate standard and good practice control measures will be included in the detailed CEMP(s), which may 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, such as dust suppression and pollution prevention, to ensure no indirect impacts occur.	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 ecology survey findings.	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed in the detailed CEMP(s).
Habitat degradation resulting in the reduction in the condition of a habitat and its suitability for some or all of the species it supports.	Implementation of measures to avoid animals being injured or killed within construction working areas, through excluding them from such areas and preventing them from falling into and becoming trapped in excavations. No excavations will remain open overnight and if excavations are required to be left open, ramps will be provided to allow animals a means of escape.		Monitoring by Ecological Clerk of Works.
Species mortality associated with mortalities due to construction activities, for example site clearance.	- Existing watercourse crossing points will be used for construction access, where practicable, to avoid additional watercourse crossings being required. - Within the Cable Route Corridor, the crossing of the River Trent will be undertaken using trenchless methods (Figure 3-11 of the ES [APP-140]) to lay cabling, therefore avoiding impacts to watercourses, including the Coastal and Floodplain Grazing Marsh either side of the River Trent, with		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
Introduction of invasive species due to the movement of personnel, equipment and plant machinery.	launch and exit pits located outside of this habitat, which is considered sufficient to mitigate for potential hazards such as chemical and soil spills into watercourses and avoid potential direct impacts to the River Trent, the Coastal and Floodplain Grazing Marsh and Otter, which potentially use the river for commuting and foraging. Launch and exit pits for the River Trent crossing will be located outside the floodplain, behind its flood defences, which are at a distance of approximately 250m to the west and 400m to the east of the watercourse edge respectively. - 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 being necessary at detailed design stage. Habitat Avoidance Measures From the outset, the Scheme has been designed to avoid key nature conservation and ecological features present within or adjacent to the Order limits. Accordingly, the following buffers from key habitat features have been applied: - All woodland – at least 15 m; - 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 Appendix 12-7: Arboricultural Impact Assessment of the ES [EN010142/APP/6.2];		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	- Watercourses (where practicable) – at least 10 m from the bank-top of the watercourse; - Standing water – at least 20 m; - Standing water supporting Great Crested Newt – at least 50 m; and - Hedgerows – where practicable, at least 5 m.		
	Vegetation Clearance Vegetation clearance will be undertaken in advance of construction and at an appropriate time of year so as to avoid incidental injuring or killing of reptiles and amphibians (if present), concordant with the requirements for other species, such as nesting birds and Brown Hare. Vegetation clearance will avoid the nesting bird period, where practicable i.e. March to August (inclusive), and at an appropriate time of year so as to avoid incidental injuring or killing of reptiles and amphibians including Great Crested Newts. 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. 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. In areas where Great Crested Newt have been identified, any habitat features within such areas which may conceal sheltering individuals such as log piles,		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	rubble mound bunds will not be dismantled during their inactive season (November to February inclusive). Hedgerow removals required are shown indicatively on the Hedgerow Removal Plan [EN010142/APP/2.9]. Along the Cable Route Corridor, alternative removals are presented depending on the final alignment of the cable, of these only one alignment route and set of hedgerow removals will be implemented. Security Perimeter Fencing A security perimeter fence will be implemented early in the construction phase to secure the Order limits and prevent 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. Equally, in some locations, gaps will be avoided to allow the security fencing to act as an anti-predator fence, particularly in areas targeted at providing habitat for ground-nesting birds. Furthermore, any excavations will be covered, or a means of escape (such as a ramp) will be implemented. No excavations will remain open overnight. Methods for Watercourse Crossing During construction of the Cable Route Corridor, the River Trent and the majority of smaller watercourses (Figure 10-5: Watercourses, Flood Zones and Internal Drainage Boards of the ES [EN010142/APP/6.3]) will be crossed using trenchless (non-intrusive) methods (e.g. trenchless techniques that would not disturb the watercourse) (Figure 3-11 of the ES [APP-140]). Trenchless crossings up to a maximum depth of 3 m (and even deeper for the River Trent and River Till– see below) have been		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	assumed. A minimum depth of 3 m below the bed of watercourses is required, to avoid any impacts, excluding the River Trent and River Till where cables will be installed by trenchless methods at a minimum of 5 m and maximum of 25m below the lowest surveyed point of the riverbed, to prevent the mobilisation of silt from the riverbed. Benefits of this depth also include avoiding impacts on fish species and navigational safety. The cable depth below the bed of River Trent and River Till is expected to be a maximum of 25 m (depending on the final ground investigation, and subject to appropriate consents being obtained). Setbacks of at least 10 m from the water's/channel edge from all watercourses is considered sufficient to mitigate for potential hazards such as chemical and soil spills into watercourses and avoid potential direct impacts to watercourses, as well as Otter, which occasionally use the River Trent for commuting and foraging. A full list detailing crossing methods and an explanation of these techniques is provided in Chapter 10: Water Environment of the ES [EN010142/APP/6.1]. However, there are 18 watercourse crossings that could require open cut installation techniques. For these crossings it is assumed that water flow would be maintained by damming and over pumping. These watercourses are generally ephemeral ditches and if works are carried out in the drier months this would reduce the risk of pollution propagating downstream, although this cannot be guaranteed. Where intrusive crossing techniques are used, a pre-works hydro-morphological survey will be undertaken to record channel features and provide the baseline against which reinstatement will be provided. Reinstatement will aim to provide an improved channel form with reinstatement works to be carried out (where relevant and appropriate to do so) between 5 and 10 m		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	upstream and downstream of the open trench to ensure the reinstated improved channel form merges into the existing channel form. It is anticipated that enhancements will consist of soft engineering techniques and improvements to the riparian corridor to improve channel diversity and biodiversity. Wildlife Legislation Compliance To comply with relevant wildlife legislation, pre-construction surveys, such as Phase 1, badger and/or bat walkovers (if roost features are impacted), will be undertaken to support the baseline survey findings. The purpose of these preconstruction surveys is to ensure mitigation during the construction phase is based on the latest protected species and invasive species information. During construction, Reasonable Avoidance Measures (RAMs), including appropriate buffers (of up to 30 m) around any identified Badger setts, or trees with bat roost potential (a buffer of 15 m) throughout the Scheme (e.g., from solar arrays and along the Cable Route Corridor) will be implemented.		
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 with respect to minimising light spill into habitats and temporary construction lighting, in the form of mobile lighting towers with a power output of 8 kilo volt-amperes (kVAs), will be required in areas where natural lighting is unable to reach (sheltered/confined areas) and during core working hours within winter months but 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 and security;	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
	- Lighting will be controlled by infrared settings; - 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 Order limits rather than towards the boundaries.		Monitored by the Ecological Clerk of Works.
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 e.g., through siting construction routes away from designated sites, incorporating suitable buffer zones and erection of temporary construction fencing to avoid incursion into exclusion zones. The Scheme has been designed to minimise impacts on the Local Wildlife Sites (LWS), through careful positioning of Site accesses along the Cable Route Corridor which utilise existing field accesses and avoid the need for direct loss of habitat associated with the LWS. Site accesses are secured through compliance with the Street, Rights of Way and Access plans submitted alongside the Application [EN010142/APP/2.4]. A security perimeter fence will be implemented early in the construction phase to secure the Order limits and prevent construction activity from intruding into the LWS.	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
Additional site and species specific mitigation measures			
Impacts on designated sites	Ashton's Meadow Site of Special Scientific Interest (SSSI) As set out within the Framework Construction Traffic Management Plan (CTMP) [EN010142/APP/7.11], there are no routes for construction traffic that pass within 200 m of the SSSI, thus avoiding any potential degradation to sensitive habitats from vehicle pollutants. Willingham to Fillingham Road Verges LWS To limit disturbance to habitat inside the LWS during construction, the working area will be kept to a minimum of 5 m inside the LWS and no spoil, materials or vehicles will be stored within the LWS. Once the cable(s) have been installed, the removed soil and turfs from the LWS (stored separately to that of adjacent fields) will be backfilled and replaced promptly, retaining the original topsoil and seed bank. A new temporary construction access track into the fields along Willingham Road will be required. However, reinstatement will be undertaken after construction, with the removed soil and turfs from the LWS replaced promptly once cable laying has ceased. A security perimeter fence will be implemented early in the construction phase to secure the Order limits and prevent construction activity from intruding into the remainder of the LWS. Upton Grange Road Verges LWS A security perimeter fence will be implemented early in the construction phase to secure the Order limits and prevent construction activity from intruding into the LWS. Cow Pasture Lane Drains LWS	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
	The laying of cabling through Cow Pasture Lane Drains LWS will be undertaken using non-intrusive methods, with setbacks of at least 10 m from the bank-top of the drain to protect riparian habitats and the adjacent hedge. This setback will mitigate for potential hazards such as chemical and soils spills into the watercourse, thus avoiding potential direct impacts to the LWS and riparian habitats. Any access that is required for construction of the Cable Route Corridor will utilise existing access tracks, such as the track that runs alongside Cow Pasture Lane Drains LWS, to the east. Any access to the western side of Cow Pasture Lane Drains LWS will, principally, seek to avoid crossing of this LWS although there is potential for a temporary Bailey bridge to be placed over the LWS to facilitate any crossing. Vegetation clearance in these areas will also be minimised as much as is practicable. Construction compounds will be setback from any LWS with a minimum 10 m from the bank-top of the watercourse, with security fencing implemented at an early stage to ensure incursion into this LWS does not occur. Roadside Nature Reserves To ensure the long term conservation of Roadside Nature Reserve (RNR) sites, Lincolnshire Wildlife Trust recommends the following mitigation measures be implemented: Pre-work phase steps: • Ensure a site-specific method statement has been agreed by stakeholders (LCC, LWT and Natural England as relevant); • Brief all contractors before work commences on the extent of RNR and mitigation measures required;		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	- No parking on the designated site or running other vehicles over the site. Use signage, cones, cordon rope; - Minimise the number and size of excavations; - Minimise the size of plant machinery, if used; - Avoid working in soft ground conditions; - Avoid working during frosts in order to minimise damage to plants in disturbed turf; - Reduce ground pressure and disturbance with use of tracking mats; Work phase steps: - Minimise distance travelled across turf and avoid turning on the turf; - Before excavating deeper, strip turves carefully and store; - Strip turves by cutting to a full spade blade's depth or use a tracked mini excavator to excavate turves to at least 200mm depth to prevent drying out; - Store stripped turves on tarpaulins green side up but avoid covering turf beneath for more than 2 weeks. Turves should not be stacked on top of one another to allow access to light; - Store excavated soil/stone materials separately preferably in a trailer/ existing hardstanding. All excavated top soil to be stored separately from the excavated sub-soil and replaced in the order in which they were excavated to assist the re-establishment of the natural vegetation; - Use tarpaulins to loosely cover the turves so that roots are not exposed to wind; and		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	Do not add fertiliser, use herbicides, or expose this site to any other chemicals.		
Impacts on habitats and protected and notable species	Running water Where practicable, site surface water will drain from the Scheme's Sustainable Drainage Systems (SuDS) based drainage system to local receiving watercourses via a new ditch 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 crossings (Figure 3-11 of the ES [APP-140]), 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 is required during construction. Open-trenching for pipeline crossings will be avoided and trenchless methods undertaken, for all watercourse crossings and where practicable. Fish Where construction activities have the potential to directly impact fish, the following best practice methods will be followed: - Avoidance of key fish migration timings wherever practicable e.g., avoiding key fish migration seasons (e.g., April to June for European Eel); - Where 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-hour;	To be confirmed in detailed CEMP(s). Pre-construction surveys will be undertaken for Great Crested Newts, reptiles, breeding birds, bats, otter, water vole, badger, and invasive species to validate and, where necessary, update the baseline ecology survey findings. <u>It is accepted that species populations and distributions can fluctuate and change over time, and therefore, the requirement for mitigation should be based on current data at the time of the activity.</u> <u>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</u>	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
	- All cables will be installed at a minimum of 2m below the bed of watercourses, excluding the River Trent and River Till where cables will be installed by trenchless methods at a minimum of 5m and maximum of 25m below the bed to prevent disturbance to fish species; and - 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. - Implementation of pollution prevention measures as set out in this Framework CEMP. Great Crested Newt: - To mitigate against harm to any amphibians present, the following precautionary methods of working are deemed appropriate for the works within 250m of the pond supporting Great Crested Newt. A finger-tip search for Great Crested Newt will be undertaken within areas of suitable Great Crested Newt habitat, within 250m of a pond supporting this species. Following this, habitat manipulation will be overseen by a suitably qualified ecologist (SQE) acting as an Ecological Clerk of Works (ECoW) and will comprise the following general principles: - The on-site vegetation within the areas of habitat suitable for Great Crested Newt will be cut short during winter, between November and February (when amphibians are hibernating). If this is not possible (i.e. vegetation clearance during the Great Crested Newt active season), the vegetation will be cut in a phased approach, firstly cutting to 30cm, then, following	<u>necessary mitigation, prior to construction.</u> <u>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 Applicant or their appointed contractor.</u> <u>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).</u> <u>The scope of the required walkovers would be defined on a case-by case basis, in</u>	

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	a period of no less than 24 hours, can be cut to 15cm and then to ground level, after another 24 hours. - The vegetation will then be kept short to displace any amphibians, which may be present, away from the works when they emerge in the early spring and discourage amphibians from moving into the Order limits from the surrounding habitat. - Vegetation (including topsoil) will be carefully removed using an excavator using a toothed bucket. These works will be supervised by an SQE. Any habitat features which may conceal hibernating amphibians (log piles, rubble mound bunds, any other debris etc.) will not be dismantled during winter months (between November and February) and will be conducted during the amphibian active season (i.e. March (dependent on weather) to October) during warm weather conditions (i.e. above 5°C) to avoid killing or injuring potential hibernating amphibians. In the unlikely event that any Great Crested Newt are discovered during these works, then such works must cease immediately and a SQE must be consulted to determine how to proceed. If other amphibians are discovered during vegetation clearance it is proposed that these are relocated to suitable habitat nearby in suitable weather conditions.	<u>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 industry standard for water vole surveys (Strachan et al 2011).</u>	
	Reptiles – Grass Snake and Common Lizard Vegetation clearance throughout the Order limits will be undertaken in advance of construction and at an appropriate time of year so as to avoid incidental injuring or killing of reptiles (and also Common Toad, where present), concordant with the requirements for other species, such as nesting birds and Brown Hare. Vegetation		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	supporting reptiles 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. In areas where reptiles (and Common Toad) have been identified, any habitat features within such areas which may conceal sheltering reptiles (and Common Toad) such as log piles, rubble mound bunds will not be dismantled during their inactive season (November to February inclusive). There will be no need to undertake any relocation of reptiles within the Order limits. Bats Habitats such as mature trees and woodland within the Order limits, potentially supporting roosting bats, will also be avoided and suitably buffered (>15 m) from the developable areas of the Scheme. Note that all woodland, buildings and trees identified with Roost Suitability (from Low to High), as presented in Appendix 9-9: Baseline Report for Bats of this ES [EN010142/APP/6.2], should be assumed to contain bat roosts unless otherwise scoped out. Whilst the Scheme design retains habitats that are of greatest value to bats, measures to ensure incursion into these habitats does not occur will be put in place, e.g., security fencing, which will be implemented at an early stage to protect retained habitats from incursion during construction. Where any temporary work is required within 15 m of any tree or building with the potential to support roosting bats, such as enabling works or clearance for construction then a precautionary working method statement would be provided to avoid potential impacts. This would include the use of an ECoW. Badger All setts within the Principal Site will have an appropriate exclusion zone of 30 m around the sett to prevent disturbance and accidental		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	damage. The Cable Route Corridor is sufficiently wide that the final route for the cable laying can be micro-sited to avoid any Badger setts, including a 30 m exclusion zone around setts. <u>Otter and Water Vole</u> <u>The construction of the Scheme will avoid ditches and watercourses where Water Vole and Otter were recorded during baseline surveys, with any crossing for cable laying using trenchless techniques (e.g. horizontal directional drilling (HDD) techniques or similar, that would not disturb the watercourse). All ditches and watercourses will be retained and suitably buffered and the construction of the Scheme will be offset (>10 m) from any peripheral watercourses, used by Water Vole and Otter.</u> <u>Pre-construction surveys will be undertaken of all ditches and watercourses to reaffirm the baseline conditions in respect to Otter and Water Vole 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.</u> 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 (as amended) (Ref. 6) Schedule 9 species). In the event that any future infestations of invasive non-native species are identified prior to and/or during the development		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	process, exclusion zones will be established around them, and an ECoW contacted for advice as required. Other protected species: Scheme design retains and avoids direct and indirect impacts to habitats of greatest value to with the potential to support terrestrial invertebrates, Great Crested Newt, reptiles and other amphibians, breeding birds, non-breeding birds, bats, riparian mammals, badger and other mammals.		
Impacts on habitats, protected and notable species	Where practicable, joint mitigation will be undertaken with Gate Burton, Cottam and West Burton schemes within the shared Cable Route Corridor. The detailed CEMP(s) will outline all ecological mitigation, which will likely include combined pre-construction surveys, protected species mitigation, translocation (if required), monitoring and post construction reinstatement plans.	To be confirmed in detailed CEMP(s).	To be confirmed in detailed CEMP(s).

Table 3-5: Water Environment

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
General measures			
Pollution of surface water due to deposition or spillage of soils, sediments, oils, fuels, or other construction chemicals, or through uncontrolled site run-off including dewatering of excavations.	Standard construction mitigation measures apply. No works will be undertaken within at least 10 m of all watercourses, which is considered sufficient to mitigate for 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 (Ref. 7); • GPP 2: Above ground oil storage (Ref. 8); • GPP 3: Use and design of oil separators in surface water drainage systems (Ref. 9); • GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer (Ref. 10); • GPP 5: Works and maintenance in or near water (Ref. 11); • GPP6: Working on construction and demolition sites (Ref. 19) • GPP 8: Safe storage and disposal of used oils (Ref. 12); • GPP 13: Vehicle washing and cleaning (Ref. 13); • GPP 19: Vehicles: Service and Repair (Ref. 14); • GPP 20: Dewatering underground ducts and chambers (Ref. 15); • GPP 21: Pollution Incident Response Plans (Ref. 16);	Temporary drainage will be monitored throughout construction. Specific details will be confirmed in the CEMP(s). A pre-works hydromorphology survey of the channel of each watercourse to be crossed by cables or access tracks using intrusive and non-intrusive techniques will be undertaken. A tidal river bed survey will be required prior to the works under the River Trent. Water quality monitoring of potentially impacted watercourses will be undertaken to ensure that pollution events can be detected against baseline	To be confirmed in detailed CEMP(s).

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
Potential impacts on groundwater resources, including licenced and unlicenced (private) water supplies.	- GPP22: Dealing with spills (Ref. 17); and - GPP26: Safe storage – drums and intermediate bulk containers (Ref. 18). The Principal Contractor will comply with the following Pollution Prevention Guidelines (PPG), or relevant guidelines at the time of preparing the CEMP: - PPG7: Safe storage – the safe operation of refuelling facilities (Ref. 20); and - PPG18: Managing fire water and major spillages (Ref. 21).	conditions and can be dealt with effectively. Specific details of this monitoring for each watercourse will be confirmed in detailed CEMP(s)	
Potential impact on baseflow to watercourses from temporary dewatering of excavations or changes in hydrology.	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 (Ref. 22); - British Standards Institute (2013) BS8582 Code of Practice for Surface Water Management of Development Sites (Ref. 23); - C753 (2015) The SuDS Manual (second edition) (Ref. 24); - C811 (2023) Environmental good practice on site guide (fifth edition) (Ref. 25); - C648 (2006) Control of water pollution from linear construction projects, technical guidance (Ref. 26); - C609 (2004) Sustainable Drainage Systems, hydraulic, structural and water quality advice (Ref. 27); - C532 (2001) Control of water pollution from construction sites – Guidance for consultants and Principal Contractors (Ref. 28); and - C736F (2014) Containment systems for prevention of pollution (Ref. 29).		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	Requirements set out in the above guidance will be listed in or appended to the CEMP(s). A Water Management Plan (WMP) will be prepared to document the mitigation measures to be implemented to water environment from adverse effects during construction. The WMP (which will be produced post consent) will include details of pre, during and post-construction water quality monitoring. This will be based on a combination of visual observations and reviews of the Environment Agency's automatic water quality monitoring network. The route for the Cable Route Corridor is the preferred route, with a specific number of crossing locations (Figure 3-11 of the ES [APP-140]). There may be a variation in the number of crossing points if there is a slight variation in the exact route chosen. Should this occur, it is not considered there would be any significant variation to the level of impact as a result of the Scheme due to the variation in the exact number of crossings, or the location. 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 from construction sites' (Ref. 28) and CIRIA report 'C648 Control of water pollution from linear construction sites' (Ref. 26). 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.		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	- 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. 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. - Scheme construction foul drainage will be provided by self-contained cess pit (or similar sealed tank), regularly emptied by a waste management Principal Contractor. - The relevant sections of BS 6031: Code of Practice for Earthworks (Ref. 22) 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, to minimise the risk of generating runoff contaminated with fine 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		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	also be required to dampen earthworks during dry weather to reduce dust impacts, and any runoff generated will need to be appropriately managed by the Principal Contractor in accordance with the pollution prevention principles described in Chapter 10: Water Environment of the ES [EN010142/APP/6.1]. • To protect watercourses from fine sediment runoff, topsoil/subsoil will be stored a minimum of 20 m from watercourses on flat lying land. Where this will not be practicable, and it is to be stockpiled for longer than a two-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 though this is unlikely to be suitable based on the geology of the area) or to the nearest public 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. • Mud deposits will be controlled at entry and exit points to the Order limits using wheel washing facilities and/or road		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	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 clearly labelled waste receptacles, grid covers and the presence of Site security fencing. • 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 drainage works required during construction and following completion of the Works, including, where relevant, in relation to pipe layout, falls, dimensions and outfalls.		

Silt Management

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	A Silt Management Plan will be produced as part of the detailed CEMP as part of a Requirement in the DCO.		
	Watercourse Crossings with intrusive techniques - Open cut watercourse crossings are indicatively shown on Figure 3-11 of the ES [APP-140]. - 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) between 5 and 10 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 will be included within a Water Framework Directive (WFD) Mitigation and Enhancement Strategy, which will be produced to accompany the CEMP. - Measures to be implemented while using intrusive techniques to install the cable route are set out below: - A pre-works hydromorphological survey must be undertaken to record channel features and provide the baseline, against which reinstatement will be designed. - Where 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		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	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. - 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).		
Leakage or accidental spillage of construction materials and potential pollutants used on-site, migrating to nearby surface watercourses or infiltrating to groundwater.	Management of Spillage Risk - Fuel will be stored and used in accordance with the Control of Substances Hazardous to Health Regulations 2002 (Ref. 30), and the Control of Pollution (Oil Storage) (England) Regulations 2001 (Ref. 31). Particular care will be taken with the delivery and use of concrete and cement as it is highly corrosive and alkaline. - 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).		To be confirmed in detailed CEMP(s).

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	- 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 practicable or, if on-site, only at designated areas within 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. - 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. 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. - 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 final 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.		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	- The area of construction will be secure to prevent any vandalism that could lead to a pollution incident. - 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 licenced waste facility. - Water quality monitoring of potentially impacted watercourses will be undertaken to ensure that pollution events can be detected against baseline conditions and can be dealt with effectively. - In addition, any site welfare facilities will be appropriately managed, and all foul waste disposed of by an appropriate Principal Contractor to a suitably licensed facility if it is not possible to connect to the public sewer.		
Temporary changes in flood risk from changes in surface water runoff and exacerbation of localised flooding,	Management of Flood Risk Topsoil and other construction materials will be stored outside of the 1 in 100 year floodplain extent where feasible. If areas located within Flood Zone 2/3 are to be utilised for the storage of construction materials, this will be done in accordance with		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
due to deposition of silt, sediment in drains, and ditches.	the applicable flood risk activity requirements of the regulating authority, if required.		
Changes in flood risk due to the construction of PV panels, which may alter runoff from the site.	- Connectivity will be maintained between the floodplain and the adjacent watercourses, with no changes in ground levels within the floodplain as far as practicable. - During the detailed design phase, the Principal Contractor will comply with Paragraph 5.8.34 of NPS EN-1 (Ref. 32), 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.		To be confirmed in detailed CEMP(s).
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.	- 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. - The construction laydown area site office and supervisor will be notified of any potential flood occurring by use of the Floodline Warnings Direct or equivalent service. - The majority of the temporary construction compounds are located outside areas of flood risk. The exception being two within the Cable Route Corridor, west of Cottam Power Station. Whilst being located within Flood Zone 3, their locations benefit from defences associated with the flood plain of the River Trent, resulting in a low residual risk to the operation of these temporary construction compounds. It is proposed that safe refuge is provided at these two temporary construction compounds, by locating a welfare cabin, either raised on a platform or stacked on top of the ground floor unit,		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	set at a minimum of 7.66m AOD, to provide freeboard to a breach level event. • A temporary construction compound within the Cable Route Corridor, located east of Willingham by Stow, is proposed to be located close to the present day Flood Zone 2/3 extents associated with Fillingham Beck. It is proposed to locate all staff and operational buildings within the temporary construction compound above 10.7 m Above Ordnance Datum (AOD). The minimum level allows 300mm of freeboard between the current estimated Flood Zone 3 level which will ensure the temporary construction compound remains operational a safe during potential periods of flooding from Fillingham Beck. • The remaining temporary construction compounds will be located outside of areas of fluvial Flood Zones 2 and 3 including allowances for climate change. • A 24-hour availability and ability to mobilise staff in the event of a flood warning. • The removal of all plant, machinery and material capable of being mobilised 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. • Arrangements for removing any potentially hazardous material and anything capable of becoming entrained in floodwaters, from the temporary works areas. • 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		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	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 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) (Ref. 33) and the Environmental Permitting Regulations (2016) (Ref. 34). - Safe egress and exits are to be maintained at all times when working in excavations. When working in excavations a banksman is to be present at all times.		
Risks associated with the use of drilling fluids for non-intrusive techniques for cable route construction.	Watercourse Crossings with Non-Intrusive Techniques. - Trenchless watercourse crossings are indicatively shown on Figure 3-11 of the ES [APP-140]. Typical trenchless crossing details have been provided within Figure 3-12 of the ES [EN010142/APP/6.3(Rev01)]. - A pre-works hydromorphology survey will be carried out for each watercourse to ensure the correct depth for passing under the watercourse channels. - A tidal river bed survey will be required prior to the works under the River Trent. - A Site specific fracture risk assessment will be produced prior to commencing works to define the methodology / mitigation required based on ground conditions. - Non-intrusive crossing techniques will ensure a headroom of at least 3m below the bed of a watercourse. The minimum		To be confirmed in detailed CEMP(s).

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	headroom for the River Trent and the River Till will be 5m and maximum 25m. - Any wastewater / drilling fluids which are not recycled must be stored and removed from the site by a suitable waste management Principal Contractor and disposed of at a licenced wastewater facility. - Where any leakage of bentonite water is observed in the watercourse during non-intrusive drilling techniques for the installation of the cable corridor, 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 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. - The temporary metal bridges 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 the temporary bridges. The works would be carried out according to good industry practice methods.		
Temporary impacts on the hydromorphology	Management of Risk to Hydromorphology of watercourses		To be confirmed in detailed CEMP(s).

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
of watercourses from open-cut watercourse crossings or temporary vehicle access as may be required.	• A pre-works hydromorphology survey of the channel of each watercourse to be crossed by cables using intrusive and non-intrusive techniques will be undertaken. This is to ensure there is a formal record of the condition of each watercourse prior to commencement of works to install cables beneath the channel. The survey is a precautionary measure so that, should there be any unforeseen adverse impacts, there is a record against which any remedial action can be determined. • All works during construction of the sites and the non-intrusive crossings for the cable corridor will be undertaken at least 10 m away from watercourses. All Scheme equipment will be located and constructed at least 10 m away from watercourses. • 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, which may be from an agricultural irrigation reservoir or other potable supply but will not be abstracted from local watercourses.		
	Permanent access track crossing of water channel within Principal Site • Existing crossings to be utilised where practicable for permanent access tracks, which may require widening / strengthening. Culverts to be avoided where practicable, however, where necessary it is expected the least impacting design that is reasonable practicable is proposed (e.g. arch rather than box, and box culverts in preference to pipes). New access points across the watercourses will result in the loss of channel. Any culvert inverts to allow for natural bed formation		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
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and processes. Where channel will be lost for an access track crossing, a **pre-works hydromorphological survey** must be undertaken to record channel features and provide a baseline against which reinstatement will be provided. This will be carried out on a length for length basis, or better, upstream and downstream of the access track crossings.

Table 3-6: Human Health

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
Details with respect to mitigation measures relevant to human health, including minimising amenity impacts associated with Public Rights of Way (PRoW,) transport and access, noise and vibration, air quality, climate change and landscape and visual amenity during the construction phase are set out in the following tables: Air Quality (Table 3-1 Table 3-4), Climate Change (Table 3-2 Table 3-2), Landscape and Visual Amenity (Table 3-7 Table 3-7), Noise and Vibration (Table 3-8 Table 3-8), Socio-Economics and Land Use (Table 3-9), and Transport and Access (Table 3-11 Table 3-11).			

Table 3-7: Landscape and Visual Amenity

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
Loss of existing landscape features, e.g. vegetation	The Framework Landscape and Ecological Management Plan (LEMP) [EN01042/APP/7.17] 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 (i.e. the green infrastructure). In summary, mitigation measures in the Framework LEMP include: • Protect and retain existing 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 during the temporary construction lighting (see below); • Landscape and biodiversity management and enhancement measures including replacement tree 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; • The perimeter security fence around the Scheme will be implemented early in the construction phase to secure the Order limits; and • An implementation timetable for maintenance and management proposals will be developed, including an annual landscaping maintenance plan. Tree Works • Tree works will be undertaken in accordance with Appendix 12-7: Arboriculture Impact Assessment of the ES	Pre-construction tree survey	Pre-construction tree survey to be undertaken by an Arboriculturist.
Direct, physical changes to the landscape associated with the visibility of construction activities		Specific details will be confirmed in detailed CEMP(s).	Specific Responsibilities to be confirmed in detailed CEMP(s) and Framework LEMP [EN01042/APP/7.17] .
Progressive installation of solar infrastructure as a new and incongruous element to the landscape			

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	[EN01042/APP/6.2]. Should the requirement for additional tree works be identified, this will be discussed with an 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 prepared, where construction works are likely to affect trees. These will be taken into account by the appointed Principal Contractor. • No veteran or ancient trees are to be removed. • All tree work is to follow the principles of British Standard (BS) BS3998: 2010 Tree work – Recommendations (Ref. 36) 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 (Ref. 37) 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 (Ref. 38); and • All necessary protective fencing will be installed prior to the commencement of any site clearance or construction works. Lighting Strategy • Temporary site lighting during construction required to enable safe working during construction in hours of darkness will be designed as far as reasonably practical so as not to cause a nuisance outside of the Order limits. • Standard best practice measures will be employed to minimise light spill, including glare during construction.		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	Screening Existing vegetation along the perimeter of the Order limits will be retained and managed where practicable to ensure its continued presence and to aid the screening of low-level views.		

Table 3-8: Noise and Vibration

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
Ground-borne vibration due to construction activities throughout the Principal Site and Cable Route Corridor causing annoyance at Noise Sensitive Receptors (NSR).	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 Principal Contractors to be made familiar with current legislation and the guidance in BS 5228 (Parts 1 and 2) (Ref. 39) which should form a prerequisite of their appointment. - 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.	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 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	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
Construction traffic, plant and machinery noise at nearby NSR.			

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	- 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, 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 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	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. 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
	applicable), to ensure plans are co-ordinated 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. If there is a requirement for continuous trenchless cable installation, this will be avoided, where practicable, within 500 m of residential receptors at night (although this will depend on the results of the ground investigation survey): • Where trenchless activities may occur within 500 m 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 Appendix 13-4: Noise Modelling of the ES [EN010142/APP/6.2] will be explored by the Principal Contractor; and • Depending on the location, plant and timing of works, temporary acoustic fencing will be installed around the Order limits to screen receptors from noise emission if trenchless works are required within 500 m of a sensitive receptor. This mitigation could provide 10 dB of attenuation when the noise screen completely hides the sources from the receiver. The effect of noise and vibration on nearby sensitive receptors can be minimised through a good communication strategy. 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. <u>For Peak Particle Velocity (PPV)</u>		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	<u>vibration levels anticipated to exceed 1.0 mm/s, prior warning will be provided on the timings and duration of vibration generating activities.</u>		

Table 3-9: Socio-economics and Land Use

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
Disruption to local residents, businesses and community facilities.	Temporary diversions, management measures of PRow, and any temporary closures during the construction phase are set out within the Framework PRow Management Plan submitted alongside the Application [EN010142/APP/7.16].	As set out in the Framework PRow Management Plan and Air Quality (Table 3-1), Noise and Vibration (Table 3-8) Transport and Access (Table 3-11) and Landscape and Visual Amenity (Table 3-7) sections of this Framework CEMP.	As set out in the Framework PRow Management Plan and in the Air Quality (Table 3-1), Noise and Vibration (Table 3-8) Transport and Access (Table 3-11) and Landscape and Visual Amenity (Table 3-7) sections of this Framework CEMP.
Amenity impacts on sensitive receptors during the construction phase (such as noise, air quality, transport and landscape).	Mitigation and management measures for construction works are included in the following tables: Air Quality (Table 3-1), Noise and Vibration (Table 3-8) Transport and Access (Table 3-11) and Landscape and Visual Amenity (Table 3-7). Support for workforce to be directed to primary healthcare facilities with greatest capacity.		
Disruption or severance to communities and PRow resulting from construction activity.			
Land take, disruption or severance to local amenities businesses or development land.			

Form

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Table 3-10: Soils and Agriculture

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
Potential loss of soil resource.	The Framework Soil Management Plan (SMP) submitted alongside the DCO application [EN010142/APP/7.12] details the threats to soil resource during the construction phase. Full details will be provided in the detailed SMP which will be secured by a DCO Requirement.	As set out in the Framework SMP submitted alongside the DCO application [EN010142/APP/7.12], a dedicated soil survey of the Cable Route Corridor will be required.	The overall responsibility will be with the Principal Contractor. Specific responsibilities will be confirmed in the CEMP(s).
Potential for surface soil compaction in some areas through trafficking of vehicles/plant and poor handling.		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 volume of each soil unit stored.	

Table 3-11: 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.	The Framework CTMP submitted alongside this DCO application [EN010142/APP/7.11] 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 final CTMP which will be secured by a DCO Requirement.	Outlined in the Framework CTMP submitted alongside this DCO application [EN010142/APP/7.11] . 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).
Disruption to the surrounding highway network associated with Abnormal Indivisible Loads (AILs).	The Scheme will mitigate construction impacts, as secured as part of the Framework CTMP submitted alongside this DCO application [EN010142/APP/7.11] . The construction of the Cable Route Corridor will be undertaken in four concurrent phases over the construction programme. It is anticipated that each phase would have a dedicated team for the trenched cable element and there would be an additional two teams dedicated to construction of the trenchless crossings. The detailed sequencing will be determined by the Principal Contractor, once appointed, so scheduling of construction traffic from different work teams will not result in any overlap of route usage.		
Increased congestion and driver delay due to travel to and from the Scheme by construction staff.			
Increase in delay to vehicles, pedestrians, cyclists and equestrians due to an increase in vehicle			

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
movements and a reduction in pedestrian/ cycle amenity. Change in route connections and amenity for pedestrians, cyclists and equestrians due to the Scheme.			

Table 3-12: Ground Conditions

Potential Impact	Mitigation 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.	Intrusive geo-environmental ground investigation works will be undertaken prior to commencing development to evaluate soil and groundwater quality. It 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 BS 10175:2011: +A2 2017: Investigation of Potentially Contaminated Sites – Codes of Practice (BSI) (Ref. 42). 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. The Environment Agency is to be consulted on the findings of the Site Investigation and any proposed remedial works related to the protection of controlled waters and the regimes that the Environment Agency regulate.	To be included in the detailed CEMP(s)	To be included in the detailed CEMP(s)
Hazards to controlled waters associated with leaching of contaminants from soils, lateral groundwater migration, or contaminated discharge to watercourses or made ground or groundwater.	Any further assessment of land contamination should: - Follow the risk management framework provided in Environment Agency's Land Contamination Risk Management guidance (Ref. 43), when dealing with land affected by contamination; - Refer to the CL:AIRE Guiding principles for land contamination (Ref. 44); - 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		
Hazards to ecological			

Potential Impact	Mitigation Measure	Monitoring Requirements	Responsibility
receptors associated with chemical contaminants in made ground and groundwater, discharge to watercourses, sedimentation / dust deposition, physical damage to habitat, and increased human disturbance during construction. Contamination of ground gas to any on-site buildings.	- Refer to the contaminated land pages on gov.uk for more information. Best practice avoidance and mitigation measures proposed include: - All workers would be required to wear Personal Protective Equipment (PPE) including gloves and, where appropriate, dust masks, use of ground gas monitoring equipment and hygiene facilities; - Containment measures would be implemented, including drip trays, bunding or double-skinned 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 possible, 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		

Potential Impact	Mitigation Measure	Monitoring Requirements	Responsibility
	the identified contamination does not pose a risk until an environmental specialist undertakes an 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; • To further minimise the risks 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 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,		

Potential Impact	Mitigation Measure	Monitoring Requirements	Responsibility
	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 licences/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 being obtained from the Environment Agency; • Any subsurface land drainage encountered during construction of the solar infrastructure, inverters, BESS and substation infrastructure will be avoided or rerouted where practicable or an alternative drainage solution provided if required. Where any subsurface land drainage is crossed by cabling, 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.		

Table 3-13: Major Accidents and Disasters

Potential Impact	Mitigation 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. Further risks of major accidents and disasters are covered in Table 3-5 Table 3-5 , Table 3-11 Table 3-11 , Table 3-12 Table 3-12 , Table 3-14 Table 3-14 , Table 3-15 Table 3-15 .			

Table 3-14: Telecommunications, Television Reception and Utilities

Potential Impact	Mitigation 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: • Locating the Scheme outside of utilities protected zones. • The use of ground penetrating radar or other appropriate techniques before excavation to identify any unknown utilities. • Consultation and agreement of construction/demobilisation methods will be undertaken prior to works commencing (this would be covered by the protective provisions included in the DCO). • Infrastructure that crosses the Scheme will be mapped and avoided through the design.	No monitoring required.	To be included in the detailed CEMP(s)

Table 3-15: Materials and Waste

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
Disposal of waste.	To reduce the potential impacts from materials and waste, and to achieve high levels of sustainability in the Scheme as a whole, the Principal Contractor will apply the principles of the waste hierarchy and adopt BPMs.	The types, quantities and final destination of waste generated during the construction phase would be identified, measured and recorded through the CRMP.	The overall responsibility will be with the Principal Contractor.
Potential to impact on sensitive receptors (humans, wildlife and controlled waters) if waste is not stored and managed appropriately.	This may include BPMs set out in construction industry guidance for example, guidance from the Considerate Constructors Scheme (CCS), Waste & Resources Action Programme (WRAP) and CIRIA. The following approaches will be implemented, where practicable, to minimise the quantity of waste arising and requiring disposal: • Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take-back scheme; • Implementation of a 'just-in-time' material delivery system where practicable to avoid materials being stockpiled, which can increase the risk of damage and subsequent disposal as waste; • Attention to material quantity requirements to avoid over-ordering and the generation of waste materials due to surplus; • Investigate opportunities for rainwater harvesting for non-potable water supply; • Reuse of materials on-site wherever feasible, e.g. reuse of excavated soil for landscaping; • Excavated material reuse will be in accordance with the CL:AIRE Code of Practice, an Environmental Permit or exemption; • Off-site prefabrication, where practical, including the use of prefabricated structural elements; Segregation of waste at source, where practical, to facilitate a high proportion and high-quality recycling; and	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.	Specific responsibilities will be confirmed in the detailed CEMP.

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	- Off-site reuse, recycling and recovery of materials and waste where reuse on-site is not practical, e.g. Through use of an off-site waste segregation or treatment facility or for direct reuse or reprocessing off-site. The Principal Contractor will implement the following waste management measures, where practicable, to minimise the likelihood of any localised impacts from pollution or nuisance from waste on the surrounding environment: - Damping down of surfaces during spells of dry weather and brushing/water spraying of heavily used hard surfaces/access points across the site as required; - Burning of waste or unwanted materials will not be permitted on-site; - All hazardous materials including fuels, chemicals, cleaning agents, solvents and solvent containing products to be properly sealed in containers at the end of each day prior to storage in appropriately protected and bunded storage areas; - All construction workers will be required to use appropriate personal protective equipment whilst performing activities on-site; - Any waste effluent will be tested and, where necessary, disposed of at a correctly licensed facility by a licensed specialist Principal Contractor/s; and - Materials requiring removal from the site will be transported using licensed carriers and records will be kept detailing the types and quantities of waste moved, and the destinations of this waste, in accordance with the relevant regulations.		

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements	Responsibility
	A Construction Resource Management Plan (CRMP) (also referred to as a Site Waste Management Plan) will be developed by the Principal Contractor 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 • Roles and responsibilities for waste management.		

4. Complementary Plans and Procedures

4.1.1 In addition to this Framework CEMP, the following plans submitted with the DCO application provide requirements for the construction works:

- a. **Framework CTMP [EN010142/APP/7.11];**
- b. **Framework SMP [EN010142/APP/7.12];**
- c. **Framework PRow Management Plan [EN010142/APP/7.16]; and**
- d. **Framework LEMP [EN010142/APP/7.17].**

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:

- a. Emergency Response Plan;
- b. Dust Management Plan;
- c. Archaeological Mitigation Strategy;
- d. Water Management Plan;
- e. WFD Mitigation and Enhancement Strategy;
- f. Silt Management Plan;
- g. Arboricultural Method Statement; and
- h. CRMP.

4.1.3 These plans and procedures will build on the principles and procedures set out in this Framework CEMP 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 detailed CEMP(s) will set out all roles, responsibilities and actions required in respect of implementation of the measures described in this Framework CEMP, including:

- a. An organogram showing team roles, names and responsibilities;
- b. Training requirements for relevant personnel on environmental topics;
- c. 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;
- d. Measures to advise employees of changing circumstances as work progresses;
- e. Communication methods;
- f. Document control;
- g. Environmental emergency procedures; and

- h. Monitoring, inspections and audits of site operations¹.

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 possible 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 Environment 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) is/are being implemented effectively. These records will include:
 - a. Environmental Action Schedule;
 - b. Licences and approvals;
 - c. Results of inspections by Environment Manager/ Project Manager;
 - d. Other environmental surveys and investigations; and
 - e. 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

¹ The Construction Project Manager and Environmental Manager have responsibility for ensuring compliance with the Framework CEMP and detailed CEMP(s).

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.

8. References

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- Ref. 2 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
- Ref. 3 HMSO (1974). Control of Pollution Act 1974. Available at <https://www.legislation.gov.uk/ukpga/1974/40> [Accessed 13/03/2024]
- Ref. 4 HMSO (2011). The Waste (England and Wales) Regulations 2011. Available at: <https://www.legislation.gov.uk/ukxi/2011/988/contents/made> [Accessed 13/03/2024]
- Ref. 5 HMSO (2005). The Hazardous Waste (England and Wales) Regulations 2005. Available at <https://www.legislation.gov.uk/ukxi/2005/894/contents/made> [Accessed 13/03/2024]
- Ref. 6 HMSO (1981). Wildlife and Countryside Act 1981. Available at <https://www.legislation.gov.uk/ukpga/1981/69> [Accessed 13/03/2024]
- Ref. 7 Northern Ireland Environment Agency (NIEA) (2021). Understanding your environmental responsibilities – good environmental practices: GPP 1.
- Ref. 8 NIEA (2021). Above ground oil storage tanks: GPP 2.
- Ref. 9 NIEA (2022). Use and design of oil separators in surface water drainage systems: GPP 3.
- Ref. 10 NIEA (2017). Treatment and disposal of wastewater where there is no connection to the public foul sewer: GPP 4.
- Ref. 11 NIEA (2018). Works and maintenance in or near water: GPP 5.
- Ref. 12 NIEA (2021). Safe storage and disposal of used oils: GPP 8.
- Ref. 13 NIEA (2021). Vehicle Washing and Cleaning: GPP 13.
- Ref. 14 NIEA (2021). Vehicle: Servicing and Repairs: GPP 19.
- Ref. 15 NIEA (2021). Dewatering underground ducts and chambers: GPP 20.
- Ref. 16 NIEA (2021). Pollution incident response planning: GPP 21.
- Ref. 17 NIEA (2018). Dealing with spills: GPP 22.
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- Ref. 20 EA (2011). The safe operation of refuelling facilities: PPG 7.
- Ref. 21 EA (n.d.). Managing Fire Water and Major Spillages: PPG 18.
- Ref. 22 BSI (2009). BS6031:2009 Code of Practice for Earth Works.
- Ref. 23 BSI (2013). BS8582 Code of Practice for Surface Water Management of Development Sites.
- Ref. 24 Construction Industry Research and Information Association (CIRIA) (2015). C753: the SuDS Manual (second edition).
- Ref. 25 CIRIA (2023). C811 Environmental good practice on site guide (fifth edition).
- Ref. 26 CIRIA (2006). C648: Control of water pollution from linear construction projects, technical guidance.
- Ref. 27 CIRIA (2004). C609: Sustainable Drainage Systems, hydraulic, structural and water quality advice.
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- Ref. 29 CIRIA (2014). C736F: Containment systems for prevention of pollution.

- Ref. 30 Her Majesty's Stationary Office (HMSO) (2002). Control of Substances Hazardous to Health Regulations 2002.
- Ref. 31 HMSO (2003). Control of Pollution (Oil Storage) (England) Regulations 2001.
- Ref. 32 Department for Energy Security and Net Zero (DESNZ) (2024). NPS for Renewable Energy Infrastructure (EN-1).
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- Ref. 34 HMSO (2016). Environmental Permitting Regulations (2016).
- Ref. 35 BSI (2012). BS 5837:2012 Trees in Relation to Design, Demolition and Construction.
- Ref. 36 BSI (2010). BS3998: 2010 Tree Work – Recommendations.
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- Ref. 39 BSI (2014). Code of practice for noise and vibration control on construction and open sites – Part 1: Noise and Part 2: Vibration.
- Ref. 40 Department for Environment, Food and Rural Affairs (DEFRA) (2009). Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.
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