EAST PARK ENERGY

East Park Energy

EN010141

Environmental Statement
Volume 1 – Main Report

Chapter 2: The Scheme

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2.0 THE SCHEME

2.1 Introduction

2.1.1 This chapter of the Environmental Statement (ES) provides an overview of the East Park Energy project (the 'Scheme'), setting out the Order Limits (also referred to as 'the Site'), the key components of the operational development, and the activities associated with the construction, operational and decommissioning phases of the works. The chapter also describes the design parameters used within the assessment.

2.1.2 The description of the Scheme provided in this chapter has been used to inform the environmental assessments which are detailed in **ES Vol 1 Chapters 5 to 17 [EN010141/DR/6.1]**.

2.1.3 As set out briefly in **ES Vol 1 Chapter 1: Introduction [EN010141/DR/6.1]**, the Scheme comprises a new ground-mounted solar photovoltaic energy generating station with a total capacity exceeding 50 megawatts (MW) and an associated on-site battery energy storage system (BESS) and 400 kV substation on land to the north-west of St Neots. The Scheme would allow for the generation and export of 400 MW of electricity to the National Grid from the solar photovoltaic energy generating station, and would be capable of exporting and importing up to 100 MW via the BESS.

2.1.4 The design life of the Scheme is 40 years, with decommissioning to commence 40 years after final commissioning.

2.1.5 This chapter is supported by the following appendices in **ES Volume 2 [EN010141/DR/6.2]**:

- **ES Vol 2 Appendix 2-1: Indicative Construction Phasing and Resource Schedule [EN010141/DR/6.2]**;
- **ES Vol 2 Appendix 2-2: Arboricultural Impact Assessment [EN010141/DR/6.2]**; and
- **ES Vol 2 Appendix 2-3: Site Preparation Works [EN010141/DR/6.2]**.

2.1.6 This chapter is supported by the following figures in **ES Volume 3 [EN010141/DR/6.3]**:

- **ES Vol 3 Figure 2-1(a-o): Illustrative Environmental Masterplan [EN010141/DR/6.3]**;
- **ES Vol 3 Figure 2-2(a-v): Indicative Engineering Drawings [EN010141/DR/6.3]**;
- **ES Vol 3 Figure 2-3(a-f): Indicative Crossing Plans [EN010141/DR/6.3]**;
- **ES Vol 3 Figure 2-4(a-f): Proposed Site Access [EN010141/DR/6.3]**;
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- **ES Vol 3 Figure 2-6(a-f): Indicative Vegetation Clearance [EN010141/DR/6.3]**.

2.1.7 In addition to the above appendices and figures, the following outline management plans have been prepared to support the application and are referenced throughout the ES where these documents are used to control the impacts of the Scheme:

- **outline Construction Environmental Management Plan (oCEMP) [EN010141/DR/7.3]**;
- **outline Construction Traffic Management Plan (oCTMP) [EN010141/DR/7.4]**;
- **outline Operational Environmental Management Plan (oOEMP) [EN010141/DR/7.5]**;
- **outline Decommissioning Environmental Management Plan (oDEMP) [EN010141/DR/7.6]**;
- **outline Landscape and Ecological Management Plan (oLEMP) [EN010141/DR/7.7]**;
- **outline Public Rights of Way Management Plan (oPROWMP) [EN010141/DR/7.8]**;
- **outline Soil Management Plan (oSMP) [EN010141/DR/7.9]**;

- **outline Battery Safety Management Plan (oBSMP) [EN010141/DR/7.10]**;
- **outline Skills, Supply Chain and Employment Plan (oSSEMP) [EN010141/DR/7.11]**;
- **outline Waste Management Plan (oWMP) [EN010141/DR/7.12]**;
- **outline Surface Water Management Plan (oSWMP) [EN010141/DR/7.13]**; and
- **outline Archaeological Mitigation Strategy (oAMS) [EN010141/DR/7.15]**.

2.2 The Order Limits

2.2.1 As the Scheme would have an electrical generating capacity in excess of 50MW it is a Nationally Significant Infrastructure Project (NSIP) under Section 14(1)(a) and Section 15(2) of the Planning Act 2008, necessitating the submission of application for Development Consent to the Secretary of State for Energy Security and Net Zero (the 'SoS'). Accordingly, the application boundary which sets the maximum area of land potentially required for the Scheme is referred to as the 'Order Limits'.

2.2.2 The Order Limits are illustrated on **ES Vol 3 Figure 1-1: Site Location [EN010141/DR/6.3]** and cover all land expected to be required for the construction, operation and maintenance, and decommissioning of the Scheme. This includes land required for both temporary and permanent uses.

2.2.3 Identifying the Order Limits has been the subject of ongoing design, consultation, appraisal and assessment work that began with a site search and land optimisation exercise (which is summarised in **ES Vol 1 Chapter 3: Alternatives and Design Evolution [EN010141/DR/6.3]**), and has continued with the Environmental Impact Assessment (EIA) process to refine the area for development in accordance with the mitigation hierarchy.

2.3 Rochdale Envelope and Design Parameters

2.3.1 The design of the Scheme has been an iterative process in response to outcomes of the EIA process and consultation and engagement with stakeholders, including members of the local community.

2.3.2 The technology associated with solar development is advancing rapidly, and it is anticipated that this technological progression will continue at pace over the coming years as current research and development in the manufacturing sector yields new technologies. The design and construction contractor for the Scheme has also not been appointed. As such, the precise layout of the Scheme and equipment selection has not been finalised. It is therefore essential to provide a degree of flexibility within the DCO to allow the detailed design to react to these variables. This provides the opportunity for the most efficient scheme to be constructed at the point the project is implemented.

2.3.3 The Planning Inspectorate's Advice Note 9: 'Rochdale Envelope'[1] ('Advice Note 9') provides guidance regarding the degree of flexibility that may be considered appropriate within an application for development consent under the Planning Act 2008. The advice note acknowledges that there may be aspects of the Scheme that are not yet fixed, and therefore, it may be necessary for the EIA to assess likely worst-case variations to ensure that all foreseeable likely significant environmental effects of the Scheme will be assessed.

2.3.4 It is therefore necessary for the technical assessments to assess an 'envelope' within which the works will take place, defined using a parameter-based approach. As such, the DCO application and EIA is based upon maximum and, where relevant, minimum parameters, alongside defined work areas where the types of development can take place. The parameters set out in this chapter, hereafter referred to as 'the Design Parameters' are based on industry knowledge and best practice such that a sufficient degree of flexibility is provided within the DCO. These parameters are considered in detail in this chapter and across the individual assessments to ensure the

reasonable worst-case effects of the Scheme are assessed for each potential receptor to ensure the 'likely significant effects' are identified.

2.3.5 The key elements of Advice Note 9 in relation to the Scheme are as follows:

- The application should acknowledge the need for details of a project to evolve, within clearly defined parameters;
- The EIA should take account of the need for evolution within those parameters, and reflect the likely significance of such a flexible project in the ES;
- Within those defined parameters, the level of detail of the proposals must be sufficient to enable a proper assessment of the likely significant environmental effects and the identification of mitigation measures, if necessary, considering a range of possibilities. The assessment should establish those parameters likely to result in the maximum adverse effect (the worst case scenario) and be undertaken accordingly to determine significance; and
- It is for the decision maker in granting consent, to impose requirements to ensure that the process of evolution remains within the parameters applied for and assessed for the scheme.

2.3.6 The flexibility afforded by the DCO would be controlled by the **Works Plan [EN010141/DR/2.3]** (which will limit the spatial extent of the types of works), the 'Design Parameters' and 'Design Principles' set out within this chapter and secured by the **Design Parameters and Principles Statement [EN010141/DR/7.1]**, and other certified documents and plans such as the **outline Landscape and Ecological Management Plan [EN010141/DR/7.7]**.

2.4 Key Components of the Scheme

Design Approach

2.4.1 The Planning Inspectorate's 'Advice on Good Design' regarding the pre-application stage for NSIPs[2] defines good design as follows:

> *"Good design is not simply about the look of a project; it is about the whole process of putting a project together so that it achieves the elements of good design including choice of location, vision, narrative, design principles and consultation programme.*
>
> *Applicants should involve a diverse range of people including where appropriate, planners, environmental specialists, landscape architects, architects, engineers and community groups in informing the project vision, narrative, design principles, and project design process to support delivery of the outcomes of the project.*
>
> *Applicants should explain how the design responds to the National Infrastructure Commission (NIC) design principles for national infrastructure: climate, people, places and value".*

2.4.2 The application for development consent is supported by a **Design Approach Document [EN010141/DR/5.6]** which explains the design process that has been followed for the Scheme. It sets out how the project has been designed to achieve the design vision for the Scheme, which is:

> *"To provide a significant contribution towards national renewable energy targets, whilst being sensitive to its surrounding environment, and looking to deliver multiple environmental and social benefits".*

2.4.3 In order to achieve the design vision, a series of Design Principles have been used to guide and shape the approach to the design of the Scheme:

- **Design Principle 1** – The Scheme will seek opportunities to deliver solar development as efficiently as practicable to support national electricity network decarbonisation targets;
- **Design Principle 2** – The Scheme will be sensitive to landscape and views, and how people perceive the landscape;
- **Design Principle 3** – The Scheme will be sensitive to heritage assets, looking to protect the most valuable assets that contribute to a sense of place;
- **Design Principle 4** – The Scheme will be sensitive to biodiversity, and look to provide enhancement where possible;
- **Design Principle 5** – The Scheme will be sensitive to the water environment, looking to avoid harm to watercourses and improve water quality where practicable;
- **Design Principle 6** – The Scheme will be sensitive to local amenity and human health; and
- **Design Principle 7** – The Scheme will seek opportunities to leave a positive legacy through the delivery of multiple social and environmental benefits.

2.4.4 The Design Principles and the design response taken by the Applicant to each of them is set out within the **Design Approach Document [EN010141/DR/5.8]**. The Design Principles are secured through the **draft DCO [EN010141/DR/3.1]** by the **Design Parameters and Principles Statement [EN010141/DR/7.1]**.

Work Packages

2.4.5 The **draft DCO [EN010141/DR/3.1]** which accompanies the application divides the Scheme into a series of 'Work Packages'. The work numbers for those packages are identified below and are referred to throughout this ES.

2.4.6 The Scheme has been divided into the following Work Packages, or 'Works' as follows:

- Work No. 1 – a ground mounted solar photovoltaic generating station;
- Work No. 2 – a Battery Energy Storage System
- Work No. 3 – an on-site substation (East Park Substation);
- Work No. 4 – a 400 kV electrical cable connection to the National Grid's Eaton Socon Substation;
- Work No. 5 – works within the National Grid's Eaton Socon Substation;
- Work No. 6 – works for internal cabling and ancillary infrastructure;
- Work No. 6a – works to create an operations and maintenance area;
- Work No. 6b – work to create a drainage lagoon;
- Work No. 7 – works for temporary construction and decommissioning compounds and laydown areas;
- Work No. 8 – works to create, enhance and maintain green infrastructure;
- Work No. 9 – works to facilitate access;
- Work No. 9a – works to create and maintain visibility splays outside the public highway; and
- Work No. 10 – works to create an 'agrisolar' research area

2.4.7 The **Works Plan [EN010141/DR/2.3]** illustrates where each of the above Works would occur.

2.4.8 In addition to the specific Works described above, Part 1 of Schedule 1 of the **draft DCO [EN010141/DR/3.1]** lists further associated development that may be undertaken in connection with Work Nos. 1 to 10. This ancillary development (described in the final part of Schedule 1 of the **draft DCO [EN010141/DR/3.1]**) includes such other works as may be necessary or expedient to deliver the project. These items are broadly defined and may occur across the Order Limits as required, but only insofar as they do not give rise to any materially new or materially different environmental effects than those assessed in this ES.

2.4.9 **ES Vol 3 Figure 2-1: Illustrative Environmental Masterplan [EN010141/DR/6.3]** provides an indicative layout for the above Works Packages taking account of the Design Parameters and Design Principles

described in this chapter which are secured by the **Design Parameters and Principles Statement [EN010141/DR/7.1]**. As set out previously, the final design may be different to that which has been illustrated on Figure 2-1; however, as far as possible the figures illustrate a reasonable worst-case layout e.g. they maximise the development footprint based on the parameters described within this chapter.

2.4.10 Where necessary, and in order to provide a full consideration of reasonable worst-case effects, the technical chapters describe how variations within the design, which accord with the parameters set out, could result in a different magnitude of effect.

2.4.11 The following sections summarise the key components of each Work Package, along with the relevant Design Parameters that have been assessed within this ES. Where relevant, methods involved in the construction of the Works are described.

Work No. 1 – a ground mounted solar photovoltaic generating station

2.4.12 Work No. 1 comprises a ground mounted solar photovoltaic generating station with a gross electrical output capacity of over 50 megawatts including:

- solar photovoltaic (PV) modules and mounting structures;
- inverters;
- transformers;
- switchgears; and
- electrical and communication cables.

Solar PV Modules and Mounting Structures

2.4.13 The Scheme comprises the installation of solar PV modules which convert sunlight into direct current (DC) electricity. Solar PV modules consist of a series of photovoltaic cells beneath a layer of toughened glass. Solar PV

modules are also often referred to as solar PV panels. Multiple solar PV modules are connected together to form a solar PV array.

2.4.14 It is possible to install the panels as either 'fixed' arrays, where the angle of the panels is fixed, or 'tracker' arrays, where the angle of the panels can change to follow the sun at different times of the year. The Scheme will use 'fixed' arrays.

2.4.15 The solar PV modules are installed on support frame mounting structures which would be arranged into arrays on an east-west axis facing south, typically set approximately 3 to 4m apart. The maximum height of the arrays will be 3m above existing ground levels, and the minimum height will be 0.8m above existing ground levels.

2.4.16 The modules would be set at a minimum height of 0.8m above existing ground level to facilitate sheep grazing, the preferred method to manage grassland within the solar PV array areas. Sheep grazing on solar farms is successfully used in the UK and carries with it multiple benefits such as maintaining agricultural output from the land, soil health improvement and providing appropriate stocking levels are maintained, biodiversity benefits. Sheep can move safely between and under the solar PV modules, and shelter under them from sun or rain.

2.4.17 The solar PV support frame structures will likely consist of uprights and cross bars. The uprights comprise hollow posts, typically with a u-shaped cross section which are ram-driven into the ground using specialist small-scale piling machines to a depth of up to 3m, depending on ground conditions. The rest of the support frame is then fitted to the posts to create angled support tables ready for solar panel installation.

2.4.18 In 'Areas of Archaeological Constraint', surface mounted solar panel frames would be used to enable preservation of archaeology in-situ as set out in the **outline Archaeological Mitigation Strategy [EN010141/DR/7.15]**. The ram-driven posts would be replaced by pre-fabricated concrete blocks set directly on the topsoil without excavation, on which mounting posts would be fixed.

2.4.19 Once the founding posts are installed, the rest of the solar PV module support frame is fitted to the posts to create angled support tables ready for solar PV module installation.

2.4.20 The solar PV panels would be mounted on the pre-constructed support frames. The individual solar PV panels typically comprise dark blue, dark grey or black photovoltaic cells. The Scheme will use monofacial or bifacial solar PV modules with anti-reflective coating. A monofacial solar PV module only absorbs sunlight from the front surface of the solar PV module, which generally tends to be direct sunlight. A bifacial solar PV module features solar cells on both sides. This enables electricity to be generated from diffuse sunlight that is reflected off the ground onto the back surface of the solar PV module.

2.4.21 PV technologies are evolving and it is not possible to specify the precise panel type, as this will depend on the competitive procurement process and the best technology available at the time of construction.

2.4.22 **ES Vol 3 Figure 2-2a: Indicative Solar PV Table, Mounting Structure and String Inverters [EN010141/DR/6.3]** presents an indicative section drawing of the solar PV modules and mounting structures, with the typical mounting structure posts shown, and an example of pre-fabricated concrete blocks that would be used in areas of archaeological sensitivity.

2.4.23 Table 2-1 identifies the relevant design parameters and design principles for the solar PV modules and mounting structures, and the basis on which they have been assessed in this ES.

Table 2-1: Solar PV Modules and Mounting Structures Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The solar PV modules will be fixed to ground mounted structures arranged in arrays only within the area identified as Work No. 1 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the solar PV arrays would be located as per the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.

Parameter Type	Parameter	Basis of Assessment
Scale	The maximum height of the highest part of the solar PV panels will be 3m above existing ground level.	It has been assumed the highest part of the solar panels are 3m above ground level. This is the maximum height and judged to be the worst case.
Scale	The minimum height of the lowest part of the solar PV panels will be 0.8m above existing ground level.	It has been assumed the lowest part of the solar panels are 0.8m above ground level. This is the minimum height and judged to be the worst case.
Scale	The minimum pitch will be 7.5m and the maximum pitch will be 12m.	It has been assumed the pitch will be 7.5m. This is considered a worst case as it produces the 'densest' scheme with the highest number of panels.
Scale	Panel bottom edges will be set a minimum of 200mm above the maximum surface water levels for the design (1.0% Climate Change) event.	It has been assumed the panels are raised above areas of surface water flood risk.
Design	The solar PV panels will be set out in rows facing south, with a fixed angle of between 15 and 25 degrees from horizontal.	For the Glint and Glare Assessment at **ES Vol 2 Appendix 5-7 [EN010141/DR/6.2]**, both the minimum and maximum angle have been assessed to understand possible impacts to receptors. For all other assessments it has been assumed the solar PV panels will have an angle of 25 degrees from horizontal. This is the steepest angle and judged to be the worst case.
Design	The solar PV panels will be orientated with an azimuth angle of between 175 and 185 degrees.	It has been assumed the solar PV panels will be orientated with an azimuth angle of 180 degrees. This is a realistic scenario and it is judged that the flexibility sought in this regard would not notably change any environmental impacts, such that it represents the worst case.
Scale	The maximum depth the mounting structure posts will be driven into	It has been assumed the mounting structure posts will be driven up to

Parameter Type	Parameter	Basis of Assessment
	the ground will be 3m below ground level.	3m below existing ground level. This is the maximum depth and judged to be the worst case.
Design	The solar PV panels will be either monofacial or bifacial and have an anti-reflective coating.	It has been assumed the panels will be bifacial, and have an anti-reflective coating.
Design	The PV mounting structure will be a metal frame fixed to the ground by galvanised steel posts which are driven into the ground. In 'Areas of Archaeological Constraint', the PV mounting structure will be mounted in accordance with the **outline Archaeological Mitigation Strategy [EN010141/DR/7.15]**.	It has been assumed the PV mounting structure will be a metal frame.

Inverters

2.4.24 Inverters convert the DC electricity produced by the solar PV modules into alternating current (AC), enabling the electricity to be exported to the National Grid.

2.4.25 There are two principal types of inverter that can be utilised for solar arrays; string inverters, or centralised inverters.

2.4.26 String inverters are typically attached to the mounting frames of solar arrays and are connected together by the wiring from multiple solar PV modules for conversion to AC. They are distributed across the solar arrays, with the advantage of being relatively small and easy to mount onto the solar PV module support frames.

2.4.27 An indicative drawing of a string inverter is shown on **ES Vol 3 Figure 2-2a: Indicative Solar PV Table, Mounting Structure and String Inverters [EN010141/DR/6.3]**.

2.4.28 Centralised inverters have the appearance of either small shipping containers or large cabinets that house a single large-capacity inverter to which the solar arrays connect. Fewer centralised inverters would therefore be required compared to string inverters, and they would be distributed throughout the solar arrays alongside transformers.

2.4.29 An indicative drawing of a centralised inverter is shown on **ES Vol 3 Figure 2-2b: Indicative Centralised Inverter or Solar Transformer [EN010141/DR/6.3]**.

2.4.30 The key differences between string inverters and centralised inverters are that:

- String inverters can be mounted directly to the solar arrays and do not require foundations or footings – centralised inverters do require foundations or footings; and
- String inverters are more expensive to install than centralised inverters, but can be more efficient and can result in lower downtime losses.

2.4.31 The Applicant is looking to maintain flexibility as to the type of technology utilised in the Scheme, with a final decision on approach expected to be made at the detailed design stage following a grant of development consent. This will enable the Applicant to select the most efficient and economic technology at the time.

2.4.32 Both string inverters and centralised inverters have therefore been assessed in the ES. The illustrative layout shown on **ES Vol 3 Figure 2-1: Illustrative Environmental Masterplan [EN010141/DR/6.3]** shows both string inverters and centralised inverters. In a scenario where string inverters are utilised, the centralised inverters shown on the drawing would not be required. Conversely, in the scenario where centralised inverters are utilised, the string inverters would not be required. In both scenarios the solar transformers indicated on the drawings would be required.

String Inverters

2.4.33 String inverters would be mounted on the mounting structure supporting the solar PV modules.

2.4.34 Table 2-2 identifies the relevant design parameters for the string inverters, and the basis on which they have been assessed in this ES.

Table 2-2: String Inverter Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The string inverters would be mounted to the rear of Solar PV tables, directly to the mounting structures, within the area identified as Work No. 1 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the string inverters would be located as per the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Scale	The string inverters would have maximum dimensions of 1.2m width x 1m height, x 0.5m depth.	It is assumed the maximum dimensions are applied.

Centralised Inverters

2.4.35 The centralised inverters would be co-located with the solar transformers, distributed throughout the solar development.

2.4.36 Table 2-3 identifies the relevant design parameters for the centralised inverters, and the basis on which they have been assessed in this ES.

Table 2-3: Centralised Inverter Design Parameter

Parameter Type	Parameter	Basis of Assessment
Location	The centralised inverters would be co-located with solar transformers within the area identified as Work No. 1 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the centralised inverters would be located as per the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Scale	The centralised inverters would have a maximum dimension of	It is assumed the maximum dimensions are applied.

Parameter Type	Parameter	Basis of Assessment
	6.5m length x 2.5m width x 3.15m height.	
Scale	The centralised inverters would have a concrete strip footing foundation with a levelling layer of aggregate extending up to 1m beyond the maximum area of the centralised inverter, up to a maximum depth of 0.4m below ground level.	It is assumed the maximum dimensions are applied.
Design	Where required by the noise assessment, an acoustic screen will be provided around the centralised inverters. The acoustic screen will be positioned 2m away from the centralised inverters and solar transformers, around three sides of the co-located centralised inverters and solar transformers. The maximum height of the acoustic screen will be 4m.	It is assumed that acoustic screens are required in six locations as shown on the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Design	The centralised inverters will have an external finish of either grey, green, or white according to manufacturer specifications, and subject to agreement with the relevant planning authority.	It is assumed the centralised inverters would be finished in grey.

Solar Transformers

2.4.37 Transformers are used to increase the voltage of the generated electricity before it reaches the on-site substation and in turn the National Grid. They are typically mounted on a 'skid' or housed in containers together with switchgear and control equipment. Switchgear includes a range of electrical switches, fuses, and breakers to control, protect and isolate the electrical circuits and equipment. The switchgear and control equipment will be co-located with the solar transformers on the same 'skid' or container.

2.4.38 An indicative drawing of a solar transformer is shown on **ES Vol 3 Figure 2-2b: Indicative Centralised Inverter or Solar Transformer [EN010141/DR/6.3]**.

2.4.39 Table 2-4 identifies the relevant design parameters for the solar transformers, and the basis on which they have been assessed in this ES.

Table 2-4: Solar Transformer Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The solar transformers would be distributed throughout the Solar PV areas within the areas identified as Work No. 1 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the solar transformers would be located as per the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Scale	The solar transformers would have a maximum dimension of 6.5m length x 2.5m width x 3.15m height.	It is assumed the maximum dimensions are applied.
Scale	The solar transformers would have a concrete strip footing foundation with a levelling layer of aggregate extending up to 1m beyond the maximum area of the transformer, up to a maximum depth of 0.4m below ground level.	It is assumed the maximum dimensions are applied.
Design	Where required by the noise assessment, an acoustic screen will be provided around the solar transformers. The acoustic screen will be positioned 2m away from the solar transformers, around three sides solar transformers. The maximum height of the acoustic screen will be 4m.	It is assumed that acoustic screens are required in six locations as shown on the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Design	The solar transformers will have an external finish of either grey, green, or white according to manufacture specifications, and subject to agreement with the relevant planning authority.	It is assumed the solar transformers would be finished in white.

Work No. 2 – a Battery Energy Storage System

2.4.40 Work No. 2 comprises a BESS, including:

- battery storage units and power conversion systems;
- battery transformers and switchgears;
- auxiliary transformers;
- control building;
- water storage tanks;
- fencing;
- surfacing and drainage; and
- internal access and parking.

2.4.41 The BESS will be an integral element of the Scheme, used to store electricity generated by the solar PV modules at times of low demand from the National Grid and release the electricity at times of peak demand. BESSs are essential for renewable electricity generating systems such as wind and solar due to their weather dependency and the intermittent nature of their electricity generation.

2.4.42 In addition to the BESS' function as an essential part of the Scheme, it will also be available to the National Grid for grid-balancing services. By importing excess electricity from the grid and storing it, the BESS can capture electricity that would otherwise be lost or unutilised. During situations when generating stations are interrupted, the BESS can bridge the gap in production, thus avoiding potential blackouts. It should be noted that the UK electricity network is interconnected and issues in one geographic location can have far reaching implications on the network. Accordingly, the BESS offers additional capacity to deal with system stress and any variations in grid frequency at both a local and national level.

2.4.43 The BESS compound will be within East Park Site D. In the EIA Scoping Report it was assumed that the BESS would be located within Site C. However, in response to further environmental surveys and feedback

received on the preliminary environmental information report (PEIR) at the statutory consultation it has emerged that Site D is a preferable location for the BESS.

2.4.44 The BESS would be located within a fenced compound, which would be separate to the East Park Substation compound. The compound will be hard surfaced. internal access road alongside impermeable surfacing on which plant and equipment would be mounted.

2.4.45 In order to provide safe access and necessary circulation around the compound by emergency vehicles, there would be more than one point of access to the BESS, as illustrated on **ES Vol 3 Figure 2-1: Illustrative Environmental Masterplan [EN010141/DR/6.3]**. A circulatory road would also be provided within the compound. The internal roads to the BESS would be constructed of tarmac, concrete or similar to allow for heavier vehicles during construction, and safe access for fire services in emergency situations.

2.4.46 Lighting would be provided for security purposes and for maintenance undertaken in periods of low light. The lighting would not be switched on routinely and would be operated using infrared motion detectors or switched on manually for maintenance purposes.

2.4.47 An indicative layout of the BESS compound is shown on **ES Vol 3 Figure 2-1: Illustrative Environmental Masterplan [EN010141/DR/6.3]**.

Battery Storage Units

2.4.48 Battery storage is a developing market and the most economic size of the battery storage units (BSUs) at the point the Scheme is constructed is uncertain. The Scheme has been based on a peak output of 100 MW and a storage capacity of 400 MWh using containerised units. This means the proposed BESS could export its maximum power (100 MW) for 4 hours to the grid. The optimal specification for the BESS would be informed by market conditions at the point of detailed design.

2.4.49 The BSUs are typically similar in size and appearance to shipping containers. The BSUs are likely to contain lithium-ion battery modules with integrated liquid cooling systems and thermal management systems. The BSU will also integrate control and monitoring systems, explosion prevention and protections systems, cabling, and may integrate a BESS fire protection system which fully conforms with NFPA 855 (2026) standards. A Heating, Ventilation and Air Conditioning (HVAC) system will be integrated to manage the internal temperature of each BSU.

2.4.50 The chemistry of the battery modules has not yet been fixed; the final decision on the chemistry of the battery modules would be made at the procurement stage based on the safest, most efficient, and most economic technology available on the market at the time. It is assumed at this stage that Lithium-Iron-Phosphate (LFP) batteries would be used as they are currently the most widely selected, have a low risk of thermal runaway and high safety standards; this chemistry has therefore been selected for the purposes of assessment. A final decision on the chemistry of the battery modules will be taken in accordance with the measures set out in the **outline Battery Safety Management Plan [EN010141/DR/7.10]**.

2.4.51 Each BSU will incorporate multiple safety mechanisms to minimise the risk of fire and to safely deal with a fire in that unlikely event. Further details on fire safety management are provided in the **outline Battery Safety Management Plan [EN010141/DR/7.10]**.

2.4.52 A Power Conversion System (PCS) unit would be integrated with either the BSUs, or co-located with the battery transformers. The PCS is used to convert power between the DC battery system and the AC line which import/exports electricity to the BSU.

2.4.53 An indicative drawing of a battery storage unit is shown on **ES Vol 3 Figure 2-2c: Indicative Battery Storage Unit or Battery Transformer [EN010141/DR/6.3]**.

2.4.54 Table 2-5 identifies the relevant design parameters for the BSUs, and the basis on which they have been assessed in this ES.

Table 2-5: Battery Storage Unit Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The battery storage units would be located within the area identified as Work No. 2 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the battery storage units would be sited as per the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Scale	The battery storage units will have a maximum footprint of 16m^2 and a maximum height of 4.4m.	It is assumed the maximum dimensions are applied.
Scale	The foundations of the battery storage units would be concrete to a maximum depth of 0.4m below ground level.	It is assumed the maximum dimensions are applied.
Design	The battery storage units will have an integrated HVAC, or liquid cooling system.	It is assumed the BSUs will have an integrated HVAC as these modules are typically noisier, and therefore represent a worst-case.
Design	The battery storage units will have an external finish of either grey, green, or white according to manufacture specifications, and subject to agreement with the relevant planning authority.	It is assumed the BSUs would be finished in white, which is optimal for thermal management and likely to be most visually conspicuous.

Battery Transformers

2.4.55 The battery transformers will step up or step down the voltage depending on whether the BESS is exporting or importing. The battery transformers will be co-located with ring main units (RMU), a type of switchgear, which will allow each transformer to safely connect to or be isolated from the rest of the system. The battery transformers and RMUs will either be mounted on a skid

or housed in a container. A PCS unit would be either co-located with the battery transformers, or integrated with the BSUs.

2.4.56 An indicative drawing of a battery transformers is shown on **ES Vol 3 Figure 2-2c: Indicative Battery Storage Unit or Battery Transformer [EN010141/DR/6.3]**.

2.4.57 Table 2-6 identifies the relevant design parameters for the battery transformers, and the basis on which they have been assessed in this ES.

Table 2-6: Battery Transformer Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The battery transformers would be located within the area identified as Work No. 2 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the battery transformers would be sited as per the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Scale	The battery transformers will have a maximum footprint of 22m^2 and a maximum height of 3.15m.	It is assumed the maximum dimensions are applied.
Scale	The foundations of the battery transformers will be concrete to a maximum depth of 0.4m below ground level.	It is assumed the maximum dimensions are applied.
Design	The battery transformers will have an external finish of either grey, green, or white according to manufacture specifications, and subject to agreement with the relevant planning authority.	It is assumed the battery transformers would be finished in white, which is optimal for thermal management and likely to be most visually conspicuous.

Auxiliary Transformer

2.4.58 An auxiliary transformer will be located within the BESS Compound to provide an auxiliary power supply to the East Park Energy buildings and operations. This could be used for the control buildings at the BESS and East Park

Substation, the Operations and Maintenance Building, and the Scheme CCTV.

2.4.59 An indicative drawing of an auxiliary transformer is shown on **ES Vol 3 Figure 2-2d: Indicative Auxiliary Transformer [EN010141/DR/6.3]**.

2.4.60 Table 2-7 identifies the relevant design parameters for the auxiliary transformer, and the basis on which it been assessed in this ES.

Table 2-7: Auxiliary Transformer Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The auxiliary transformer would be located within the area identified as Work No. 2 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the auxiliary transformer would be sited as per the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Scale	The auxiliary transformer will have a maximum dimension of 3.5m length x 3.5m width x 3m height.	It is assumed the maximum dimensions are applied.
Scale	The foundations of the auxiliary transformer will be concrete to a maximum depth of 0.4m.	It is assumed the maximum dimensions are applied.

East Park BESS Control Building

2.4.61 The BESS control building is for monitoring and control of the BESS facility. The control building will be formed of either a pre-fabricated concrete structure, or built from brick or glass-reinforced plastic (GRP).

2.4.62 An indicative drawing of the BESS control building is shown on **ES Vol 3 Figure 2-2e: Indicative BESS Control Building [EN010141/DR/6.3]**.

2.4.63 Table 2-8 identifies the relevant design parameters for the BESS control building, and the basis on which it has been assessed in this ES.

Table 2-8: BESS Control Building Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The BESS control building would be located within the area identified as Work No. 2 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the BESS control building would be sited as per the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Scale	The control building will have a maximum dimension of 13m length x 5.5m width x 4m height.	It is assumed the maximum dimensions are applied.
Scale	The foundations of the control building will be concrete to a maximum depth of 0.4m.	It is assumed the maximum dimensions are applied.

Water Storage Tanks

2.4.64 Guidance has been published by the National Fire Chiefs Council[3] (NFCC) on the design and layout of BESS which includes a recommendation that an on-site water supply is provided in the event of a fire. The recommendation is that the on-site water supply should be capable of delivering no less than 1,900 litres per minute for at least two hours (a total of 228,000 litres). The BESS would be located within Cambridgeshire and following initial discussions with Cambridgeshire Fire and Rescue Service it was agreed that on-site water storage tanks will be provided to meet this need.

2.4.65 There are two water storage tanks proposed and each would be capable of storing a minimum of 228,000 litres of water. The tanks would be located in close proximity to the points of access into the BESS.

2.4.66 An indicative drawing of a water storage tank is shown on **ES Vol 3 Figure 2-2f Indicative Water Storage Tank [EN010141/DR/6.3]**.

2.4.67 Table 2-9 identifies the relevant design parameters for the water storage tanks, and the basis on which they have been assessed in this ES.

Table 2-9: Water Storage Tanks Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The water storage tanks would be located within the area identified as Work No. 2 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the water storage tanks would be sited as per the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Scale	The water storage tanks will have a maximum diameter of 10m, and a maximum height of 4.5m above ground level.	It is assumed the maximum dimensions are applied.
Scale	The water storage tanks will sit on a reinforced concrete base up to a maximum depth of 1m.	It is assumed the maximum dimensions are applied.
Design	Two water storage tanks will be provided, one at each point of access into the BESS.	It is assumed that two water storage tanks are included, as per the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.

East Park BESS Fencing

2.4.68 The BESS would be secured by steel palisade fencing.

2.4.69 An indicative drawing of steel palisade fencing is shown on **ES Vol 3 Figure 2-2g: Indicative Steel Palisade Fencing [EN010141/DR/6.3]**.

2.4.70 Table 2-10 identifies the relevant design parameters for the BESS Fencing, and the basis on which it has been assessed in this ES.

Table 2-10: BESS Fencing Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The BESS fencing will be located within the area identified as Work No. 2 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the fencing and gates would be located as shown on the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.

Parameter Type	Parameter	Basis of Assessment
Scale	Steel palisade fencing would have a maximum height of 3m.	It is assumed the maximum dimensions are applied.
Design	Steel palisade fencing would have an external finish of either galvanised steel or a green coating, subject to agreement with the relevant planning authority.	It is assumed the steel palisade fencing would have a galvanised steel finish.

East Park BESS Surfacing and Drainage

2.4.71 The NFCC guidance for BESS notes that consideration should be given within the site design to the management of water run-off such that in an emergency situation where polluted water may run-off from the facility this can be safely contained and treated, rather than risking pollution of groundwater or local watercourses. To achieve this an impermeable surface would be required for the BESS, likely to be concrete or an impermeable membrane, such that any run-off can be directed towards a retention basin. In normal operation the retention basin would allow rainwater to pass through and drain to a nearby watercourse (as set out in **outline Surface Water Management Plan [EN010141/DR/7.13]**), but in an emergency situation a valve could be automatically engaged to isolate the retention basin and prevent any run-off for a period of time. This would allow the run-off to be collected and treated in an appropriate way.

2.4.72 Table 2-11 identifies the relevant design parameters for the BESS surfacing and drainage, and the basis on which it has been assessed in this ES.

Table 2-11: BESS Surfacing and Drainage

Parameter Type	Parameter	Basis of Assessment
Design	The entirety of the BESS compound will have an impermeable surface finish (likely to be concrete or an impermeable membrane). The BESS compound	It is assumed the BESS compound would have a concrete surface finish across its full extent.

Parameter Type	Parameter	Basis of Assessment
	will drain to the BESS compound drainage lagoon located within Work No. 6B on the **Works Plan [EN010141/DR/2.3]**.	

East Park BESS Internal Access

2.4.73 There would be two separate points of access to the BESS to accord with the NFCC guidance. There would be internal perimeter access around the BSUs to allow different units to be accessed. The internal roads to the BESS would be constructed of tarmac, concrete or similar to allow for heavier vehicles during construction and decommissioning, and safe access for fire services in emergency situations. Parking spaces would be provided for site operators.

2.4.74 An indicative section drawing through the East Park BESS internal access roads is indicated by the 'Heavy Duty Access Track' on **ES Vol 3 Figure 2-2h: Indicative Access Tracks [EN010141/DR/6.3]**.

2.4.75 Table 2-12 identifies the relevant design parameters for the BESS internal access, and the basis on which it has been assessed in this ES.

Table 2-12: BESS Internal Access

Parameter Type	Parameter	Basis of Assessment
Design	The BESS compound internal access roads will be up to 6m wide and up to 0.5m depth.	It is assumed the maximum dimensions are applied.

Work No. 3 – an on-site substation (East Park Substation)

2.4.76 Work No. 3 comprises an on-site substation that will be known as the East Park Substation, consisting of:

- substation control building;

- transformers;
- switchgear;
- electrical equipment;
- fencing;
- surfacing and drainage; and
- internal access.

2.4.77 The East Park Substation is an essential element of the Scheme, used to control and operate the solar PV arrays, and to step the voltage between the Scheme (33 kV) and the National Grid's Eaton Socon Substation (400 kV), which is the Scheme's point of connection. The electricity generated on site by the solar PV modules will be relayed from the on-site solar transformers to the East Park Substation via underground cables.

2.4.78 The East Park Substation is proposed to be within East Park Site D. In the EIA Scoping Report it was assumed that the East Park Substation would be located within Site C. However, in response to further environmental surveys and feedback received on the PEIR at the statutory consultation it has emerged that Site D is a preferable location for the East Park Substation.

2.4.79 The East Park Substation would be co-located adjacent to the BESS, within a fenced compound separate from the BESS compound. Lighting would be provided for security purposes and for maintenance undertaken in periods of low light. The lighting would not be switched on routinely and would be operated using infrared motion detectors or switched on manually for maintenance purposes. Further information on lighting and security is provided below.

2.4.80 An indicative layout of the East Park Substation is shown on **ES Vol 3 Figure 2-1: Illustrative Environmental Masterplan [EN010141/DR/6.3]**.

East Park Substation Control Building

2.4.81 The East Park Substation control building will be the main operational control building for the Scheme. It will house indoor electrical switchgear with

incoming connections from each of the solar transformers distributed throughout the solar PV arrays. The control building will be two-storey, comprising a ground-level and a basement level. The basement level would be used for the electrical switchgear such that the buried cabling could connect directly into the switchgear units. The ground level would be used for control and monitoring rooms, office space, welfare facilities, and storage. These facilities would be used only by East Park Energy site operatives.

2.4.82 An indicative elevation drawing of the East Park Substation control building is shown on **ES Vol 3 Figure 2-2i: Indicative East Park Substation Control Building [EN010141/DR/6.3]**.

2.4.83 Table 2-13 identifies the relevant design parameters for the control building, and the basis on which it has been assessed in this ES.

Table 2-13: East Park Substation Control Building Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The East Park Substation control building would be located within the area identified as Work No. 3 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the East Park Substation control building would be sited as per the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Scale	The control building will have a maximum footprint of 1,030m^2 and a maximum height of 6m above ground level.	It is assumed the maximum dimensions are applied.
Scale	The control building will have a sub-surface structure to facilitate cable connections with internal switchgear. The sub-surface part of the structure will have a maximum footprint of 250m^2 and a maximum depth of 3m below ground level.	It is assumed the maximum dimensions are applied.

Electrical Equipment

2.4.84 The electrical equipment would be located within the East Park Substation compound and comprises two 400 kV / 33 kV transformers along with busbars, disconnectors, circuit breakers, surge arresters and insulators, above ground cabling, gantries, cable sealing ends.

2.4.85 An indicative elevation drawing of the electrical equipment is shown on **ES Vol 3 Figure 2-2j: Indicative Substation Electrical Equipment [EN010141/DR/6.3]**, which relates to the arrangement shown on ***ES Vol 3 Figure 2-1: Illustrative Environmental Masterplan [EN010141/DR/6.3]***.

2.4.86 Table 2-14 identifies the relevant design parameters for the electrical equipment, and the basis on which it has been assessed in this ES.

Table 2-14: East Park Substation Electrical Equipment Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The East Park Substation electrical equipment will be located within the area identified as Work No. 3 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the electrical equipment would be located as shown on the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Scale	The maximum height of the electrical equipment within the East Park Substation Compound will be 13.6m above ground level.	It is assumed the maximum height of the electrical equipment would be 13.6m above ground level, but for the purposes of the visual assessment and visualisations the electrical equipment is assumed to be of varied height in accordance with the indicative elevation drawing on **ES Vol 3 Figure 2-2j [EN010141/DR/6.3]**.

East Park Substation Fencing

2.4.87 The East Park Substation would be secured by steel palisade fencing.

2.4.88 An indicative drawing of steel palisade fencing is shown on **ES Vol 3 Figure 2-2g: Indicative Steel Palisade Fencing [EN010141/DR/6.3]**.

2.4.89 Table 2-15 identifies the relevant design parameters for the fencing, and the basis on which it has been assessed in this ES.

Table 2-15: East Park Substation Fencing

Parameter Type	Parameter	Basis of Assessment
Location	The East Park Substation fencing will be located within the area identified as Work No. 3 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the fencing and gates would be located as shown on the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Scale	Steel palisade fencing would have a maximum height of 3m.	It is assumed the maximum dimensions are applied.
Design	Steel palisade fencing would have an external finish of either galvanised steel or a green coating, subject to agreement with the relevant planning authority.	It is assumed the fencing is finished as galvanised steel.

East Park Substation Surfacing and Drainage

2.4.90 The surfacing of the East Park Substation compound would either be made up of compacted stone (such as Type 1 aggregate) or be finished with a concrete surface. The access roads would be impermeable and likely to be constructed of concrete or asphalt. For the purpose of this ES, it assumed that the East Park Substation would comprise an entirely impermeable area.

2.4.91 The East Park Substation would drain to the same retention basin as the East Park BESS which would in turn have a controlled flow release to a nearby watercourse, as set out in the **outline Surface Water Management Plan [EN010141/DR/7.13]**.

East Park Substation Internal Access

2.4.92 There would be a single point of access to the East Park Substation. The internal roads to the East Park Substation would be constructed of tarmac or asphalt or similar to allow for heavier vehicles during construction.

2.4.93 An indicative section drawing through the East Park Substation internal access roads is indicated by the 'Heavy Duty Access Track' on **ES Vol 3 Figure 2-2h: Indicative Access Tracks [EN010141/DR/6.3]**.

2.4.94 Table 2-16 identifies the relevant design parameters for the access roads, and the basis on which it has been assessed in this ES.

Table 2-16: East Park Substation Internal Access Design Parameters

Parameter Type	Parameter	Basis of Assessment
Design	The East Park Substation compound internal access roads will be between 3m and 6m wide and up to 0.5m depth.	It is assumed the maximum dimensions are applied.

Work No. 4 – a 400 kV electrical cable connection from the East Park Substation to the Eaton Socon Substation

2.4.95 Work No. 4 comprises a 400 kV electrical cable connection from the East Park Substation to the Eaton Socon Substation, consisting of:

- a 400 kV electrical circuit;
- fibre optic cables;
- protective plates;
- cable jointing chambers; and
- temporary access and laydown areas.

2.4.96 The 400 kV connection from the East Park Substation to the National Grid's Eaton Socon Substation will comprise a single electrical circuit that will be below ground along its full length between the two substations. The cables will be trenched in an open cut trench along the majority of the length, with horizontal drilling or horizontal directional drilling used to cross beneath some watercourses, vegetation, areas of archaeological constraint, and roads.

2.4.97 The 400 kV cabling is typically available in lengths of up to 1000m, with the lengths of cable therefore connected in below ground cable jointing

chambers. The 400 kV grid connection will be approximately 6,000m in length.

2.4.98 The Order Limits along the Grid Connection have typically been set at 25m wide. The construction working width when laying the cable will typically be up to 12m wide which allows for the width of the trench, a temporary access track, and material stockpiling. There is therefore flexibility retained within the Order Limits to allow for the alignment of the cable to divert slightly should any unexpected constraints be found along the route.

400 kV Electrical Circuit

2.4.99 The 400 kV grid connection comprises a single 400 kV electrical circuit formed of three extra high voltage (EHV) cables and associated fibre optic cabling and earthing. The cabling will be set in cement-bound sand for insulation and safety reasons due to the extra high voltages involved.

2.4.100 An indicative cross-section drawing for the 400 kV cable trench is shown on **ES Vol 3 Figure 2-2k: Indicative 400kV Cable Trench and Jointing Chamber [EN010141/DR/6.3]**.

2.4.101 Table 2-17 identifies the relevant design parameters for the 400 kV electrical circuit, and the basis on which it has been assessed in this ES.

Table 2-17: 400 kV Electrical Circuit Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The 400 kV electrical circuit will be located within the area identified as Work No. 4 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the 400 kV electrical circuit would be located as shown on the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Scale	The 400 kV electrical circuit will be laid in a single circuit in a trench up to 1.5m wide, with a minimum depth of 1m.	It is assumed the trench would be as per the indicative drawing on **ES Vol 3 Figure 2-2k [EN010141/DR/6.3]** as this is a realistic representation of how it is expected to be built. The flexibility sought would only be in case obstacles are found and is

Parameter Type	Parameter	Basis of Assessment
		expected to only be along short sections of the corridor, if at all.
Design	Horizontal Drilling or Horizontal Directional Drilling (or similar method) will be used to install the 400kV electrical circuit beneath certain watercourses, areas of archaeological constraint, and roads.	Anticipated locations of Horizontal Drilling or Horizontal Directional Drilling are set out in Table 2-18 below and have formed the basis of assessment.

2.4.102 The 400 kV electrical circuit will be required to cross other infrastructure including roads and utilities, as well as natural features such as watercourses and vegetation. There are three principal construction methods that will be utilised for crossing such features with the 400 kV cable, these are:

- Trenching – using an open-cut trench to cross, and reinstating the existing land use following trenching (refer to **ES Vol 3 Figure 2-2r: Indicative Trench Crossing of Field Ditch [EN010141/DR/6.3]**);
- Horizontal Drilling – using a thrust-bore style drill to install conduit beneath features without above ground disturbance, the method is suitable for short crossings typically up to 30m in length, and where the crossing does not need to be too deep (refer to **ES Vol 3 Figure 2-2s: Indicative Horizontal Drilling [EN010141/DR/6.3]**);
- Horizontal Directional Drilling – using a larger drilling rig to install conduit beneath features without above ground disturbance, this method is suitable for crossing longer distances and allows greater guidance of the drill to arc beneath features where necessary, allowing greater depths to be reached (refer to **ES Vol 3 Figure 2-2t: Indicative Horizontal Directional Drill [EN010141/DR/6.3]**).

2.4.103 Table 2-18 sets out the current assumption as to the location of different crossings required to install the 400 kV electrical circuit. The table sets out

the type of feature being crossed, the ID for the feature, the type of crossing to be utilised, and scheme component crossing the feature.

2.4.104 **ES Vol 3 Figure 2-3: Indicative Crossings Plan [EN010141/DR/6.3]** shows the locations of the crossings set out in Table 2-18.

Table 2-18: 400 kV electrical circuit crossings

Ref.	Existing or Proposed?	Feature Crossed		Crossing	
		Type	ID	Type	Scheme Component
C45b	Proposed	Utility	Anglian Water	Horizontal Drill	400kV Grid Connection
C47b	Proposed	Utility	National Gas	Horizontal Drill	400kV Grid Connection
C48	Proposed	Watercourse	Field Ditch	Trench	400kV Grid Connection
C54	Proposed	Watercourse	South Brook	Horizontal Drill	400kV Grid Connection
C55	Proposed	Watercourse	Field Ditch	Trench	400kV Grid Connection
C56b	Proposed	Watercourse	Field Ditch	Trench	400kV Grid Connection
C57	Proposed	Road	Duloe Lane	Horizontal Drill	400kV Grid Connection
C58b	Proposed	Watercourse	Duloe Brook	Horizontal Drill	400kV Grid Connection
C59	Proposed	Road	Bushmead Road	Horizontal Drill	400kV Grid Connection
C60	Proposed	Road	Access Track	Horizontal Drill	400kV Grid Connection
C61	Proposed	Vegetation	Woodland	Horizontal Directional Drill	400kV Grid Connection

Cable Jointing Chambers

2.4.105 The cable jointing chambers will be located along the 400 kV electrical circuit at distances of between 700m and 1000m apart. The cable jointing chambers will be located proximate to field boundaries wherever practicable, but avoiding excavation within root protection areas of trees and hedgerows.

2.4.106 The cable jointing chambers will be constructed of concrete and will be sealed and buried below ground at a depth sufficient that the existing land use can be reinstated above them following construction. An indicative plan view and section drawing of the cable jointing chambers is shown on **ES Vol 3 Figure 2-2k: Indicative 400 kV Cable Trench and Jointing Chamber [EN010141/DR/6.3]**.

2.4.107 Table 2-19 identifies the relevant design parameters for the cable jointing chambers, and the basis on which they have been assessed in this ES.

Table 2-19: Cable Jointing Chamber Design Parameters

Parameter Type	Parameter	Basis of Assessment
Scale	The cable jointing chambers will be up to 15m in length, by 3m in width, by 2.6m in depth.	It is assumed the maximum dimensions are applied.
Design	The top of the cable jointing chambers will be between 1m and 1.5m below ground level.	It is assumed the top of the cable jointing chambers are 1m below ground.
Design	The cable jointing chambers will be between 700m and 1000m apart.	It is assumed that 7 cable jointing chambers would be required.

Temporary Construction Access and Laydown Areas

2.4.108 There will be temporary construction access required along the length of the 400 kV electrical circuit. The assumed alignment of the temporary

construction access is shown on **ES Vol 3 Figure 2-5: Indicative Construction Access and Compounds [EN010141/DR/6.3]**.

2.4.109 The temporary construction access and laydown areas will utilise interlocking heavy duty plastic matting (e.g. IsoTrack H) overlaid on a geomembrane as shown. This matting has very high load capacities and is designed to support loads of up to 150 tonnes while preventing rutting beneath, even on soft soils. The mats spread wheel loads over a broad area and 'gently flex' with ground contours so no ground preparation is required for installation.

2.4.110 An indicative cross-section through the proposed temporary access tracks is shown as a 'Temporary Access Track' on **ES Vol 3 Figure 2-2h: Indicative Access Tracks [EN010141/DR/6.3]**.

Work No. 5 – works at the Eaton Socon Substation

2.4.111 The Scheme will connect into the Eaton Socon Substation with works required to create a new 400 kV generation bay, including:

- an electrical bay to connect into the Eaton Socon Substation, including associated outdoor air insulated switchgear (AIS) or indoor gas insulated switchgear (GIS) and electrical apparatus, circuit breakers, disconnectors and earth switches;
- substation electrical apparatus, including bus-bars, steel supports, insulation posts, cable sealing ends, surge arrestors, instrument transformers, metering equipment, and protection equipment; and
- underground and above ground electrical cables and electrical connectors, including cables for power, control and communication with electrical bays and to connect into the Eaton Socon Substation, including associated outdoor AIS or indoor GIS and electrical apparatus.

2.4.112 The works to the Eaton Socon Substation would be located within the area identified as Work No. 5 on the **Works Plan [EN010141/DR/2.3]**.

Work No. 6 – Internal Cabling and Ancillary Infrastructure

2.4.113 Work No. 6 comprises internal cabling and ancillary infrastructure required to build, operate and maintain the Scheme, consisting of:

- 33 kV high voltage cabling;
- low voltage cabling;
- fencing and gates;
- access tracks;
- operations and maintenance area (Work No. 6A);
- drainage lagoon (Work No. 6B);
- drainage;
- CCTV and monitoring systems; and
- utility connections.

33 kV High Voltage Cabling

2.4.114 The 33 kV high voltage cabling connects the on-site solar transformers from Work No. 1 with the East Park Substation at Work No. 3, as well as the BESS at Work No. 2 with the East Park Substation. The cabling is below ground and typically laid in parallel circuits. At the western end of the East Park Site (i.e. furthest from the East Park Substation) there will be fewer circuits laid in parallel, whereas at the eastern end of the East Park Site (i.e. closest to the East Park Substation) there will be a greater number of circuits. As a result, the trench at the western end will be narrower (typically 0.4m wide for a single circuit), whilst at the eastern end it will be wider (up to a maximum of 15m wide).

2.4.115 A typical cross-section drawing through a single circuit and multiple parallel circuits is shown on **ES Vol 3 Figure 2-2l: Indicative 33kV Cable Trench [EN010141/DR/6.3]**.

2.4.116 Table 2-20 identifies the relevant design parameters for the 33 kV high voltage cabling, and the basis on which it has been assessed in this ES.

Table 2-20: High Voltage 33 kV Cabling Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The high voltage 33 kV electrical cabling works will be undertaken within the area identified as Work No. 6 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the high voltage 33 kV cabling would be located within the area identified as Work No. 6 on the **Works Plan [EN010141/DR/2.3]**.
Scale	The high voltage 33kV electrical cabling will be below ground laid in trenches a minimum of 1m deep and of varied width dependent on the number of circuits at any point. A single circuit will be laid in a trench up to 0.4m wide. Additional circuits will be laid in parallel up to a maximum trench width of 15m.	The width of cable trenches across the Scheme within Work No. 6 will vary. For the purposes of assessment it is assumed that these trenches will avoid vegetation loss as far as practicable, with reference to Table 2-34.
Design	Horizontal Drilling or Horizontal Directional Drilling (or similar method) may be used to cross features such as roads, utilities, watercourses, or vegetation.	Anticipated locations of Horizontal Drilling or Horizontal Directional Drilling are set out in Table 2-21 below and have formed the basis of assessment.

2.4.117 As with the 400 kV electrical circuit, the 33 kV high voltage cabling will be required to cross other infrastructure including roads and utilities, as well as natural features such as watercourses and vegetation. There are three principal construction methods that will be utilised, these are:

- Trenching – using an open-cut trench to cross, and reinstating the existing land use following trenching (refer to **ES Vol 3 Figure 2-2r: Indicative Trench Crossing of Field Ditch [EN010141/DR/6.3]**);
- Horizontal Drilling – using a thrust-bore style drill to install conduit beneath features without above ground disturbance, the method is suitable for short crossings typically up to 30m in length, and where the crossing does not need to be too deep (refer to **ES Vol 3 Figure 2-2s: Indicative Horizontal Drilling [EN010141/DR/6.3]**);

- Horizontal Directional Drilling – using a larger drilling rig to install conduit beneath features without above ground disturbance, this method is suitable for crossing longer distances and allows greater guidance of the drill to arc beneath features where necessary, allowing greater depths to be reached (refer to **ES Vol 3 Figure 2-2t: Indicative Horizontal Directional Drilling [EN010141/DR/6.3]**).

2.4.118 Table 2-21 sets out the current assumption as to the location of different crossings required to install the 33 kV high voltage cabling. The table sets out the type of feature being crossed, the ID for the feature, the type of crossing to be utilised, and scheme component crossing the feature.

2.4.119 **ES Vol 3 Figure 2-3: Indicative Crossings Plan [EN010141/DR/6.3]** shows the locations of the crossings set out in Table 2-21.

Table 2-21: 33 kV cabling crossings

Ref.	Existing or Proposed?	Feature Crossed		Crossing	
		Type	ID	Type	Scheme Component
C01	Existing	Watercourse	Pertenhall Brook	Open span crossing	Access Track and 33kV Cabling
C04	Proposed	Road	B660	Horizontal Drill	33kV Cabling
C05a	Proposed	Watercourse	Stream	Horizontal Drill	33kV Cabling
C06	Existing	Watercourse	Field Ditch	Culvert	Access Track and 33kV Cabling
C08	Proposed	Watercourse	Field Ditch	Open span crossing	Access Track and 33kV Cabling
C09	Proposed	Watercourse	Field Ditch	Open span crossing	Access Track and 33kV Cabling

Ref.	Existing or Proposed?	Feature Crossed		Crossing	
		Type	ID	Type	Scheme Component
C10	Existing	Watercourse	Field Ditch	Culvert	Access Track and 33kV Cabling
C11	Existing	Watercourse	Field Ditch	Culvert	Access Track and 33kV Cabling
C13	Proposed	Road	Little Staughton Road	Horizontal Drill	33 kV Cabling
C14	Proposed	Road	Great Staughton Road	Horizontal Drill	33 kV Cabling
C15	Proposed	Road	Little Staughton Road	Horizontal Drill	33 kV Cabling
C16	Proposed	Watercourse	Field Ditch	Open span crossing	Access Track and 33kV Cabling
C17	Proposed	Road	Great Staughton Road	Horizontal Drill	33 kV Cabling
C18b	Proposed	Utility	National Gas	Horizontal Drill	33kV Cabling
C19b	Proposed	Utility	National Gas	Horizontal Drill	33kV Cabling
C20	Proposed	Watercourse	Field Ditch	Open span crossing	Access Track and 33kV Cabling
C21	Existing	Watercourse	Field Ditch	Culvert	Access Track and 33kV Cabling
C22b	Proposed	Utility	National Gas	Horizontal Drill	33kV Cabling

Ref.	Existing or Proposed?	Feature Crossed		Crossing	
		Type	ID	Type	Scheme Component
C23b	Proposed	Utility	National Gas	Horizontal Drill	33kV Cabling
C24	Proposed	Road	Little Staughton Road	Horizontal Drill	33kV Cabling
C27b	Proposed	Utility	National Gas	Horizontal Drill	33kV Cabling
C28b	Proposed	Utility	National Gas	Horizontal Drill	33kV Cabling
C29	Existing	Watercourse	Field Ditch	Culvert	Access Track and 33kV Cabling
C30	Proposed	Road	Unnamed Road	Horizontal Drill	33kV Cabling
C31b	Proposed	Utility	National Gas	Horizontal Drill	33kV Cabling
C32	Proposed	Watercourse	Field Ditch	Trench	33kV Cabling
C34	Proposed	Watercourse	Field Ditch	Trench	33kV Cabling
C35	Proposed	Watercourse	Field Ditch	Open span crossing	Access Track and 33kV Cabling
C36	Proposed	Watercourse	Field Ditch	Trench	33kV Cabling
C38	Proposed	Watercourse	Field Ditch	Trench	33kV Cabling
C39	Proposed	Archaeology / Road	Scheduled Monument and Moor Road	Horizontal Directional Drill	33kV Cabling
C41	Proposed	Watercourse	Field Ditch	Trench	33kV Cabling
C44	Proposed	Utility	Anglian Water	Horizontal Drill	33kV Cabling

Ref.	Existing or Proposed?	Feature Crossed		Crossing	
		Type	ID	Type	Scheme Component
C45a	Proposed	Utility	Anglian Water	Horizontal Drill	33kV Cabling
C46	Proposed	Watercourse	Field Ditch	Trench	33kV Cabling
C49b	Proposed	Utility	National Gas	Horizontal Drill	33kV Cabling
C50b	Proposed	Utility	Anglian Water	Horizontal Drill	33kV Cabling
C51	Proposed	Utility	Anglian Water	Horizontal Drill	33kV Cabling

Low Voltage Cabling

2.4.120 Low voltage cabling will be used to connect the solar PV modules to the inverters, this cabling is typically mounted to the rear of the solar PV arrays. The cabling is in turn then relayed on to the solar transformers, typically laid in shallow trenches following the end of each row of panels. A typical cross-section through a buried low voltage cabling trench is shown on **ES Vol 3 Figure 2-2m: Indicative Low Voltage Cable Trench [EN010141/DR/6.3]**.

2.4.121 Table 2-22 identifies the relevant design parameters for the low voltage cabling, and the basis on which it has been assessed in this ES.

Table 2-22: Low Voltage Cabling Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The low voltage cabling works will be undertaken within the area identified as Work No. 6 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the low voltage cabling would be laid in trenches along the end of rows of panels or alongside access tracks, relayed back to the solar transformers. The low voltage cabling is not shown on the Illustrative Environmental Masterplan.
Scale	Where buried, the low voltage cable trenches would be a	It is assumed the maximum dimensions are applied.

Parameter Type	Parameter	Basis of Assessment
	minimum of 1m deep and 0.4m wide.	

Fencing and Gates

2.4.122 The fencing covered by Work No. 6 will be the fencing enclosing the solar PV areas identified in Work No. 1. The fencing will be suited to a rural context, comprising either deer fencing (timber posts and metal stock fencing), or green paladin fencing. Vehicle gates will be provided to each fenced area to allow operational and maintenance access. These gates will be secured by locks, with access provided to any relevant area that a relevant statutory undertaker may require access.

2.4.123 An indicative elevation drawing showing the two potential types of fencing that will be used is shown on **ES Vol 3 Figure 2-2n: Fencing and Gates [EN010141/DR/6.3]**.

2.4.124 Table 2-23 identifies the relevant design parameters for the fencing and gates, and the basis on which it has been assessed in this ES.

Table 2-23: Fencing and Gates Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The fencing and gates will be located within the area identified as Work No. 6 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the fencing and gates would be located as shown on the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Scale	Fencing and gates around the Solar PV Areas will be up to 2.1m in height above ground level. Posts will be installed to a maximum depth of 1m below ground level.	It is assumed the fencing and gates would be up to the maximum height of 2.1m above ground level, with posts buried up to 1m below ground level.
Design	Small mammal gates will be provided at the base of the fence with maximum dimensions of 0.3m in height by 0.25m in width.	It is assumed that a minimum of two small mammal gates will be provided to each fenced area, at the maximum dimensions specified.

Parameter Type	Parameter	Basis of Assessment
	A minimum of two small mammal gates will be provided to each fenced area.	
Design	The fencing will be either deer fencing comprising timber posts and metal stock fencing, or green paladin fencing.	It is assumed that the fencing will be green paladin fencing, which is considered to be a worst-case scenario.

Access Tracks

2.4.125 The access tracks will provide a means of access within the Scheme and will be constructed of permeable compacted stone, expected to be Type 1 Hardcore. The tracks will have a width of up to 4m and a depth of up to 0.25m, with laybys where necessary. Where practicable, existing access tracks within the Order Limits will be used and only upgraded if necessary.

2.4.126 An indicative cross-section through the proposed access tracks is shown as a 'Typical Access Track' on **ES Vol 3 Figure 2-2h: Indicative Access Tracks [EN010141/DR/6.3]**.

2.4.127 Table 2-24 identifies the relevant design parameters for the access tracks, and the basis on which it has been assessed in this ES.

Table 2-24: Access Tracks Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The access tracks will be located within the area identified as Work No. 6 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the access tracks will be located as shown on the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**. This is considered to be a realistic case for how the access tracks will be delivered.
Scale	The access tracks will have a width of up to 4m, and a depth of up to 0.25m.	It is assumed the maximum dimensions are applied.

Parameter Type	Parameter	Basis of Assessment
Design	At watercourses, the access tracks will utilise existing agricultural crossings wherever feasible. Where this is not feasible the watercourse will be crossed using an open-span crossing.	Anticipated watercourse crossings where culverts would be required are set out in Table 2-25 below and have formed the basis of assessment. An indicative drawing of an open span watercourse crossing is shown on **ES Vol 3 Figure 2-2o [EN010141/DR/6.3]**.

2.4.128 The access tracks will be required to cross a number of watercourses and utilities within the Order Limits. Where practicable, existing crossings of watercourses have been used, however where this is not feasible the watercourse will be crossed with an open span crossing. An indicative design for the open span crossings is shown on **ES Vol 3 Figure 2-2o: Indicative Open Span Crossing [EN010141/DR/6.3]**.

2.4.129 Table 2-25 sets out the current assumption as to the location of crossings related to the proposed access tracks. The table sets out the type of feature being crossed, the ID for the feature, the type of crossing to be utilised, and scheme component crossing the feature.

2.4.130 **ES Vol 3 Figure 2-3: Indicative Crossings Plan [EN010141/DR/6.3]** shows the locations of the crossings set out in Table 2-25.

Table 2-25: Access Track Crossings

Ref.	Existing or Proposed?	Feature Crossed		Crossing	
		Type	ID	Type	Scheme Component
C01	Existing	Watercourse	Pertenhall Brook	Open span crossing	Access Track and 33kV Cabling
C02	Proposed	Watercourse	Field Ditch	Open span crossing	Access Track

Ref.	Existing or Proposed?	Feature Crossed		Crossing	
		Type	ID	Type	Scheme Component
C03	Existing	Watercourse	Field Ditch	Existing Culvert	Access Track and 33kV Cabling
C06	Existing	Watercourse	Field Ditch	Existing Culvert	Access Track and 33kV Cabling
C07	Proposed	Watercourse	Field Ditch	Open span crossing	Access Track
C08	Proposed	Watercourse	Field Ditch	Open span crossing	Access Track and 33kV Cabling
C09	Proposed	Watercourse	Field Ditch	Open span crossing	Access Track and 33kV Cabling
C10	Existing	Watercourse	Field Ditch	Existing Culvert	Access Track and 33kV Cabling
C11	Existing	Watercourse	Field Ditch	Existing Culvert	Access Track and 33kV Cabling
C12	Existing	Watercourse	Field Ditch	Existing Culvert	Access Track
C16	Proposed	Watercourse	Field Ditch	Open span crossing	Access Track and 33kV Cabling
C18a	Proposed	Utility	National Gas	Access Track	Access Track
C19a	Proposed	Utility	National Gas	Access Track	Access Track
C20	Proposed	Watercourse	Field Ditch	Open span crossing	Access Track and 33kV Cabling

Ref.	Existing or Proposed?	Feature Crossed		Crossing	
		Type	ID	Type	Scheme Component
C21	Existing	Watercourse	Field Ditch	Existing Culvert	Access Track and 33kV Cabling
C22a	Existing	Utility	National Gas	Access Track	Access Track
C23a	Existing	Utility	National Gas	Access Track	Access Track
C25	Proposed	Utility	National Gas	Access Track	Access Track
C26	Proposed	Utility	National Gas	Access Track	Access Track
C27a	Proposed	Utility	National Gas	Access Track	Access Track
C28a	Proposed	Utility	National Gas	Access Track	Access Track
C29	Existing	Watercourse	Field Ditch	Existing Culvert	Access Track and 33kV Cabling
C33	Existing	Watercourse	Field Ditch	Existing Culvert	Access Track
C35	Proposed	Watercourse	Field Ditch	Open span crossing	Access Track and 33kV Cabling
C37	Existing	Watercourse	Field Ditch	Existing Culvert	Access Track
C43	Existing	Watercourse	Field Ditch	Existing Culvert	Access Track
C49a	Proposed	Utility	National Gas	Access Track	Heavy Duty Access Track
C50a	Proposed	Utility	Anglian Water	Access Track	Heavy Duty Access Track

Ref.	Existing or Proposed?	Feature Crossed		Crossing	
		Type	ID	Type	Scheme Component
C52	Proposed	Watercourse	Field Ditch	Proposed Culvert	Heavy Duty Access Track

Temporary Access Tracks

2.4.131 Temporary access tracks will be required during construction and decommissioning of the Scheme. These tracks will supplement the proposed access tracks to enable access to all relevant parts of the Order Limits. An illustrative layout of the temporary access tracks is shown on **ES Vol 3 Figure 2-5: Illustrative Construction Access and Compounds [EN010141/DR/6.3]**. The temporary access tracks will utilise heavy duty construction matting.

2.4.132 An indicative cross-section through the proposed temporary access tracks is shown as a 'Temporary Access Track' on **ES Vol 3 Figure 2-2h: Indicative Access Tracks [EN010141/DR/6.3]**.

2.4.133 It should be noted that the temporary access track proposed within the footprint of the Roman Small Town Scheduled Monument must be in accordance with the design as approved by the final Archaeological Mitigation Strategy. An indicative design is presented in Appendix B of the **outline Archaeological Mitigation Strategy [EN010141/DR/7.15]**.

2.4.134 Table 2-26 identifies the relevant design parameters for the temporary access tracks, and the basis on which it has been assessed in this ES.

Table 2-26: Temporary Access Tracks Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The temporary access tracks will be located within the areas identified as Work No. 6 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the temporary access tracks will be located in the areas identified on the Indicative Construction Access and

Parameter Type	Parameter	Basis of Assessment
		Compounds Plan on **ES Vol 3 Figure 2-5 [EN010141/DR/6.3]**.
Scale	The temporary access tracks will be up to 4m wide.	It is assumed the maximum dimensions are applied.
Design	At watercourses, the temporary access tracks will utilise existing agricultural crossings wherever feasible. Where this is not feasible the watercourse will be temporarily culverted, or a bailey bridge will be used. Culverts will be designed to reduce any alteration of watercourse alignment where feasible, and will be sunken so as to allow a natural bed substrate to be maintained through the culvert.	Anticipated watercourse crossings where culverts or bailey bridges would be required are set out in Table 2-27 below and have formed the basis of assessment. An indicative drawing of a culverted watercourse is shown on **ES Vol 3 Figure 2-2o [EN010141/DR/6.3]**. An indicative drawing of a bailey bridge crossing is shown on **ES Vol 3 Figure 2-2v [EN010141/DR/6.3]**.
Design	The temporary access tracks will be formed of heavy-duty construction matting that does not require excavation to install.	It is assumed that heavy duty construction matting is used.

2.4.135 The temporary access tracks will be required to cross a number of watercourses and utilities within the Order Limits. Where practicable, existing crossings of watercourses have been used, however where this is not feasible the watercourse will be temporarily culverted or crossed by a temporary bailey bridge. The currently anticipated design of the culverts is shown on **ES Vol 3 Figure 2-2p: Indicative Culvert [EN010141/DR/6.3]**, and a design for the temporary bailey bridge is shown on **ES Vol 3 Figure 2-2v: Indicative Bailey Bridge Crossing [EN010141/DR/6.3]**.

2.4.136 Table 2-27 sets out the current assumption as to the location of crossings related to the temporary access tracks. The table sets out the type of feature being crossed, the ID for the feature, the type of crossing to be utilised, and scheme component crossing the feature.

2.4.137 **ES Vol 3 Figure 2-3: Indicative Crossings Plan [EN010141/DR/6.3]** shows the locations of the crossings set out in Table 2-27.

Table 2-27: Temporary Access Track Crossings

Ref.	Existing or Proposed?	Feature Crossed		Crossing	
		Type	ID	Type	Scheme Component
C05b	Proposed	Watercourse	Stream	Bailey Bridge	Temporary Construction Access
C31a	Proposed	Utility	National Gas	Access Track	Temporary Construction Access
C40	Proposed	Watercourse	Field Ditch	Culvert	Temporary Construction Access
C42	Proposed	Watercourse	Field Ditch	Culvert	Temporary Construction Access
C47a	Proposed	Utility	National Gas	Access Track	Temporary Construction Access
C53	Existing	Watercourse	South Brook	Existing Culvert	Temporary Construction Access
C56a	Proposed	Watercourse	Field Ditch	Culvert	Temporary Construction Access
C58a	Proposed	Watercourse	Duloe Brook	Bailey Bridge	Temporary Construction Access

Operations and Maintenance Area (Work No. 6A)

2.4.138 An operations and maintenance area is proposed to be co-located with the East Park BESS and East Park Substation. The purpose of the operations and maintenance area is to provide a building that can be used for storage of site management and maintenance equipment, which will include plant and

machinery not only for maintaining the infrastructure components of the Scheme, but also for maintaining the extensive habitats and landscape areas proposed across the Scheme. The operations and maintenance area will include:

- storage, operations and maintenance building;
- surfacing and drainage;
- storage;
- rainwater harvesting tanks; and
- car parking and access.

2.4.139 An indicative drawing of the storage, operations and maintenance building is shown on **ES Vol 3 Figure 2-2u: Indicative Storage, Operations and Maintenance Building [EN010141/DR/6.3]**.

2.4.140 Table 2-28 identifies the relevant design parameters for the operations and maintenance area, and the basis on which it has been assessed in this ES.

Table 2-28: Operations and Maintenance Area Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The operations and maintenance area will be located within the area identified as Work No. 6A on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the operations and maintenance area will be located as shown on the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Scale	The maximum dimensions of the storage, operations and maintenance building will be 40m in length, by 20m in width, by 6m in height.	It is assumed the maximum dimensions are applied.
Design	The storage, operations and maintenance building will be designed to have a pitched roof, and finished with green walls and a white roof.	It is assumed the design of the storage, operations and maintenance building is as per the elevation drawing on **ES Vol 3 Figure 2-2u [EN010141/DR/6.3]**.

East Park BESS and Substation Drainage Lagoon (Work No. 6B)

2.4.141 The East Park BESS and Substation drainage lagoon will provide a specific drainage retention basin for Work No. 2, Work No. 3 and Work No. 6A. The retention basin will be designed to deliver environmental benefits for ecology in addition to functioning as part of the Scheme drainage. Work No. 6B will include:

- surface water retention basin;
- drainage infrastructure; and
- isolation valve and control systems.

2.4.142 Table 2-29 identifies the relevant design parameters for the East Park BESS and Substation drainage lagoon, and the basis on which it has been assessed in this ES.

Table 2-29: East Park BESS and Substation Retention Basin Design Parameters

Parameter Type	Parameter	Basis of Assessment
Location	The East Park BESS and Substation retention basin associated with Work No. 2, Work No. 3, and Work No. 6A will be located within the area identified as Work No. 6B on the **Works Plan [EN010141/DR/2.3]**.	It is assumed that the East Park BESS and Substation retention basin will be located as per the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Design	The East Park BESS and Substation retention basin will have a design capacity sufficient to hold rainwater run-off from Work No. 2, Work No. 3 and Work No. 6A, and in addition store all water from the two water storage tanks if they were to both be discharged.	It is assumed the required capacity is provided.
Design	The East Park BESS and Substation retention basin will have an isolating valve such that it can be closed off in an emergency situation.	It is assumed the isolating valve is included as part of the design.

Drainage

2.4.143 The solar arrays would allow rainwater to fall between the gaps to the ground below the panels where it would percolate to ground or follow the existing drainage pathways to ditches or watercourses. Erosion would be prevented by maintaining the grass sward beneath the panels that would prevent rilling.

2.4.144 Where necessary, drainage would comprise field drains, swales and small retention basins. The drainage proposals for the Scheme are set out in the **outline Surface Water Management Plan [EN010141/DR/7.13]**.

CCTV and Monitoring Systems

2.4.145 The Scheme will incorporate CCTV and other monitoring systems (e.g. weather stations) at intermittent locations within the area defined by Work No. 6. The CCTV cameras would have fixed, inward-facing viewsheds and would be aligned to capture only the perimeter fence and the area inside the fence, thereby not capturing publicly accessible areas. CCTV systems would be installed up to every 100m and at angle changes of the perimeter fence line.

2.4.146 An indicative elevation drawing of the CCTV and Monitoring Systems is shown on **ES Vol 3 Figure 2-2q: Indicative CCTV and Monitoring Systems [EN010141/DR/6.3]**.

2.4.147 Table 2-30 identifies the relevant design parameters for the CCTV and monitoring systems, and the basis on which it has been assessed in this ES.

Table 2-30: CCTV and Monitoring Systems Design Parameters

Parameter Types	Parameter	Basis of Assessment
Location	CCTV and other monitoring systems will be located in the areas identified as Work No. 6 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed that CCTV and other monitoring systems would be located in the areas shown on the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3**.
Scale	The CCTV and other monitoring systems will be located on poles	It is assumed the maximum dimensions are applied.

Parameter Types	Parameter	Basis of Assessment
	and will have a maximum height of 4m above ground level.	

Utility Connections

2.4.148 The Scheme will require a water supply to the East Park BESS (Work No. 2), East Park Substation (Work No. 3), and the operations and maintenance area (Work No. 6A). The Applicant has been in discussion with Anglian Water and it is expected that this connection will be made to an existing Pump House located close to the Main Site Access north of Site D on the B645 (grid reference: TL146638).

2.4.149 There will be no requirement for a connection to the public sewer, or for an electrical connection other than the grid connection to the Eaton Socon Substation.

Work No. 7 – Temporary Construction and Decommissioning Compounds and Laydown Areas

2.4.150 Work No. 7 comprises temporary works associated with the construction and decommissioning of the Scheme, consisting of temporary construction and decommissioning compounds, including:

- areas of hardstanding and track matting;
- car parking and access;
- site and welfare offices and cabins;
- areas to store materials and equipment;
- security infrastructure, including cameras, perimeter fencing and lighting;
- site drainage and waste management infrastructure (including sewerage); and
- electricity, water, waste water and telecommunications connections.

Temporary Construction and Decommissioning Compounds

2.4.151 The construction and decommissioning compounds will be situated across the Scheme in relation to construction and decommissioning phases. They would typically provide areas for welfare facilities, laydown areas, plant and equipment storage, offices, and car parking for construction workers.

2.4.152 A total of ten construction compounds would be required, as follows:

- Main Site Construction Compound located in Site D – this will include the main site offices, delivery areas, car parking, and storage;
- 1 no. satellite compound in Site C;
- 5 no. satellite compounds in Site B; and
- 3 no. satellite compounds in Site A.

2.4.153 Table 2-31 identifies the relevant design parameters for the temporary construction and decommissioning compounds, and the basis on which it has been assessed in this ES.

Table 2-31: Temporary Construction and Decommissioning Compounds Design Parameters

Design Parameter or Principle	Parameter	Basis of Assessment
Location	The construction and decommissioning compounds will be located within the areas identified as Work No. 7 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the compounds will be located in the areas identified on the Indicative Construction Access and Compounds Plan on **ES Vol 3 Figure 2-5 [EN010141/DR/6.3]**.
Design	The construction and decommissioning compounds will have a base of heavy duty matting which would be removed following completion of the construction and decommissioning phases.	It is assumed that heavy duty construction matting would be used.

Work No. 8 – Works to create, enhance and maintain Green Infrastructure

2.4.154 Work No. 8 comprises works associated with the retention of existing habitats and creation of new green infrastructure across the Scheme, including native species woodland, native species hedgerows, individual trees, grasslands and permissive paths.

2.4.155 **ES Vol 3 Figure 2-1: Illustrative Environmental Masterplan [EN010141/DR/6.3]** illustrates the location of the following proposed landscape elements:

- Proposed Native Species Woodland or Woodland Belt;
- Proposed Native Species Hedgerow;
- Proposed Native Species Individual Tree;
- Proposed Grazing Pasture or Neutral Grassland;
- Proposed Species-Diverse Grassland; and
- Proposed Permissive Paths.

2.4.156 The landscape design has been developed in response to the Design Principles for the Scheme as set out earlier in this chapter and in the **Design Approach Document [EN010141/DR/5.6]**.

2.4.157 An **outline Landscape and Ecological Management Plan (oLEMP) [EN010141/DR/7.7]** which includes the Illustrative Environmental Masterplan has been prepared which covers the construction, operational and decommissioning Phases of the Scheme and sets out the objectives for the existing and proposed landscape elements at the Site, along with management prescriptions to ensure the successful establishment of new green infrastructure and the future maintenance of the Scheme. Post-consent, this outline plan will be developed into a full plan which must be in substantial accordance with the outline and will require approval by the relevant local planning authority. The Scheme must be undertaken in

accordance with the approved plan. This is secured via a Requirement in Schedule 2 of the **draft DCO [EN010141/DR/3.1]**.

2.4.158 In summary, the landscape proposals shown on the Illustrative Environmental Masterplan include for the creation of approximately:

- 19 hectares of native species woodland or woodland belt;
- 17.4 km of native species hedgerow;
- 375 individual native species trees;
- 448 hectares of grazing pasture or neutral grassland; and
- 205 hectares of species-diverse grassland.

2.4.159 In addition, new ditches and swales required as part of the **outline Surface Water Management Plan [EN010141/DR/7.13]** will increase the extent of watercourse habitat across the Order Limits.

2.4.160 A series of permissive paths are proposed as part of the Scheme to improve public access where possible and desirable, these are shown on **ES Vol 3 Figure 2-1: Illustrative Environmental Masterplan [EN010141/DR/6.3]**. In total, 2.9 km of permissive path will be provided for the lifetime of the Scheme.

Work No. 9 – Works to Facilitate Access

2.4.161 Work No. 9 comprises engineering works to create and maintain permanent means of access to the Scheme, consisting of:

- creation of access from the public highway;
- creation and maintenance of visibility splays; and
- works to widen and surface the existing highway.

2.4.162 In total there are 20 permanent or temporary points of access with the public highway, as shown on **ES Vol 3 Figure 2-4: Proposed Site Access [EN010141/DR/6.3]** and set out in Table 2-32 below:

Table 2-32: Proposed Site Access Locations

Ref.	Existing, Proposed or Upgraded Access?	Location	Description	Purpose
SA01	Existing	B660 Kimbolton Road	Existing access to Pertenhall Solar Farm, provides access to Site A	Construction Operation Decommissioning
SA02	Upgraded	B660 Kimbolton Road	Upgrade existing field access, provides western access to Site B	Construction Operation Decommissioning
SA03	Upgraded	Great Staughton Road	Upgrade existing field access, provides access to single field in Site B	Construction Operation Decommissioning
SA04	Upgraded	Great Staughton Road	Upgrade existing field access, provides access to single field in Site B	Construction Operation Decommissioning
SA05	Upgraded	Great Staughton Road	Upgrade existing field access, provides access to single field in Site B	Construction Operation Decommissioning
SA06	Upgraded	Great Staughton Road	Upgrade existing field access, provides access to north of Site B	Construction Operation Decommissioning
SA07	Upgraded	Little Staughton Road	Upgrade existing field access, provides access to west of Site B	Construction Operation Decommissioning
SA08	Proposed	Little Staughton Road	New access, provides access to east of Site B	Construction Operation Decommissioning

Ref.	Existing, Proposed or Upgraded Access?	Location	Description	Purpose
SA09	Upgraded	Little Staughton Road	Upgrade existing field access, provides access to south of Site B	Construction Operation Decommissioning
SA10	Upgraded	Spring Hill	Upgrade existing field access, provides eastern access to Site B	Construction Operation Decommissioning
SA11	Proposed	Spring Hill	Temporary access required for laying cable between Site B and Site C	Construction Decommissioning
SA12	Upgraded	Great Staughton Road	Upgrade to existing access to provide access from Site A / B to Site C / D	Construction Operation Decommissioning
SA13	Upgraded	Moor Road	Upgrade existing access to Site C	Operation
SA14	Proposed	Moor Road	Temporary access required during construction and decommissioning to provide access to Site C from Site D, and to lay cable between Site C and Site D	Construction Decommissioning
SA15	Proposed	Moor Road	Temporary access required during construction and decommissioning to provide access to Site C from Site D, and to lay cable between Site C and Site D	Construction Decommissioning

Ref.	Existing, Proposed or Upgraded Access?	Location	Description	Purpose
SA16	Proposed	B645	Main Site Access, and access to Site D	Construction (inc. Abnormal Load) Operation Decommissioning
SA17	Proposed	Duloe Road	Temporary access required to lay grid connection between Site D and Eaton Socon Substation	Construction Decommissioning
SA18	Existing	Duloe Road	Existing access from Duloe Road to provide temporary access to fields south of Duloe Road for laying grid connection to Eaton Socon Substation	Construction Decommissioning
SA19	Proposed	Bushmead Road	Temporary access required to lay grid connection between Site D and Eaton Socon Substation	Construction Decommissioning
SA20	Existing	Bushmead Road	Existing access from Bushmead Road to the Eaton Socon Substation, required on temporary basis to lay grid connection between Bushmead Road and Eaton Socon Substation	Construction Decommissioning

Visibility Splays within the Public Highway

2.4.163 Work No. 9 extends across the full extent of the public highway required for visibility splays. This includes for all existing, proposed, and temporary access points into the Site.

2.4.164 From a review of the vertical and horizontal alignment of the visibility splays it is not currently anticipated that any vegetation will need to be removed to facilitate visibility splays, however if required then existing verges and vegetation sitting within or adjacent to visibility splays will be managed to maintain visibility.

Visibility Splays outside the Public Highway (Work No. 9A)

2.4.165 There are two locations where required visibility splays are not within the public highway and cover private land adjacent to the public highway. These locations are marked by Work No. 9A on the **Works Plan [EN010141/DR/2.3]** and relate to the following access points identified in Table 2-32 and shown on **ES Vol 3 Figure 2-4: Proposed Site Access [EN010141/DR/6.3]**:

- SA16 – Main Site Access from B645; and
- SA19 – Temporary Access to Bushmead Road.

2.4.166 At each of these access points there is no existing vegetation within the private land that obstructs views, however it is a provision of the DCO that no obstructions are erected within the visibility splay, and if required, existing features will be managed to maintain visibility.

Works to widen the existing highway

2.4.167 To the north of SA10 and SA11 along Spring Hill there will be minor road widening works to facilitate the movement of Heavy Good's Vehicles (HGVs) during the construction phase. These works are within the extent of Work No. 9 and entirely within the public highway.

2.4.168 On the western side of Spring Hill the carriageway would be widened by a maximum of 1.2m across a 160m length. On the eastern side of Spring Hill

the carriageway will be widened by a maximum of 0.5m across a 50m length. These works are described within **ES Vol 1 Chapter 9: Traffic and Transport [EN010141/DR/6.1]**.

2.4.169 There would also be minor works to widen the junction between Spring Hill and Great Staughton Road to the north of SA10 and SA11 to ensure that two HGVs could safely track around the junction at the same time, if required. These works are described within **ES Vol 1 Chapter 9: Traffic and Transport [EN010141/DR/6.1]** and would be within the extent of Work No. 9 and entirely within the public highway.

Work No. 10 – Works to create an 'Agrisolar' Research Area

2.4.170 Work No. 10 comprises an 'Agrisolar' research area within East Park Site D. The Applicant has partnered with Rothamsted Research ('Rothamsted') to undertake scientific research on co-locating agricultural production with solar generation in the UK. To enable this research it is necessary to provide greater flexibility in the design than is secured under Work No. 1. For example, Rothamsted may undertake research projects that explore different arrangements of solar panels, at different heights, or at different densities.

2.4.171 Work No. 10 will be able to generate electricity and connect to the East Park substation at Work No. 3 in the same way as Work No. 1.

2.4.172 The Applicant has sited Work No. 10 within Site D in close proximity to the storage, operations and maintenance building with the benefit of being able to access and manage the Agrisolar research area easily.

2.4.173 Table 2-33 identifies the relevant design parameters and design principles for the Agrisolar research area, and the basis on which is has been assessed in this ES.

Table 2-33: Agrisolar research area design parameters

Parameter Type	Parameter	Basis of Assessment
Location	The Agrisolar research area will be sited within the area identified as Work No. 10 on the **Works Plan [EN010141/DR/2.3]**.	It is assumed the Agrisolar research area would be located as per the Illustrative Environmental Masterplan on **ES Vol 3 Figure 2-1 [EN010141/DR/6.3]**.
Scale	The maximum height of the highest part of the solar PV panels will be 6.5m above existing ground level.	It has been assumed the highest part of the solar panels are 6.5m above ground level. This is the maximum height and judged to be the worst case.
Scale	The minimum height of the lowest part of the solar PV panels will be 0.4m above existing ground level.	It has been assumed the lowest part of the solar panels are 0.4m above ground level. This is the minimum height and judged to be the worst case.
Scale	The maximum depth the mounting structure posts will be driven into the ground will be 3m below ground level.	It has been assumed the mounting structure posts will be driven up to 3m below existing ground level. This is the maximum depth and judged to be the worst case.

2.4.174 The Agrisolar research area will be managed in accordance with all applicable certified documents, including the **outline Surface Water Management Plan [EN010141/DR/7.13]**.

2.4.175 Further detail on the likely research proposals and management at the Agrisolar research area is set out in the **outline Skills, Supply Chain and Employment Plan [EN010141/DR/7.11]**.

Further Associated Development

2.4.176 In addition to the specific Works described above, Part 1 of Schedule 1 of the **draft DCO [EN010141/DR/3.1]** lists further associated development that may be undertaken in connection with Work Nos. 1 to 10:

- works within highways, including:

- alteration of the layout of any street permanently or temporarily, including increasing or reducing the width of the carriageway of any street by increasing or reducing the width of any kerb, footway, cycleway, or verge within the street including removal of any vegetation; and altering the level or increasing the width of any such kerb, footway, cycleway or verge within the street including removal of any vegetation; and works for the strengthening, improvement, repair, maintenance or reconstruction of any street;
- street works, including breaking up or opening a street, or any sewer, drain or tunnel under it, and tunnelling or boring under a street;
- relocation, removal or provision of new road traffic signs, signals, street lighting, road restraints and carriageway lane markings;
- works to place, alter, remove or maintain street furniture or apparatus (including statutory undertakers' apparatus) in, under or above a street, including mains, sewers, drains, pipes, cables, cofferdams, lights, fencing and other boundary treatments; and
- works to facilitate traffic management and to deliver information relating to the authorised development; and

- other works and development, including:
  - haul roads, vehicular and pedestrian means of access including creation of new tracks and paths, widening upgrades alterations and improvements of existing roads tracks and paths;
  - boundary treatments, including means of enclosure;
  - bunds, embankments, trenching and swales;
  - crossings of watercourses and roads;
  - foundations for structures, buildings, plant and machinery;
  - works to the existing irrigation system and works to alter the position and extent of such irrigation system;
  - surface water drainage systems, storm water attenuation systems including storage basins, oil water separators, including

channelling and culverting and works to existing drainage networks;

- electrical, gas, water, foul water drainage and telecommunications infrastructure connections, diversions and works to alter the position of such services and utilities connections;
- joint bays, link boxes, cable ducts, cable protection, joint protection, manholes, marker posts, underground cable markers, tiles and tape, communications chambers, fibre optic cables and other works associated with cable laying;
- works to alter the course of or otherwise interfere with non-navigable rivers, streams or watercourses;
- works for the provision of security and monitoring measures such as CCTV columns, cameras, lighting columns and lighting, weather stations, communication infrastructure, perimeter fencing;
- site establishments and preparation works including site clearance (including vegetation removal, demolition of existing buildings and structure), earthworks (including soil stripping and storage and site levelling) and excavations, the alteration of the position of services and utilities and works for the protection of buildings and land;
- tunnelling, boring and drilling works;
- landscaping and other works to mitigate any adverse effects of the construction, maintenance or operation of the authorised development; and
- such other works as may be necessary or expedient for the purposes of or in connection with the relevant part of the authorised development insofar as they are unlikely to give rise to any materially new or materially different environmental effects from those assessed in the environmental statement.

2.4.177 These items are broadly defined and may occur across the Order Limits as required, but only insofar as they do not give rise to any materially new or materially different environmental effects than those assessed in this ES.

2.5 Construction Phase

Construction Programme

2.5.1 The construction phase is expected to last for approximately 30 months, based on experience of constructing other similar-scale installations. Subject to the Scheme securing Development Consent in Winter 2026/27 it is anticipated that works would start on site in early 2028 and be completed by mid-to late 2030 (although initial energisation of the Scheme is likely to commence prior to 2030 such that it aligns with national Clean Power 2030 objectives).

2.5.2 It is possible that the construction phase could be slightly shorter or longer than 30 months, however for the purposes of this ES, a 30 month programme has been assessed. The final programme will depend on the detailed design once any DCO Requirements have been discharged.

2.5.3 The Scheme will likely be split into a number of construction phases which are illustrated indicatively in **ES Vol 2 Appendix 2-1: Indicative Construction Phasing and Resource Schedule [EN010141/DR/6.2]**. These construction phases would be managed such that they are often happening in tandem in order to build out the Scheme in the most efficient way possible.

2.5.4 The primary construction stages for the Scheme are set out below. The activities within each key phase are described in an approximate sequential order. However, many of the activities would occur in parallel due to the scale of the project, as illustrated in **ES Vol 2 Appendix 2-1: Indicative Construction Phasing and Resource Schedule [EN010141/DR/6.2]**, and this is what has been assumed for the assessments within the ES as a reasonable worst-case scenario:

i) Enabling Works (Months 1 to 3)

a. Establishment of Main Construction Compound in Site D;

b. Establishment of Main Site Access from B645 into Site D to the Main Construction Compound;
c. Establishment of access tracks and temporary access tracks across Sites A, B, C and D;
d. Establishment of crossing points over drainage ditches and existing utilities; and
e. Establishment of satellite compounds in Sites A, B and C.

ii) Construction of the East Park Substation (Months 2 to 12);

a. Establishment of internal access roads, fencing and surfacing;
b. Establishment of foundations for the transformers, control building and electrical equipment;
c. Construction of the control building;
d. Establishment of metallic structures for the electrical equipment;
e. Delivery and installation of the 400 kV transformers;
f. Installation of switchgear, cabling and other equipment;
g. Establishment of other minor ancillary works.

iii) Construction of the 400 kV Grid Connection (Months 3 to 10);

a. Establishment of temporary access road and crossings;
b. Excavation of trench in sections;
c. Excavation and construction of cable jointing chambers in sections;
d. Laying of cable conduits in the trenches between cable jointing chambers;
e. Pouring of concrete around the conduits and backfilling of trench with soils;
f. Cable pulling between cable jointing chambers;
g. Connecting of cables within cable jointing chambers;
h. Establishment of new generation bay within the Eaton Socon Substation;
i. Testing and commissioning of grid connection;
j. Sealing of cable jointing chambers and backfilling of land above cable jointing chambers; and
k. Removal of temporary access road and reinstatement of all land.

iv) Construction of the East Park BESS (Months 7 to 24);

a. Establishment of internal access roads, fencing and surfacing;
b. Establishment of foundations for the battery storage units, transformers, control building, auxiliary transformer and water storage tanks;
c. Establishment of internal cable trenches between equipment;
d. Installation of cabling;
e. Delivery and installation of battery storage units, transformers, control building, auxiliary transformer and water storage tanks; and
f. Testing and commissioning of BESS.

v) Construction of East Park Sites A, B C and D (Months 2 to 30).

a. Establishment of fencing;
b. Marking out locations of solar PV tables, solar transformers, and trenches;
c. Excavation of trenches and laying of conduit for cables;
d. Establishment of surface water drainage infrastructure;
e. Establishment of foundations for solar transformers (and centralised inverters if used);
f. Establishment of solar PV mounting structures;
g. Installation of solar PV modules, inverters, and transformers;
h. Establishment of CCTV and monitoring systems;
i. Construction of storage, operations and maintenance building;
j. Installation of low voltage cabling between solar PV modules, string inverters, transformers and CCTV;
k. Installation of 33 kV high voltage cabling between solar transformers and East Park Substation;
l. Testing and commissioning; and
m. Establishment of soft landscaping in areas of habitat mitigation.

Site Preparation Works

2.5.5 There are a range of preliminary works that are required to enable the main construction works to commence on the various phases of construction set out above. These enabling works include the initial mobilisation and access

to the Site, and individual enabling works for specific phases of the development.

2.5.6 Within the **draft DCO [EN010141/DR/3.1]** these works are identified as the "site preparation works" which would not constitute a commencement of the construction phase. The site preparation works would include the following activities:

- environmental surveys, geotechnical surveys, intrusive archaeological surveys and other investigations required in advance of construction;
- receipt and erection of construction plant and equipment;
- above ground site preparation for temporary facilities for the use of contractors;
- diversion and laying of apparatus;
- the provision of temporary means of enclosure and site security for construction;
- the temporary display of site notices or advertisements;
- preliminary site access works; and
- site clearance (including vegetation removal, demolition of existing structures or buildings).

2.5.7 The Applicant has thoroughly evaluated the site preparation works and, following assessments within the EIA process, concluded that the environmental impact of these activities does not necessitate the mitigation outlined in the Requirements set out in Schedule 2 of the **draft DCO [EN010141/DR/3.1]** to be in place before they can proceed.

2.5.8 Notwithstanding the above, the Applicant has identified some Requirements deemed necessary to have been discharged for certain site preparation works to commence and this is accounted for in the drafting of the DCO Requirements. The Applicant has also outlined best practice measures to be adopted when undertaking the site preparation works, aimed at reducing potential adverse impacts on environmental receptors. These measures are detailed in **ES Vol 2 Appendix 2-3: Site Preparation Works**

[EN010141/DR/6.2]. Compliance with the measures in this appendix is secured by a Requirement in the **draft DCO [EN010141/DR/3.1]**.

Construction Staff

2.5.9 It is anticipated that the average number of workers on Site across the Construction Phase would be 496, with a peak workforce of 854 in Month 12. The workforce would be distributed across the Site with work happening in parallel across the Substation, BESS, 400 kV Grid Connection, and solar PV areas in Sites A, B, C and D.

2.5.10 An indicative workforce resource schedule is presented in **ES Vol 2 Appendix 2-1: Indicative Construction Phasing and Resource Schedule [EN010141/DR/6.2]**.

Construction Hours of Work

2.5.11 Construction operations would generally be limited to 08.00 to 18.00hrs Monday to Friday and 08:00 to 13:00hrs Saturday, with no construction work on Sundays or Bank Holidays. Construction workers would typically arrive in the hour prior to the start of construction and leave in the hour after construction work ceases. Construction staff would therefore arrive at the Site before 08:00 and depart after 18:00 during weekdays.

2.5.12 There may be instances where operations are required outside the above times e.g. delivery of abnormal loads, fit out of internal equipment within the substations, other quiet non-intrusive works such as electrical testing, commissioning and inspection. In such instances, it would be necessary to agree on a modification to the working hours with the Local Planning Authority, as set out in the **outline Construction Environmental Management Plan [EN010141/DR/7.3]**.

Construction Compounds

2.5.13 The main construction compound will be located in Site D close to the main site access from the B645 to the north-east. The main construction compound

would comprise offices and welfare facilities, car parking, materials and equipment storage area, and vehicle manoeuvring and unloading area.

2.5.14 Satellite compounds would also be located across Sites A, B and C in relation to the construction phasing of the solar PV areas. These compounds would be smaller in footprint than the main construction compound but would still provide offices and welfare facilities, car parking, materials and equipment storage area, and vehicle manoeuvring and unloading area.

2.5.15 There would be no dedicated construction compounds located along the 400 kV grid connection as excavated soils would be stored adjacent to the trench, and materials such as conduit, concrete and cabling would be delivered to the main construction compound and installed along the grid connection as and when required. Temporary laydown areas formed of heavy duty construction matting would be located intermittently along the grid connection to support the works as required, but these would only be for the temporary storage of materials, or to facilitate trenchless crossings.

2.5.16 Utility supplies will be taken from temporary facilities such as the use of generators, water bowsers, local wastewater storage and transport of waste to an approved off-site disposal facility.

Construction Traffic, Plant and Site Access

2.5.17 The main site access will be from the B645 into Site D, with all HGVs arriving into the Site from this point, and the majority of daily staff movements arriving into Site D. A small number of daily staff movements may access Sites A and B without passing through the main site access.

2.5.18 The construction access strategy has been designed to avoid vehicles using the public highway as far as practicable. Once vehicles arrive in Site D from the main site access at the B645, a temporary access road will connect westward across fields to Site C, avoiding the use of Moor Road. From Site C, access will be taken north-west via a new access track to an existing HGV access to Great Staughton Road where vehicles will follow the public highway

to access Site B, thus avoiding large volumes of traffic passing through Great Staughton. Vehicles would be routed through Site B crossing Little Staughton Road close to Lodge Farm before continuing west towards the B660. At the B660 vehicles would follow the public highway for a short section before accessing Site A using an existing access at Manor Farm.

2.5.19 There are existing access tracks through the Site that will be utilised as far as practicable, as will existing agricultural access points from the public highway. It will be necessary to upgrade or restore sections of the existing access track in order to provide safe and suitable access for vehicles. It is also likely that temporary passing places will need to be established at intermittent positions along these tracks in order to manage vehicle movements during the construction phase.

2.5.20 It is assumed that there would be an average of 8 one-way HGV movements per day across the 30 month construction phase, with a peak of 30 one-way daily movements during the enabling works in Months 1 to 3. It is assumed there would be an average of 248 one-way daily staff movements across the 30 month construction phase, with a peak of 427 one-way daily staff movements in Month 12. Further details of traffic movements are provided within the **ES Vol 1 Chapter 9: Traffic and Transport [EN010141/DR/6.1]** and the **ES Vol 2 Appendix 9-1: Transport Assessment [EN010141/DR/6.2]**.

2.5.21 Typical vehicles, plant and machinery that are assumed to be required during the construction phase will likely include:

- Articulated Lorries;
- Low Loaders;
- Tipper Trucks;
- Concrete Mixer Lorries;
- Mobile cranes;
- Fuel Tankers;
- Water Tankers;

- Vacuum Tankers;
- Excavators;
- Telehandlers;
- Push press piling rigs;
- Power generators;
- Vibrating rollers;
- Cable pullers;
- Horizontal Directional Drill rigs; and
- Skips.

2.5.22 In addition, the following larger vehicles will be required in relation to the delivery of transformers at the East Park Substation:

- 2 no. Abnormal Indivisible Loads (AILs) expected to be up to 200 tonne weight;
- 1 no. 250 tonne mobile crane.

2.5.23 An **outline Construction Traffic Management Plan (oCTMP) [EN010141/DR/7.4]** is provided with the DCO application. The oCTMP sets out the measures used to minimise the impact of construction traffic on local communities by defining the routes that construction traffic must take, any timing restrictions in relation to the use of certain routes, and the penalties to contractors if the oCTMP is not adhered to. A final Construction Traffic Management Plan (CTMP) will be secured by the DCO and subject to final sign off by the relevant planning authority.

Construction Lighting and Security

2.5.24 Lighting during construction would need to be sufficient to satisfy health and safety requirements, whilst ensuring impacts on the surrounding environment, including from sky glow, glare and light spillage, are minimised.

2.5.25 Artificial lighting would only be used during the hours of darkness, low levels of natural light or during specific construction tasks to ensure the health, safety and welfare of those on site, including construction staff and visitors.

2.5.26 Appropriate lighting would be installed and operated to ensure that:

- access/egress points are clearly visible during operational hours;
- staff and visitors can move safely around the Site;
- site security can be monitored and maintained;
- sufficient area lighting is provided for the Site office and laydown areas; and
- impacts on ecological receptors, nearby residents and amenity users of the Site are minimised.

2.5.27 Lighting towers would be required during the winter months at each of the construction compounds. There may also be a requirement for mobile task lighting at some of the construction locations e.g. solar transformer units, BESS compound and East Park Substation compound. Lighting would generally not be operated for longer than one hour either side of the specified construction working hours. Lighting would utilise directional fittings to minimise outward light spill and glare. Measures to control light pollution are documented within the **outline Construction Environmental Management Plan [EN010141/DR/7.3]**.

2.5.28 The Site will be secured by temporary fencing (such as Heras fencing) during the construction phase, with overall management of security resting with the Principal Contractor. All plant and materials will be secured to prevent theft or vandalism. Remote monitoring and intrusion detection is likely to be managed via the use of deterrent systems such as 'Armadillo' camera security units.

Construction Environmental Management

2.5.29 An **outline Construction Environmental Management Plan (oCEMP) [EN010141/DR/7.3]** has been prepared which outlines the principles, controls, and measures to be implemented during construction to reduce potential significant environmental effects from occurring, including relevant subsidiary plans. Where the Scheme relies on mitigation measures in relation

to significant construction phase environmental effects from the EIA, these measures have been outlined within the oCEMP.

2.5.30 Post-consent, this outline plan will be developed into a full plan which must be in substantial accordance with the outline and will require approval by the Local Planning Authorities. The Scheme must be undertaken in accordance with the approved plan. This is secured via a Requirement in Schedule 2 of the **draft DCO [EN010141/DR/3.1]**.

2.5.31 The objectives of the final CEMP would be to:

- highlight environmental impacts resulting from the development and identify sensitive receptors within the development site to the construction team;
- reduce and manage environmental impacts through appropriate construction methods;
- reduce and manage environmental impacts through implementing environmental best practices during the construction period;
- undertake ongoing monitoring and assessment during construction to ensure environmental objectives are achieved;
- provide emergency procedures to protect against environmental damage;
- provide an environmental management structure for the construction stage;
- recommend mechanisms to reduce the risks of environmental damage occurring; and
- ensure procedures are in place for consultation with, and where necessary approval from Local Authorities, Historic England, Natural England, the Environment Agency, and other stakeholders throughout the works if necessary.

Vegetation Clearance

2.5.32 **ES Vol 2 Appendix 2-2: Arboricultural Impact Assessment [EN010141/DR/6.2]** provides a survey and assessment of existing vegetation

within the Order Limits. This identifies the root protection area of existing trees and hedgerows, and an arboricultural method statement for working in proximity to vegetation.

2.5.33 The design and layout of the Scheme aims to avoid vegetation removal as far as practicable, however a small amount of clearance cannot be avoided during the construction phase to facilitate both temporary or permanent access between fields.

2.5.34 The indicative location of vegetation clearance (woodland, trees or hedgerows) across the Scheme is shown on **ES Vol 3 Figure 2-6: Indicative Vegetation Clearance [EN010141/DR/6.3]**, with references on Figure 2-6 corresponding to Table 2-34 below.

Table 2-34: Indicative Vegetation Clearance

Ref.	Vegetation Type	Assumption on Length Removed	Reason for Removal	Timing of Reinstatement
V01	Hedgerow	6m	Facilitate operational access	Following Decommissioning
V02	Hedgerow	6m	Facilitate operational access	Following Decommissioning
V03	Hedgerow	6m	Facilitate operational access	Following Decommissioning
V04	Hedgerow	6m	Facilitate operational access	Following Decommissioning
V05	Hedgerow	6m	Facilitate operational access	Following Decommissioning
V06	Hedgerow	6m	Facilitate operational access	Following Decommissioning
V07	Hedgerow	6m	Facilitate temporary construction access	During Operational Phase

Ref.	Vegetation Type	Assumption on Length Removed	Reason for Removal	Timing of Reinstatement
V08	Hedgerow	6m	Facilitate operational access	Following Decommissioning
V09	Hedgerow	6m	Facilitate temporary construction access	During Operational Phase
V10	Hedgerow	6m	Facilitate temporary construction access	During Operational Phase
V11	Hedgerow	6m	Facilitate temporary construction access	During Operational Phase
V12	Hedgerow	6m	Facilitate temporary construction access	During Operational Phase
V13	Hedgerow	6m	Facilitate temporary construction access	During Operational Phase
V14	Hedgerow	6m	Facilitate temporary construction access	During Operational Phase

2.5.35 In summary, it is anticipated that a total of 84m of hedgerow would need to be removed to facilitate construction of the Scheme, with 42m of this to be reinstated at the end of the construction phase. With reference to Section 2.4, a total of approximately 17.4km of proposed native species hedgerow is shown on **ES Vol 3 Figure 2-1: Illustrative Environmental Masterplan [EN010141/DR/6.3]**.

Public Rights of Way

2.5.36 Access to all public rights of way (PRoW) will be maintained during the construction phase, with management in place to ensure that all routes can

be safely used, including temporary diversions where necessary. An **outline Public Rights of Way Management Plan [EN010141/DR/7.8]** has been prepared and submitted with the application. This document sets out the principles by which PRoW would be managed during the construction and operational phases. Post-consent, this outline plan will be developed into a full plan which must be in substantial accordance with the outline and will require approval by the Local Authorities. The Scheme must be undertaken in accordance with the approved plan. This is secured via a Requirement in Schedule 2 of the **draft DCO [EN010141/DR/3.1]**.

2.5.37 Public safety is the main concern when considering interactions with users of the PRoW, and as such, a cautious approach would be taken by the construction contractor when managing the Site. Management of PRoWs will involve signage and the use of mesh fencing or Heras fencing as appropriate in order to clearly demarcate and separate public rights of way from construction traffic and activities. Where necessary, banksmen would be utilised during construction where construction traffic is required to cross a PRoW.

2.5.38 There are expected to be a limited number of temporary PRoW diversions during the construction phase, primarily in relation to the trenching of cables across PRoW. Any diversion will be highly localised and for a limited period of time. It is expected that diversions would be in the magnitude of a few metres from the alignment of the existing PRoW, and only in place whilst trenches are open across the PRoW. At PRoW crossings the works would be phased to minimise the amount of time that a temporary PRoW diversion is in place, and as a result it is not expected that such diversions would last longer than 4 weeks. At all times, the definitive PRoW width would be retained as a minimum width for any temporary PRoW diversion.

Areas of Archaeological Constraint

2.5.39 The Applicant has undertaken archaeological investigations during the pre-application phase of the Scheme that have identified areas with buried

archaeological resource within the Order Limits. The Applicant has therefore prepared an **outline Archaeological Mitigation Strategy [EN010141/DR/7.15]** that sets out the location of 'Areas of Archaeological Constraint' within the Order Limits, along with potential archaeological mitigation measures that will be secured in each area.

2.5.40 The measures set out in the **outline Archaeological Mitigation Strategy [EN010141/DR/7.15]** are an essential part of the Scheme, and part of the embedded design and mitigation measures assessed in this ES.

2.5.41 The Areas of Archaeological Constraint are identified on the drawings in **Appendix A** of the **outline Archaeological Mitigation Strategy [EN010141/DR/7.15]**.

Utilities

2.5.42 A number of utilities cross the Site, these are illustrated on **ES Vol 3 Figure 2-3: Indicative Crossings Plan [EN010141/DR/6.3]**.

2.5.43 Specific safeguards to protect assets would be required to be adopted during construction works. Working methods would be agreed with the utility undertakers and adopted within agreed construction method statements. Protective Provisions to safeguard utilities crossing the Site will be included within the **draft DCO [EN010141/DR/3.1]** to secure this.

2.5.44 The following easements have been applied to the illustrative layout for the Scheme, and are accounted for on **ES Vol 3 Figure 2-1: Illustrative Environmental Masterplan [EN010141/DR/6.3]**:

- National Gas – 12.2m either side of the centreline of the pipeline;
- Anglian Water – 4.5m either side of the centreline of the pipeline;
- National Grid – 30m to the base of each pylon in Site D; and
- UK Power Networks – 4m either side of the centreline of the 11kV overhead lines within Site B.

2.5.45 A former oil pipeline crosses Site B and part of Site A, the alignment of which is shown on **ES Vol 3 Figure 2-3: Indicative Crossings Plan [EN010141/DR/6.3]**. The pipeline has been decommissioned but remains buried in the ground, and there is the potential for small amounts of residue to remain sealed within the pipe. Whilst no specific easement has been applied to the pipeline, its precise location will be marked out during construction and no piling for the solar array mounting structures will take place that could cause any structural damage to the pipeline, and an appropriate offset will be applied to ensure that any vibration from piling will not damage the pipeline.

2.5.46 The above measures are secured by the **outline Construction Environmental Management Plan [EN010141/DR/7.3]**.

2.6 Operational Phase

2.6.1 The Scheme comprises a temporary development with an operational phase of up to 40 years. Decommissioning activities would be expected to commence 40 years after final commissioning, and so decommissioning would be expected to start in 2070.

Operational Workforce and Activities

2.6.2 During the operational phase, access to the Site would principally be to the East Park BESS and Substation, and to the wider site for routine maintenance operations, replacement of equipment, habitat management, and farming activities. It is expected that there would be 20 full time equivalent (FTE) roles for the Scheme during the operational phase covering the various activities, this would breakdown broadly as twelve FTE roles working on site maintenance, five FTE roles working in management and administrative roles, and three FTE roles working in land management including landscape maintenance and agriculture.

2.6.3 At times when significant replacement campaigns are required, e.g. large-scale replacement of solar PV array areas, or multiple transformer or battery

storage units, then more staff and specialist equipment (cranes and low loaders) would be required. Table 2-35 below sets out assumptions regarding the operational lifespan of key individual components of the Scheme.

Table 2-35: Indicative Operational Lifespan of Scheme Components

Scheme Component	Indicative Operational Lifespan
Solar Panels	20 – 40 years (a single replacement per installed panel and 10% contingency is assumed)
Mounting Structures	40 years
String Inverter	20 years
Centralised Inverter	20 years
Solar Transformer	20 – 40 years
Battery Storage Unit	20 years
Battery Transformer	20 – 40 years
Auxiliary Transformer	20 – 40 years
400 kV / 33kV Transformers	40 years
Cabling	40 years (20% replacement anticipated due to defects)
Fencing	10 – 20 years
CCTV	10 – 20 years

2.6.4 Maintenance access to the Site would be by a small van or similar and the storage, operations and maintenance building would contain spare equipment and tools for routine repairs and maintenance. Operational access would be via the existing public highway with limited traffic movements expected.

Operational Environmental Management

2.6.5 During the operational phase, the routine activities on site would be limited primarily to vegetation and landscape management; maintenance of footpaths, recreational facilities and fencing; equipment maintenance; and servicing, cleaning of solar PV modules, and onsite agricultural management e.g. associated with sheep grazing. The management of the landscaping and green infrastructure is set out in the **outline Landscape and Ecological Management Plan [EN010141/DR/7.7]**.

2.6.6 There would be a requirement for the replacement of components that fail or reach the end of their lifespan. Table 2-35 above identifies that for many of the components, it can be expected that there would be one or more replacements required over the 40-year lifetime of the project. The assessments presented within the ES for the operational phase provide a worst-case scenario of all of the infrastructure on the Site being constructed at once. The replacement of components would be periodic throughout the lifetime of the scheme and would not involve the intensity of construction required at the outset of the project. As such, the magnitude of effect experienced during the replacement and maintenance works would be less than that assessed for the construction phase and relevant measures have been provided for in the **outline Operational Environmental Management Plan (oOEMP) [EN010141/DR/7.5]** to manage these impacts.

2.6.7 Routine inspections and assessments will be conducted to determine the condition and performance of solar panels, inverters and transformers, battery storage units, and other associated infrastructure set out in Table 2-35. Equipment identified as reaching the end of its functional lifespan or showing reduced operational performance will be scheduled for replacement.

2.6.8 Once operational it is not anticipated that there would be any requirement for below ground works that lie outside the areas impacted by the initial construction works.

2.6.9 An **outline Operational Environmental Management Plan (oOEMP) [EN010141/DR/7.5]** has been prepared which outlines the principles, controls, and measures to be implemented during the operational phase to reduce potential significant environmental effects from occurring, including during any replacement campaigns.

2.6.10 Post-consent, this outline plan will be developed into a full plan by the Applicant, which must be in substantial accordance with the outline and will require approval by the Local Authorities. The Scheme must be operated in accordance with the approved plan. This is secured via a Requirement in Schedule 2 of the **draft DCO [EN010141/DR/3.1]**.

Public Rights of Way

2.6.11 During the operational phase all existing PRoW would be maintained on their existing alignment, and it is not expected that any diversions or stopping-up of PRoW is required. The **outline Public Rights of Way Management Plan [EN010141/DR/7.8]** describes how the PRoW within the Order Limits, and newly created permissive paths, would be managed over the lifetime of the Scheme.

Vegetation Management

2.6.12 A range of different habitat and land management prescriptions would be required to deliver the landscape outcomes envisaged for the Scheme. These are set out within the **outline Landscape and Ecological Management Plan (oLEMP) [EN010141/DR/7.7]** which supports the DCO application. Post-consent, this outline plan will be developed into a full plan which must be in substantial accordance with the outline and will require approval by the Local Authorities. The Scheme must be operated in accordance with the approved plan. This is secured via a Requirement in Schedule 2 of the **draft DCO [EN010141/DR/3.1]**.

2.6.13 The **oLEMP [EN010141/DR/7.7]** sets out the management prescriptions and target habitat conditions for the various landscape features identified on **ES**

Vol 3 Figure 2-1: Illustrative Environmental Masterplan [EN010141/DR/6.3]. Monitoring processes are also prescribed to record the progress of establishing target habitats and implement remedial measures. This ensures that the habitats created and managed will meet the target condition set out in the **oLEMP [EN010141/DR/7.7]**.

2.7 Decommissioning Phase

2.7.1 When the operational phase ends the Scheme will require decommissioning. All solar PV modules, mounting poles, cabling, inverters, transformers, BESS equipment, the East Park Substation, and fencing would be removed from the Site and recycled or disposed of in accordance with good practice and market conditions at that time. Any infrastructure that is more than 1m below ground level, such as cable conduit and casing, would typically be left in situ to reduce the environmental impact of excavation. The Site will be returned to a condition suitable for return to its original use after decommissioning.

2.7.2 On decommissioning, the landscaping works undertaken across the Site would remain in place, and the land would be handed back to the landowner. It is very likely that tree and hedgerow planting would be retained, however, as the land would be handed back to the landowners on completion of decommissioning the longer-term retention of the landscaping improvement works cannot be guaranteed. Similarly, following decommissioning the landowner may or may not retain the permissive footpaths created across the Site.

2.7.3 Any requirements to retain access tracks will be discussed and agreed with the landowners as part of the decommissioning process.

2.7.4 It is likely that the generation bay and associated infrastructure therein at Eaton Socon substation will be left in situ following decommissioning because National Grid will own this infrastructure.

2.7.5 Decommissioning is expected to take between 12 and 24 months and would be undertaken in phases.

2.7.6 The effects of decommissioning are often similar to, or to a lesser magnitude than, the construction effects. However, there can be a high degree of uncertainty regarding decommissioning as engineering approaches and technologies evolve over the operational life of the Scheme.

Decommissioning Environmental Management

2.7.7 An **outline Decommissioning Environmental Management Plan (oDEMP) [EN010141/DR/7.6]** has been prepared which outlines the principles, controls, and measures to be implemented during the operational phase to reduce potential significant environmental effects from occurring. Post-consent, this outline plan will be developed into a full plan by the Applicant, which must be in substantial accordance with the outline and will require approval by the Local Authorities. The Scheme must be operated in accordance with the approved plan. This is secured via a Requirement in Schedule 2 of the **draft DCO [EN010141/DR/3.1]**.

2.8 References

[1] National Infrastructure Planning (2018). Advice Note 9: Using the 'Rochdale Envelope'. Available at: https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-nine-rochdale-envelope [Last Accessed: 11 September 2024]

[2] Ministry of Housing, Communities and Local Government and Department for Levelling Up, Housing and Communities, 30 Apr 2024. Guidance Planning Act 2008: Pre-application stage for Nationally Significant Infrastructure Projects. Paragraph 014 Reference ID 02-014-20240430. Available online at <https://www.gov.uk/guidance/planning-act-2008-pre-application-stage-for-nationally-significant-infrastructure-projects> Accessed 15 Aug 2024