Chapter C

Site and Scheme Description

East Claydon Greener Grid Park Environmental Statement

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Contents

C1.0 Introduction

C1.1 This Environmental Statement ('ES') Chapter describes the Site and its relationship to the wider area, provides a description of the Proposed Development, explains other assumptions which have formed the basis of this Environmental Impact Assessment ('EIA'), and considers the design rationale underpinning the Proposed Development.

C1.2 This chapter is divided up into the following key sections:

- Section C2.0: Site Location and Description;
- Section C3.0: Description of Development;
- Section C4.0: Construction Methodology; and
- Section C5.0: Consideration of Alternatives and Alternative Design.

C1.3 Appendices to this chapter are as follows:

1 Appendix C1 – Scheme Plans

2 Appendix C2 – Indicative Detailed Layout (Operational)

3 Appendix C3 – Operational Lighting Design Statement

C2.0 Site Location and Description

The Site

C2.1 The Site covers an area of approximately 45.3ha. It is located within the Aylesbury Vale area of Buckinghamshire, approximately 120m north-west of the existing National Grid East Claydon substation, and 650m north-east of East Claydon Village. The Site is bound to the north by vegetation at the natural field boundary, and to the south by East Claydon Road. The southwestern corner of the Site extends across East Claydon Road a short distance. The eastern Site boundary runs through agricultural fields adjacent to the Claydon Brook, before cutting in to run alongside the disused railway to meet East Claydon Road. The western Site boundary follows the path of the overhead electricity line, before doing the same.

C2.2 The Site itself comprises agricultural arable fields, separated by landscape planting, trees and hedgerows around their perimeters. There is denser vegetation including hedgerows and treelines along the route of the disused railway track, which runs north-south through the Site. The route of the overhead electricity line runs north-west to south-east through the Site, connecting to the National Grid East Claydon substation south of East Claydon Road. There is a pylon located within the Site boundary, situated along the edge of the disused railway access track.

C2.3 The Site is relatively flat with linear ditches located along sections of existing field boundaries at the north, centre, and within the southern portion of the Site. It falls from a high point of approximately 95.1mAOD at the southeast corner of the Site, to a low point of approximately 86mAOD at the northeast corner.

C2.4 Existing access to the Site is via East Claydon Road along the route of the disused railway which forms a track through the Site. From East Claydon Road there is access to the A413 via Winslow, linking to Aylesbury, Buckingham, and connections to the M40 and M1.

C2.5 The Environment Agency (EA) Flood Map for Planning[1] identifies the Site to be within Flood Zone 1 (less than 0.1% annual probability of river or sea flooding). Land outside of the Site's northeastern boundary, closest to Claydon Brook, falls within Flood Zones 2 and 3. The Site is predominantly located in the 'very low' surface water flood risk category. However, parts of the Site are located within the low, medium and high risk surface water flood extent, mainly associated with the existing linear ditch / watercourse features that are present on the Site.

C2.6 The Site comprises agricultural fields. Natural England's Provisional Agricultural Land Classification (ALC) map[2] identifies part of the western area of the Site as Grade 3 ('Good to moderate' quality), forming the eastern edge of a larger area of Grade 3 land that extends further to the south and west. The remainder of the Site is identified as Grade 4 ('Poor quality'). The ALC report, prepared by Kernon Countryside Consultants, accompanying the application confirms that the land is Grade 3b ('moderate quality').

C2.7 The eastern part of the Site falls within a Minerals Safeguarding Area (MSA) for Alluvium (clay, silt, sand, and gravel), as defined within the Buckinghamshire Minerals and Waste Local Plan (adopted July 2019)[3].

C2.8 The Site is located within National Character Area: 108 - Upper Thames Clay Vales. At a local level, the Site and the immediate surrounding area is located within LCA 5.6 Claydon Valley (LCT 5) as defined in the Aylesbury Vale Landscape Character Assessment (2008)[4]. The following description is provided for the Upper Thames Clay Vales NCA:

"The shallow valley has a strong agricultural character notable for its lack of settlement and locally strong field pattern. The area has very small blocks of woodland and variable tree cover in hedgerows. There are good views across the valley from the upper valley sides. Woodland and tree cover of roadside and field-side trees lines, shelterbelts and small plantations interspersed with large scale

Surrounding Area

The Surroundings

C2.9 Figure C2.1 below identifies the general location of the Site and features in its surroundings, as described in this section.

Figure 3.2 General Location of Site and Surroundings

Source: Google Earth, Lichfields' Annotations, approximate site boundary

C2.10 The Site forms a part of a wider swathe of lowland agricultural land between Winslow and East Claydon either side of Claydon Brook. The settlements of Winslow and East Claydon occupy elevated locations above the valley.

C2.11 The nearest settlement is East Claydon, a village located approximately 700m to the southwest of the Site. Verney Junction, a small hamlet, is located approximately 700m to

the northwest of the Site, and the town of Winslow is approximately 1.5km to the northeast. Immediately south of the Site, beyond East Claydon Road, is a single residential dwelling, located off Winslow Road and adjacent to the National Grid East Claydon substation.

C2.12 Immediately north of the Site is further agricultural land, with Verney Road, a minor road, running approximately 500m to the north of the Site from Winslow to Verney Junction. The route of the East West Railway line runs 600m to the north of the Site. This rail line is designated for Phase 2 of Network Rail's East West Rail project[5], connecting Cambridge and Oxford.

C2.13 Claydon Brook, a tributary of Padbury Brook, is located approximately 20m to the east of the Site boundary at its nearest point, and flows north away from East Claydon Road.

C2.14 The surroundings are predominantly characterised by agricultural fields, and are open in nature. There is a number of farms and small businesses surrounding the Site.

C2.15 Monkomb Farm, comprising agricultural and residential buildings, is located approximately 175m west of the Site boundary. Tuckey Farm, including agricultural buildings and a fishery (G.Neal Fisheries) to the north of the farm, is approximately 350m east of the Site, beyond Claydon Brook. Berry Leys Farm is located approximately 600m east of the Site, to the immediate south of East Claydon Road. Furzen Farm is located approximately 750m north of the Site, beyond Verney Road and the railway line. Old Oak Farm is approximately 850m northeast of the Site, beyond Verney Road and adjacent to a small industrial park known as Addington Business Park. There is an unnamed farm southeast of East Claydon, approximately 550m south of the Site.

C2.16 There is an area of woodland adjacent to the northern boundary of the Site, to the east of the disused railway line, which is designated as deciduous woodland under the Priority Habitat Inventory[6].

C2.17 There are no Public Rights of Way within the Site. Public footpaths 3A/1 and 3/1 connect East Claydon Road with the wider landscape to the south of the Site. Footpath 1/1, approximately 450m to the east of the Site, connects East Claydon Road with the wider footpath network to the northeast of the Site. Bridleway 2/1, located approximately 200m to the west of the Site at its closest point, connects East Claydon with Verney Road to the north.

C2.18 The closest designated wildlife site is a non-statutory Biological Notification Site called "Grassland near Addington" located 475m due north. The closest statutory designated wildlife site is Sheephouse Wood Site of Special Scientific Interest (SSSI) located 4.5 km to the south-west. Finemere Wood SSSI occurs 4.6 km to the south-west; and Pilch Fields SSSI is located 4.8 km to the north. All three SSSIs have outer development impact risk zones (IRZs) that overlap the Site.

C2.19 In terms of heritage, there are no listed buildings within the Site. The nearest designated heritage asset is the Grade II listed Tuckey Farmhouse approximately 420m east of the Site. Within East Claydon Village there is a group of 11 listed buildings, including the Grade II* Church of St Mary. Further to the west (approximately 2km) and southwest (approximately 1.5km) lies Middle Claydon and Botolph Claydon Conservation Areas, respectively. Further northeast (2.5km away) is Winslow Conservation Area.

C2.20 The Grade II Registered Park and Garden, Claydon Park, is located approximately 1.9km east of the Site. Southwest of Padbury, approximately 4.4km northwest of the Site, is a Scheduled Monument – Norbury: a slight univallate hillfort.

C3.0 Description of Development

C3.1 The Planning Application seeks full planning permission for:

"Construction of a Greener Grid Park comprising energy storage and grid balancing equipment and associated infrastructure including access, drainage, landscaping and other incidental works."

C3.2 The application is supported by a full set of plans and drawings that have informed this EIA, copies of which are provided at Appendix C1, Volume 2 of this ES. These are scheduled in Table C3.1 below, and are all submitted for approval:

Table C3.1 Schedule of Drawings (see copies in Appendix C1)

Drawing No	Title	Rev
Proposed – Construction		
0029773-WSP-ZZ-ZZ-SK-TP-007	Temporary Construction Vehicular Access General Arrangement	P06
Proposed – Operation		
STA008-PL-04B	Proposed Block Operational Layout Plan (full)	06
STA008-PL-03B	Proposed Block Operational Layout Plan (compound)	09
STA008-SD-01	Battery Block Plan	03
STA008-SD-02	Battery Details	03
STA008-SD-03	Control Container	03
STA008-SD-04	Switchgear Room	02
STA008-SD-05	Control & Metering Room	02
STA008-SD-06	Stores	02
STA008-SD-07	Comms and LV Room	03
STA008-SD-08	Gate (Security & Personnel)	02
STA008-SD-09	Noise Attenuation Fence	02
STA008-SD-10	Palisade Fence	02
STA008-SD-11	Livestock Fence	02
STA008-SD-12	Light Column and CCTV	02
STA008-SD-14	Diesel Generator (Genset)	03
STA008-SD-15	HV Yard	05
STA008-SD-15.1	HV Yard	05
STA008-SD-16	Secondary Substation	04
STA008-SD-16.1	Secondary Substation	02
STA008-SD-17	Welfare and Office	02
STA008-SD-18	Underground Water Tank	02
STA008-SD-19	Operations Compound	02
STA008-SD-20	Indicative Access Track(s)	04
STA008-SD-21	Energy Management Building	02
STA008-SD-22	Circuit Breaker	01
STA008-SD-23	Cooler Unit	01
STA008-SD-24	Air-Cored Reactor	02

Drawing No	Title	Rev
STA008-SD-25	Transformer	01
Proposed – Operation (Elevations/Sections)		
STA008-EL-07	Battery Block Contextual Elevations/Sections (key plan)	01
STA008-EL-08	Battery Block Contextual Elevations/Sections	02
STA008-EL-06	Access Road Under Overhead Lines Elevation/Sections	05
Proposed Operational Access		
0029773-WSP-ZZ-ZZ-SK-TP-0005	Operational Access General Arrangement	P04
Proposed Landscape Plans		
UG_2507_LAN_GA_DRW_102	Landscape General Arrangement	P07
UG_2507_LAN_HL_DRW_103	Hard Landscape Plan	P04
UG_2507_LAN_SL_DRW_104	Soft Landscape Plan 1 of 3	P07
UG_2507_LAN_SL_DRW_105	Soft Landscape Plan 2 of 3	P07
UG_2507_LAN_SL_DRW_106	Soft Landscape Plan 3 of 3	P06

Source: Cadmando, WSP and Urban Green

C3.3 The remainder of this Section provides a description of the development shown.

Purpose of Development

C3.4 The Proposed Development is a Battery Energy Storage System ('BESS') and grid balancing equipment (i.e. Synchronous Compensators) which together will form the Greener Grid Park, along with other ancillary infrastructure. The function of each of the main components is explained below:

BESS Facility

C3.5 The Battery Energy Storage System (BESS) component will have a capacity of 500MW. It will store excess energy generated by the National Grid, and, in doing so, provide a reserve power supply to the local electricity grid and in a wider context will enable further renewable energy generation to deploy onto the grid. It would operate for short periods of time to meet local power demand, and there will typically be long periods between operating times when the BESS is not in use. It would also act as a fall-back energy source at times when sources of renewable energy and the grid are reduced or do not generate sufficient electricity to meet demand.

Synchronous Compensators

C3.6 The grid balancing equipment proposed comprises Synchronous Compensators which provide the same synchronous inertia as coal or gas power plants, without the associated CO_2 emissions and high running costs.

C3.7 The synchronous compensators are DC-excited synchronous motors, whose shaft is not connected to anything but spins freely. Their primary purpose is to adjust conditions on the transmission grid, including to either dynamically absorb or supply reactive power as needed to adjust the grid's voltage, or to improve power factor. After the synchronous compensators are synchronised with the network they behave like synchronous motors with

no load, providing short-circuit power to the transmission network. They also provide the necessary inertia for the power grid by means of their rotating mass and during emergencies or contingencies the synchronous compensators can provide a significantly higher rating for a short time. They are not generators of power and there is no combustion in a synchronous compensator, no emissions including carbon emissions, and no storage of power on-site (this is the role of the BESS, hence the two technologies complement each other).

C3.8 Full detail of the need for the Proposed Development is provided within Chapter A of this ES and the Planning Design and Access Statement submitted with the Planning Application.

Design Flexibility

C3.9 BESS technology is rapidly evolving. The Proposed Development has therefore built in flexibility relating to the battery units and inverters proposed, so that Statkraft has the flexibility to select the appropriate battery storage technology that aligns with detailed design and procurement stages that typically occur post planning permission.

C3.10 To achieve this, permission is sought for maximum design parameters for the proposed four battery quadrant areas on the Site (shown as the green cross hatched boxes in Figure C3.1 and on the Proposed Operational Block Layout Plans for approval (STA008-PL-03B Rev 09 and STA008-PL-04B Rev 06 at Table C3.1/Appendix C1), adopting the principles of the 'Rochdale Envelope' for the purposes of the EIA. The flexible elements within the four battery quadrants relate to the layout and design of the proposed battery block units and inverter skids. The maximum design parameters (quantum, height, row length and width) assessed by the EIA are those described in paragraph C3.15 below and shown on the Battery Block Plan (STA008-SD-01 Rev 03), submitted for approval.

C3.11 It is anticipated that any planning permission would include a suitably worded planning condition(s) requiring approval of the final layout, details, elevations and types of battery block units and inverter skids within the four defined quadrants, which must be within the defined maximum parameters assessed by this EIA (as shown on the plans submitted for approval (Table C3.1/Appendix C1)).

C3.12 The EIA has assessed a worst case scenario in relation to the battery block units and inverter skids, and if the details of these elements are brought forward within the parameters defined within this ES, the impacts must be assumed to be no greater than that identified within this ES.

C3.13 An Indicative Detailed Operational Layout Plan has been developed to support the EIA, and is included at Appendix C2 of this ES. The Indicative Detailed Operational Layout Plan is based on the Proposed Operational Block Layout Plans submitted for approval, and show one way in which the detailed layout of the four battery quadrant areas could come forward. This has been taken into account within the following ES chapters:

- **Chapter D LVIA and the Visually Verified Montages (Appendix D2)** – assesses the Indicative Detailed Operational Layout Plan and shows the Indicative Detailed Operational Layout Plan on montages to enable a robust assessment of the visual impacts of the Greener Grid Park.

- **Chapter E Noise** – assesses the maximum parameters (i.e. the plans submitted for approval at Appendix C1), however predictive noise modelling has been undertaken using data for candidate plant that would be appropriate for a development of this size and class, and two scenarios of technology/manufacturers have been considered to illustrate a possible range of results. The two scenarios assessed both sit within the maximum parameters defined by the drawings for approval (Appendix C1), and Scenario 1 in Chapter E has been based on the Indicative Detailed Operational Layout Plan (Appendix C2).

C3.14 Design details are provided in the application for all other components of the Proposed Development, as set out below.

Development Components

C3.15 The BESS would comprise four quadrants of 125MW capacity, with each block consisting of modular battery energy storage units, inverter and transformers. The Greener Grid Park will include the elements listed below:

Flexible element parameters:

- Up to 144 battery block units with inverter skids. Up to 36 battery block units would be located within each quadrant, and each row of battery block units would be a maximum of 30.9m L x 5m W and 4.5m H. The units will be of a recessive colour, likely to be olive green.

Detailed elements:

- 1 metering substation compound, comprising a 400kV substation and a transformer yard (61m (W) x 74.5m (L)), containing 2no. 400kV/33kV transformers (8.4m (W) x 12.6m (L)) x 12.5m (H));
- 2no sync comp buildings (24m L x 16m W x 7m H) housing 2no. synchronous compensator machines each (4 synchronous compensators in total);
- Mini substation south of the main BESS compound, including two transformers (6.5m high) and command and LV room (47 m L x 45 m W and 6.2 m H);
- 12no. air-cored reactors (1.5m d x 1.67m H);
- 4no. emergency diesel generators (4.37m L x 1.6m W x 3.5m H);
- 2no. coolers (11.68m L x 2.4 m W x 2.7m H);
- 4no. control containers (12.2 mL x 2.5 m W and 2.85m H);
- 2no. switchgear rooms (25.11m L x 6.24m W x 6.25m H);
- 2no. control & metering rooms (14m L x 4.86m W x 6.25m H);
- 2no. store buildings (6.0m L x 2.4m W and 2.6m H);
- 2no. comms & LV rooms (12.16m L x 5.63m W and 6.25m in H);
- 2no. welfare and office buildings (9.75m L x 3.05m W and 2.73m H);
- 1no. operations compound (14.1m L x 3.7m W x 5.55m H);

- Internal access roads and 13no. car parking spaces for maintenance personnel;
- Underground water tank (13 mL x 2.5 m W) and hydrants as part of the fire protection system;
- Lighting and CCTV masts (6m H);
- Drainage works and landscaping;
- Noise attenuation fence (4m H) and bund (5m H);
- Palisade perimeter and high voltage compound fencing (at a standard 3.4m H) to secure the Site, and
- Livestock fence outside this (1.1m H)

C3.16 The four synchronous compensators each with a 'fly wheel' and associated equipment will be housed in buildings south of the two transformers, in the central main compound. The dimensions of each of the buildings are: 24m L x 16m W x 7m H providing a total footprint area of 329.6 sq.m (GIA).

Site Layout

C3.17 The proposed Greener Grid Park sits within the Site of 45.3ha. The main part of the Proposed Development is the Greener Grid Park compound ('main compound' or 'BESS Facility'), which will be located at the north of the Site, and occupy 8.6ha of the total Site. The remainder of the Site is proposed to be used for landscaping and access arrangements.

C3.18 The site layout incorporates a 25m buffer from the 400kV electricity line and a 12m buffer from the 132kV line to the proposed BESS Facility, where only landscaping is proposed.

Figure C3.1 Operational Site Layout Plan (extract)

Source: Cadmando (Proposed Site Block Layout – Operational Ref. STA008-PL-04B Rev 06)

C3.19 The batteries are proposed to be positioned into four quadrants each containing up to 36 battery block units and inverters. Two battery quadrants are proposed either side of the central metering substation compound and transformer yard, where the synchronous compensators are also proposed. On the southern part of the substation compound are proposed various buildings integral to the operation of the Green Grid Park, including the switchgear rooms, control & metering rooms, storage buildings comms & LV rooms and the welfare and office building.

C3.20 A 'mini' substation is proposed south of the main compound including two transformers and a command and LV room.

Appearance

C3.21 The battery containers are proposed to be finished in olive green to help them blend with the surrounding landscape. The synchronous compensator buildings will have a pre-galvanised powder coated steel portal framed finished with olive green corrugated cladding (RAL 7009). The palisade fence will be finished in a suitable colour to be agreed with the Council.

Grid and Cable Connection

C3.22 Statkraft has secured a grid offer from the network provider to connect to the national grid. The point of connection will be the replacement East Claydon substation, in the field west of the current substation and south of East Claydon Road.

C3.23 The proposed underground cable connection route is included in the application boundary and as part of the Proposed Development. The following assumptions regarding this element have been assessed within the EIA:

- This would be an underground high voltage cable constructed via open-cut trench and cover methodologies, with a Horizontal Directional Drill (HDD) proposed for the crossing of East Claydon Road;
- The cable will be approximately 2.6kmin length; and
- The red line boundary in the location of the proposed cable connection intersects with the PROW ECL3/1 as it runs northwest through the field west of the current substation and ends at a gate onto East Claydon Road. It is considered the installation of the cable connection will be unlikely to effect the use of the end of this PROW as this element is subject to further design development. However, in order to assess a worst case scenario the EIA has assumed the works will impact the use of this section of PROW ECL3/1 and a temporary diversion would be applied for in this case.

Access and Servicing

Operational Access

C3.24 During operation, the Proposed Development would be accessed using the existing access from East Claydon Road, which would be extended northwards to the proposed Greener Grid Park compound, along the disused railway track (approximately 670m north of East Claydon Road). This existing access track will be the subject of minor works and laying of consolidated material to ensure it is suitable for operational traffic. The access junction onto East Claydon Road will be upgraded to achieve the required visibility splays.

C3.25 The operational access road will be 3.7m wide for its entire length, with two passing bays being provided on the east side of the vehicular access road, located approximately 82.5m and 489.5m north of the proposed operation vehicular access on East Claydon Road.

C3.26 The internal layout and access roads of the site has been designed to accommodate all vehicle types needed to serve the Proposed Development. 13 car parking spaces in the main compound are proposed for maintenance and inspection personnel.

Servicing During Operation

C3.27 During the operation of the Proposed Development the number of vehicles that will access and egress the site will not be significant, with an average of 4 LGV two-way movements over a period of approximately a month. These movements will be made by a 7.5m box van outside of the AM and PM peak hours and will be used for the purposes of servicing and maintenance of the site, and will be able to access the Site via any permitted operation vehicular access route.

C3.28 There will also be an average of 4 HGV two-way movements over a period of approximately a year. These movements will be made by a 16.5 articulated vehicle outside of the AM and PM peak hours and will be used for the purposes of replacing the batteries on Site as and when required. It is proposed that any operational traffic associated with the Proposed Development accesses the Site via the proposed operation vehicular access route – along East Claydon Road, Granborough Road, Burleys Road, Vicarage Road, the A413 High Street, Buckingham Road and London Road to the junction of the A421 on the south side of Buckingham.

Landscaping

C3.29 The landscape proposals within the Proposed Development have been designed to ensure that the existing landscape features and constraints are considered. The landscaping scheme is shown on the submitted Landscape General Arrangement, Hard Landscape Plan and Soft Landscape Plans and a summary of the landscaping proposals is set out below:

- Retention of existing tree groups and belts, individual trees and hedges within and adjacent to the boundaries of the Site wherever possible. This includes approximately 1,700m existing hedge retained and enhanced at key boundaries – the northern Site boundary east of the disused railway, at the eastern adjacent to the main compound, and at the section of the Site boundary southeast of the compound/east of the disused railway;
- New native tree and shrub planting, including 175 new trees of 3-3.5metres in height at the point of planting, to provide screening to the main Greener Grid Park compound and to strengthen the existing mature vegetation to the northern boundary of the Site;
- Planting of species-rich wildflower meadow across the Site, to the northern areas of the Site surrounding the new tree planting and the Greener Grid Park compound;
- Creation of SuDS designed to have landscaping and ecological benefits, including swales which will provide wet wildflower meadow mix; and
- Creation of a landscaped bund wrapping around the southwestern corner of the Greener Grid Park compound, proposed at a height of 5metres.

Site Levels

C3.30 Earthworks will be required across the Site to create the proposed Site levels and development platforms, with consideration given to the drainage requirements. A cut and fill assessment has been completed to inform the design, and has been calculated following the removal of the 200mm top soil.

C3.31 The excess soil generated throughout the construction phase (approximately 2,000m^3) will be retained and reused onsite where possible, to create screen mounding, the landscaping bund and for planting within the landscaped and wildflower meadow areas.

C3.32 Any surplus beyond these activities will be reused within the landowners landholding near to the Site.

Drainage

C3.33 A Flood Risk Assessment and Drainage Strategy has been prepared by Motion, and accompanies the Planning Application. This includes details of the proposed surface water drainage strategy. This is summarised below:

- Construction materials would be used to raise the level of the proposed operational access by a minimum of 300mm, ensuring the access is clear of the surface water flood level. The same approach is proposed for the temporary construction access track;
- The new surfacing of the proposed main compound and substation areas would finish a minimum of 150mm below the proposed buildings and equipment;
- Components of the main compound area will need to discharge to an attenuation basin via an oil separator for treatment purposes (i.e. coolers, generators and transformers) so these will be situated on an impermeable platform (concrete hardstanding or similar) with a separate drainage connection to the oil separator;
- SuDs will be provided including attenuations basins and swales (as indicated on the proposed operational site layout). Surface water runoff to the existing ordinary watercourse to the north of the Site will be restricted by three HydroBrake Flow Control Chambers that will control discharge to 32.40 l/s for the 100 year + 40% climate change critical rainfall event, which is the permitted Independent Drainage Board discharge rate for the proposed permanent impermeable area of the Site;
- The proposed Greener Grid Park compound area will be a Type C No Infiltration Pervious Pavement comprising of a pervious surface layer and 375mm type 3 subbase that will provide approximately 4310m3 attenuation storage. The pervious pavements will have an underlying perforated drainage collector pipe system that will connect to the main drainage network that discharges to the existing watercourse via flow controls to maximise the attenuation storage in the pervious pavement sub base during extreme rainfall events.

Operating Hours

C3.34 The Greener Grid Park will be reactive in use in response to peaks in energy demand, therefore specific operating hours are not known.

C3.35 During operation, the Proposed Development will be unmanned and operated remotely requiring only periodic maintenance engineers to visit the Site and a limited number of specialist jobs located remotely / offsite.

Security and Lighting

C3.36 A 3.4m high palisade perimeter security fence is proposed around the site perimeter. Secure access gates will be provided at the entrances to the BESS facility substations and battery container areas.

C3.37 A Closed Circuit Television ('CCTV') system will be installed externally around the BESS compound to monitor the operation of the plant. The cameras (with lighting) will be mounted on poles at an overall height of 6m.

C3.38 Low light pollution installations will be used. Lighting will be operated from Statkraft's central facilities offsite in Wales, and will be turned on remotely only when maintenance and inspection teams arrive during the hours of darkness. At all other times they will be off. As such, the majority of the time the Site will be unlit.

Decommissioning

C3.39 A temporary planning permission is sought for a 40-year period. At the end of this period, the installed infrastructure will be fully decommissioned and the land restored to its previous agricultural use. Further assumptions regarding the assessment of this phase and methodology are detailed in C4.0 below.

Waste

C3.40 During operation, there would not be any significant waste arising due to the nature of the development being unmanned and operated remotely.

Risks of Accidents and Disasters

C3.41 Schedule 4 of the updated EIA Regulations 2017[7] includes a requirement to provide:

"a description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned."

C3.42 The Planning Inspectorate's Advice Note Eleven: Working with public bodies in the infrastructure planning process – Annex G: The Health and Safety Executive[8] has been reviewed in preparing the ES to better understand the likelihood of an occurrence and the Proposed Development's susceptibility to potential major accidents and hazards.

Fire Safety

C3.43 It is set out in the EIA Scoping Report that fire risk is the only potentially relevant accident or disaster relevant to the Proposed Development. This is confirmed within the Council's EIA Scoping Opinion, and it is agreed that Risks of Accidents and/or Disasters can be scoped out of the EIA. As such, the Planning Application is accompanied by the following standalone documents/assessments:

1 Fire Strategy, prepared by DNV, includes an Outline Battery Safety Management Plan and Fire Strategy Plan; and

2 The FRA and Drainage Strategy, prepared by Motion, includes a fire water management plan.

C3.44 A summary of the Fire Safety measures embedded within the Proposed Development to reduce the risk is provided below.

1 The battery units are fitted with in-built ventilation and fire suppression systems to ensure that the equipment does not overheat;

2 The commitment to only select a final BESS supplier that adheres to relevant international and UK standards;

3 Appropriate separation distances between battery units and nearby combustible material including vegetation;

4 Safe access arrangements, including two separate access points into the site and ensuring that all access roads are capable of accommodating emergency vehicles throughout the site;

5 On-site drainage infrastructure designed to store potentially contaminated fire water run-off from any perimeter cooling to prevent dispersion into the wider environment;

6 The Proposed Operational Block Layout Plan (Appendix C1) has been developed to meet the National Fire Chief Council's (NFCC) guidance for BESS (2023)[9] in line with industry best practice, guidance and appropriate regulation. It has also been discussed with Buckinghamshire Fire and Rescue Service (BFRS) who have raised no issues; and

7 An Emergency Response Plan will also be produced pre-construction which will be prepared in close consultation with BFRS.

C3.45 More widely, Section 5 of each technical chapter (D-I) includes a consideration of the risk of the Proposed Development to, or to cause, a major accident or disaster. Table C3.2 provides an overview of how these issues have been considered within the ES.

Table C3.2 Consideration of Risks and Accidents and Disasters within the ES

Risk Area	Consideration within the ES	Mitigation measures / proposed emergency response
From construction traffic	Potential accidents caused by the Proposed Development are considered within Chapter G through a review of personal injury accident data for the proposed construction route which demonstrates that there are no road safety issues along this route. Through CTMP at Appendix G2 also provides a thorough assessment of the safety and impacts of using the specified local roads for the construction traffic route to ensure there are no risks of accidents. This is undertaken section by section. An Abnormal Indivisible Load (AIL) Assessment is also included at	Measures embedded within the Proposed Development: - Construction traffic control through warning signs, banksmen; - Provision of support vehicles for AIL vehicles during construction; - Construction route enforcement and monitoring; - Temporary road closures and Traffic Regulation Orders, if required; - Use of lighting, signing and marking.

Risk Area	Consideration within the ES	Mitigation measures / proposed emergency response
	Appendix G1 of the Transport Chapter, which provides an assessment of the route of AIL vehicles travelling to the Site from Tilbury Docks, which are required to transport the transformers to Site. The AIL assessment considers the width and height restrictions of each road and junction to be used by the AIL vehicles as well as any bridges that would be crossed and whether it is safe to do so.	
From construction activity	It is proposed that construction of the Proposed Development will take place over a 24 month period. Construction activity will largely be contained within the Site boundary and security fencing or hoarding will be in place. Potential risks could relate to fuel and oil spillage which may result in localised harm to agricultural land or pollution of watercourses.	A Framework Construction Environmental Management Plan is included within Chapter C of this ES and this incorporates best practice measures along with the required mitigation measures recommended by this ES. This will ensure that any risk of construction activity related accidents is minimised. These measures have been assessed throughout the ES.
To human health	Potential risks to human health caused by the Proposed Development could relate to fire safety and emissions released in the unlikely event of a fire.	As detailed above, fire safety measures are embedded in the design of the Proposed Development, and demonstrated within the Fire Strategy prepared by DNV. Emergency response is detailed in the Fire Water Management Plan, which confirms that fire in the unlikely event of an incident, the development will be capable of delivering no less than 1,900 litres per minute for at least 2 hours, and that this release of fire water will not impact the wider area. An Emergency Response Plan is also confirmed to be prepared prior to construction with BFRS.

C4.0 Construction Methodology

C4.1 This section outlines the key construction activities which are identified for the purposes of assessment within this EIA. It is anticipated that a planning condition will require further details to be submitted and agreed with the Local Planning Authority prior to the works taking place. These will accord with the principles established below and as assessed as part of the EIA.

Programme and Description of Works

C4.2 For the purposes of assessment within the EIA, it is envisaged that the construction will be brought forward over a two-year period, from January 2028 to December 2029. Indicative phasing is detailed within the Construction Traffic Management Plan at Appendix G2, and summarised below.

Table C4.1 Indicative Construction Programme for the Purposes of Assessment

Phase	Month	Key Construction Activities
1: Site Preparation	1-5	• Mobilisation; • Topsoil stripping and creation of levels (with the intention to re-use the majority of material onsite); • Temporary construction access, access road and platform using imported material; • Drainage installation (in accordance with submitted Drainage Strategy); • Foundation steel, • Foundation concrete; • Ducting; • Construction hoarding / heras fencing; • Construction lighting; • Tree protective fencing; • Tree works; • Install construction compounds.
2: Construction	6-18	• Operational Access and access road and platform; • Construction of main buildings over installed equipment; • Cabling sand; • Cabling; • Inverters; • Batteries. • Geotextile; • Foundation Steel; • Foundation Concrete; • Support steelwork; • Transformer foundation. • Transformer equipment; • EV Switchgear; and • Fencing (operational boundary, acoustic and palisade fencing).

3: Demobilisation and Clearance	19-24	• Transformer equipment; • EV Switchgear; • Landscaping / ecology works; • Cable connection works

C4.3 No demolition works are required at the Site.

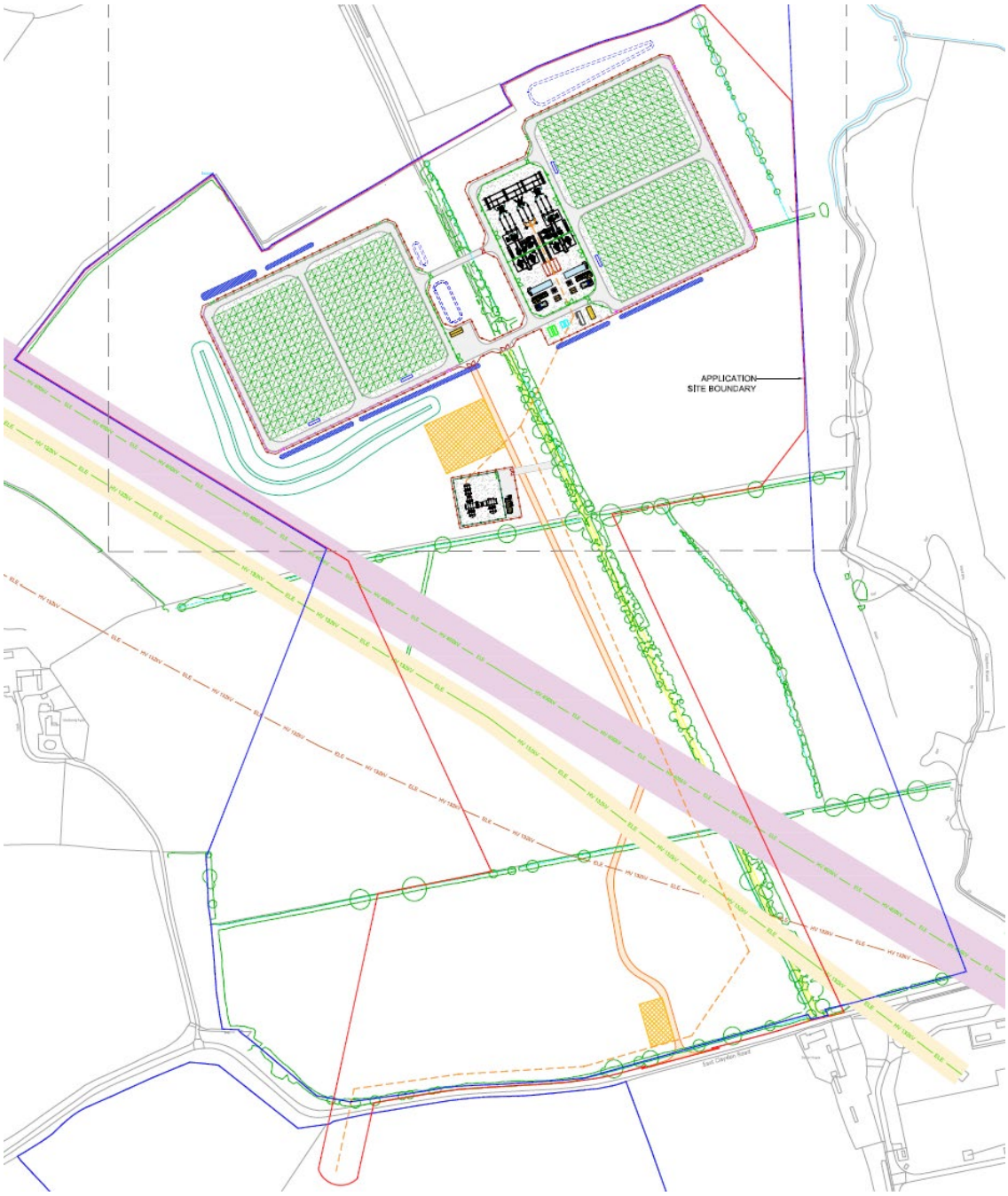
C4.4 A five year implementation period is sought for the proposal, to align the Greener Grid Park construction with the development of the replacement East Claydon substation which will be the grid point of connection for the Greener Grid Park. Development of the new substation is expected to start in 2027 and complete in 2030. This EIA has assessed a construction period of 2028 to 2029, which aligns with the standard three year commencement period to provide a worst case scenario, and both time frames have been considered in the EIA where relevant.

C4.5 The grid cable connection route is included within the Planning Application boundary, and assumptions have been made and assessed within this EIA in relation to these works.

Construction Layout Plan

C4.6 Figure C4.1 shows the layout of the proposed construction compounds and temporary construction access to the Site, as shown on the Temporary Construction Vehicular Access General Arrangement plan at Appendix C1. The key aspects of the construction layout are each described below.

Figure C4.1 Proposed Block Construction Layout



Source: Cadmando Figure

Construction Compounds

C4.7 Two temporary construction compounds will be installed at the start of the construction period:

1 The main construction compound at the north of the Site adjacent to the construction access, to be used for the construction of the main development (65m x 53m); and

2 Secondary construction compound at the south of the Site for the construction access bell mouth and track (44m x 24m).

C4.8 The construction compounds will be in place throughout the construction period, and will contain office and welfare cabins, storage and laydown areas. The location of the proposed construction compounds is shown on the Temporary Construction Vehicular Access General Arrangement plan at Appendix C1 of this ES.

Temporary Construction Access

C4.9 A temporary construction access is proposed to the west of the existing access, also from East Claydon Road which will be removed at the end of construction. This is shown on the Temporary Construction Vehicular Access General Arrangement plan at Appendix C1.

C4.10 The temporary construction access road will run north to the Greener Grid Park compound, to the west of the operational route. The access road will be 6.0m wide for its entire length, but due to its meandering nature there will be widening on the bends between 8.0 – 8.8m to allow for the movement of two-way vehicles.

C4.11 The proposed temporary construction vehicular access road will be made up of a consolidated material for the first 20m so that debris and loose material is not taken onto East Claydon Road.

C4.12 Access for emergency services during construction will also be provided via the temporary construction vehicular access, with emergency services being notified of the location of the emergency access to the Proposed Development before construction work commences.

Construction Parking

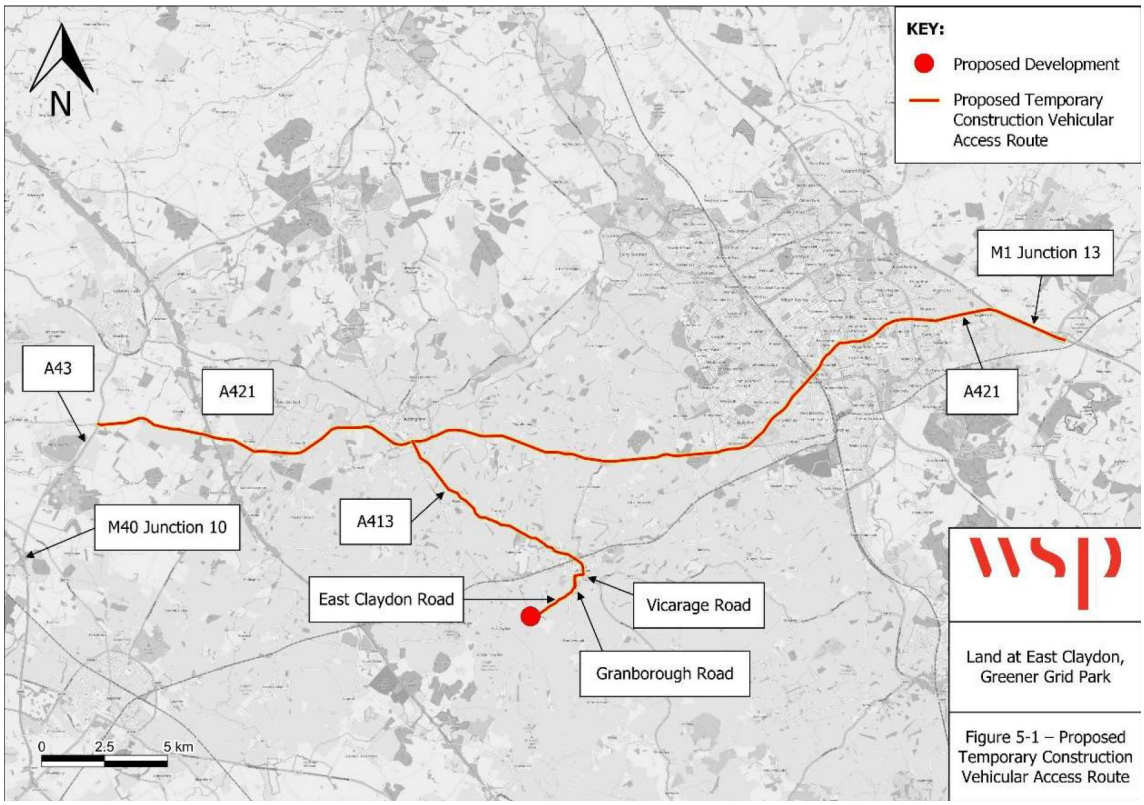
C4.13 All contractors, staff and visitors during the construction phase will park in the car parks on the site adjacent to the compound areas (with appropriate signage being provided) where they will be able to access the construction Site.

Construction Vehicles and Routing

C4.14 As stated above, the majority of components of the Proposed Development will be delivered in a pre-fabricated state to the Site. The CTMP submitted at Appendix G2 details the proposed temporary construction vehicular access route to the north of the Site, which will be used by all construction traffic to access and egress.

C4.15 The route will consist of East Claydon Road, Granborough Road, Burleys Road, Vicarage Road, the A413 High Street, Buckingham Road and London Road and the A241 (east and west), and then onwards to the strategic highway network (see Figure C4.2 below). This route was developed in discussion with highways officers at Buckinghamshire Council, and was subject to initial assessment work to review width constraints, road safety records, speed limits, footways and cycle paths, and on street parking use.

Figure C4.2 Proposed Construction Vehicle Route (to and from Site)



Source: WSP CTMP (Appendix G2 of this ES)

C4.16 The AIL vehicles accessing the Site, which occur for 2 of the 24month construction period (assumed to be July – August 2029), will be routing to the Site from Tilbury Docks, Essex. AIL vehicles are required in order to deliver the transformers to the Site. The proposed AIL vehicle configuration for transporting the transformers to the development will consist of one tractor unit with an axle frame trailer which will accommodate the abnormal load. The AIL vehicle dimensions would be 26.42m (L) x 3m (W) x 3.408m (H).

C4.17 The construction route to be taken by AIL vehicles has been specified within the AIL Assessment at Appendix G1 of the ES, and comprises the A1089 Dock Approach Road, the A13, the M25, the A41 North Western Avenue / Watford Road, the M25, the M40, the A43, the A421, the A413 London Road, Vicarage Road, Burleys Road, Granborough Road and East Claydon Road.

Construction Methods

C4.18 For the purposes of assessment assumptions have been made regarding the construction equipment to be used and transportation of materials to the Site, which are detailed within each technical chapter, where relevant.

C4.19 The majority of equipment such as the battery modules, Power Conversion Systems, Inverters and Substation are built off site and transported into place with appropriate equipment. Therefore, the majority of works onsite will be ground preparation and connecting equipment together.

C4.20 All normal best practice construction methods and health and safety requirements will be put in place by the contractor(s). The Site will be registered with the Considerate Constructors Scheme and posters with contact details will be displayed in prominent locations.

Decommissioning

C4.21 The decommissioning period is anticipated to take place over 2 years at the end of the 40 year life of the development, and will mirror the construction phase in reverse.

C4.22 It is assumed that a Decommissioning Environmental/Ecological Management Plan (DEMP) will be prepared and agreed with the LPA prior to this phase commencing, and that this will follow the structure of the Framework CEMP set out within this Chapter.

C4.23 It is assumed that the existing operational lighting will be retained for use during the decommissioning phase and additional temporary lighting will not be required.

C4.24 During decommissioning, the biodiversity and landscape enhancements around the boundaries of the Site will be protected and the field parcels will then revert to their former agricultural use once the built elements within the Site are removed.

Hours of Work

C4.25 Construction works will generally take place between:

- 07:00 and 18:00 Monday to Friday;
- 07:00 and 14:00 Saturday; and
- No works will be carried out on Sunday and Bank Holidays, unless agreed in advance with the LPA and the Highway Authority.

Construction Lighting

C4.26 It is anticipated there will be a need to provide temporary illumination of working areas to ensure safe working. In this case, this will be achieved through the use of mobile lighting units.

C4.27 The construction lighting strategy will incorporate the following best practice measures as recommended by the Institute of Lighting Professionals and the Health and Safety Executive:

1 Compound lighting and any necessary site task or general lighting will be configured such as to ensure that it is directed and shielded to light the area required without illuminating the surrounding area in such a manner that light 'spillage' is avoided;

2 Location of temporary lighting units;

3 Lighting will be switched off when not required unless specifically needed for construction activities or for security and / or health and safety requirements;

4 Lighting at the boundary of the Site will be avoided

Construction Traffic Management Plan ('CTMP')

C4.28 A Construction Traffic Management Plan has been prepared by WSP and is submitted at Appendix G2 of the ES. This sets out the package of proposed mitigation and management measures to be implemented along East Claydon Road, and across the proposed construction access route. It is intended that a final detailed version of the CTMP and compliance with it would be secured as a planning condition. It will be prepared following appointment of the Contractor and in consultation with BC along with local parish councils.

C4.29 The key principles detailed in the CTMP at Appendix G2, that will be implemented during construction area:

- A **Community Liaison Forum** will be set up, and will include representatives from the following organisations in order to ensure ongoing consultation and engagement with BC and the local community is undertaken prior to and throughout the construction period: -
  - a Site operator;
  - b Principal contractor;
  - c Buckinghamshire Council;
  - d East Claydon, Winslow, Addington, Adstock, Padbury, and Buckingham Parish Councils; and
  - e Ward Councillors from Green Underwood, Winslow and Buckingham.
- **Traffic control –**
  - f Traffic will be managed and controlled at the proposed construction vehicular access on East Claydon Road by a trained banksman;
  - g A trained banksmen will be also provided at the compound areas;
  - h Warning signs will be located on approaches to the traffic control signage; and
  - i A trained banksman will direct the construction vehicles into and out of the proposed construction vehicular access on East Claydon Road.
- **Access information –** Direction signage will be provided along East Claydon Road and the construction vehicular access route to the north of the Proposed Development;
- **Construction period –**
  - j The construction period will be scheduled to avoid the local harvesting period between July and September;
  - k Construction vehicular movements will be scheduled using a booking system; and
  - l Direction and access point maps, along with information on restrictions and constraints and proposed mitigation measures, and Site delivery rules and times will be sent out with each order.
- **Support vehicles** – All deliveries made by a 16.5m articulated vehicle and a 26.5m articulated heavy load vehicles will need to be escorted by a support vehicle that will travel with the construction vehicle and guide it along the construction vehicular access route to the north of the Proposed Development where appropriate.

- **Engagement manager** – Information will be provided to local residents and businesses on construction vehicular movements along East Claydon Road the construction vehicular access route;
- **Delivery times** – Construction deliveries will take place between 08:00 and 17:00 Monday to Friday and between 08:00 and 13:00 on Saturdays, with peak periods on the surrounding highway network being avoided where possible;
- **Visual wheel inspection –** Construction vehicles will be subject to a visual wheel inspection to ensure all vehicles leave in a clean and safe condition;
- **Dust Control –** Any dust arising from Site activities will be minimised and suppressed by water bowsers damping down the proposed construction vehicular access on East Claydon Road, as well as the temporary construction access any other working areas within the Site;
- **Existing condition survey –** Prior to construction work surveys will be undertaken of the condition of the highway surrounding the Proposed Development, with any construction damage being repaired;
- **Monitoring and compliance –** the contractor will be responsible for implementing and monitoring obligations with regard to the CTMP, updating the CTMP if required, and resolving issues and problems through liaison with relevant stakeholders. A series of mechanisms will be established to provide a clear understanding of the enforcement procedures that will be applied if the requirements outlined in the CTMP are not achieved.

Construction Environmental Management Plan ('CEMP')

C4.30 The contractor(s) will be required to produce and agree a CEMP (incorporating any relevant environmental requirements) to address construction effects of the Proposed Development or its specific phases on the environment, existing surrounding communities, businesses and residents of the area.

C4.31 The CEMP will include the following measures, which are considered to make up the framework for the management of environmental effects and the implementation of measures prior to, and during, the construction phase of the Proposed Development. This Framework CEMP will be the basis of a detailed CEMP, which will be secured via planning condition.

1 **Tree protection measures** informed by the Tree Protection Plan and Arboricultural Impact Assessment, which incorporates best practice guidance set out in British Standard 5837: '2012 Trees in Relation to Design, Demolition and Construction'[10], and will ensure retained trees, woodland and other vegetation are not adversely affected during the construction process;

2 **Ecological Management measures** detailing procedures to protect habitats and species during the construction period. This will include:

   a Assessment of potential impacts on badger setts with appropriate avoidance / protection measures and licencing requirements, where necessary;

b Checking for black hairstreak butterfly eggs on blackthorn hedgerow shrubs prior to hedge removal by a suitable ecologist, and their relocation to donor blackthorn shrubs in the wider Site;

c Ensuring that habitat removal and top-soil stripping takes place outside the bird nesting period (i.e. in the months of September to February), or following a check by an ornithologist at other times to ensure the clearance areas are free of nesting birds and their dependent young to meet legislative requirements;

d Licenced exclusion of badgers from setts considered vulnerable to construction disturbance / damage in advance of construction operations commencing;

e Covering over or ensuring use of appropriately sized ramps in all excavations and trenches every night to prevent badgers and other animal species becoming trapped;

f Best practice in relation to construction pollution management; and

3 **Temporary lighting** will be designed in accordance with the assumptions at paragraph C4.26-7, and will follow the Bat Conservation Trust Guidance Note 08/18 (Bats and artificial lighting)[11] to ensure that use of artificial lighting is minimised and avoids light spill onto existing trees, hedgerows and newly planted screening habitats around the Site;

4 Consideration of **visual impacts** in selecting construction cabins:

a All construction cabins and storage mounds will be as low as possible to minimise visual effects;

b Contractor's cabins are to be of a muted and visually recessive colour;

5 Details of management measures to **prevent pollution** to surface water onsite;

6 Best practice **noise control measures,** including:

a Ensuring all vehicles and mechanical plant would be fitted with effective exhaust silencers and be subject to programmed maintenance;

b Selecting inherently quiet plant where appropriate and ensure all ancillary pneumatic percussive tools would be fitted with mufflers or silencers of the type recommended by the manufacturers;

c Instructing that machines would be shut down between work periods or throttled down to a minimum;

d Regularly maintaining all equipment used on Site, including maintenance related to noise emissions;

e Loading vehicles carefully to ensure minimal drop heights so as to minimise noise during this operation;

f Ensure all ancillary plant such as generators and pumps would be positioned so as to cause minimum noise disturbance and if necessary, temporary acoustic screens or enclosures should be provided;

7 **Waste Management measures:**

a Waste arising from the construction of the Proposed Development will be managed in accordance with local and national policy and guidance. It shall be managed in accordance with the waste hierarchy;

b The Proposed Development will adhere to sustainable waste management principles with the objective of reducing and recycling materials either on or off site as far as practicable;

c Storage, waste and laydown areas will be included to ensure materials, waste and equipment are stored within designated locations prior to removal from the Site;

8 **Reducing the carbon footprint** of construction through:

a Selecting materials with low embodied impact, focusing on key elements of the development that typically have higher carbon impacts;

b Sourcing materials locally to reduce the need for transport;

c Committing to resourcing construction materials through local supply chains;

d Selecting materials with long life and which require little maintenance.

C4.32 Details of mitigation measures which will be included in the detailed CEMP that have been identified as part of this EIA are included within the above CEMP framework, and are identified in Chapter K of this ES (Summary of Mitigation and Monitoring).

C4.33 The CEMP will sit alongside the CTMP and together will manage and ensure implementation of the key mitigation measures required for the construction phase.

C5.0 Consideration of Alternatives and Design Evolution

C5.1 Schedule 4(2) of the 2017 Regulations (as amended) requires an identification of the reasonable alternatives that have been studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option including a comparison of the environmental effects. This section provides a review of those alternatives that have been studied.

C5.2 In addition, and with reference to Schedule 4(3), the ES also provides a brief review of the likely effects in the event that the development does not come forward (i.e. an outline of the likely evolution without implementation of the development). This is otherwise known as the 'no development' scenario. Further consideration of this scenario is also included within technical chapters D to M where relevant to the specific technical area under consideration.

C5.3 To comply with this requirement, this section provides a review of:

1 Likely effects in the event that the development does not come forward (the 'no development' scenario);

2 Consideration of whether alternative locations would achieve the objectives of the current Proposed Development; and

3 Consideration of the evolution of the design of the Proposed Development and whether alternative forms of development would achieve the same objectives

Site Location

C5.4 The Site is the only location identified by the Applicant for the Proposed Development, and the Applicant has not given, and will not be giving, consideration as part of the EIA to other sites for the developments of a similar scale.

C5.5 The Site has been selected for the following reasons:

1 NGESO have identified the area as having voltage issues on the electricity grid and the need for reactive power equipment.

2 Proximity to the national grid infrastructure (East Claydon replacement substation site) into which the battery storage will provide back-up demand and grid stability. With transmission losses associated with the 'transport' of electricity, the closer the location to the substation, the more efficient and effective its contribution to satisfying local demand.

3 The network operator has confirmed that East Claydon replacement substation will have sufficient capacity to accept the connection.

4 The Site has adequate space for the BESS and ancillary equipment, has relatively flat ground levels to accommodate the development.

C5.6 Further explanation of the Site selection process is provided within the Planning Statement accompanying the Planning Application.

No Development

C5.7 In addition to the requirements of the 2017 EIA Regulations (as amended), guidance in carrying out an EIA suggests that it is good practice to consider the evolution of a site in the absence of the development proposed (in other words a 'do nothing' alternative). This is also covered under the 'Future Baseline' requirements of the 2017 EIA Regulations (as amended), as specified in Chapter A of this ES and as discussed within technical chapters D to I.

C5.8 Whilst each technical aspect chapter of this ES includes a section describing the future baseline relevant to the particular technical area, a general consideration is also provided below that considers the 'no development' scenario in the round.

C5.9 If the Proposed Development did not come forward at the Site, it is possible that the Site would remain in its current condition, which at present comprises a combination of agricultural land made up of sheep grazed pasture and arable production. It is likely that in the no development scenario this use would continue with the fields being used in rotation between crops and fallow land, with the grass fields likely to remain in use for grazing.

Influence of the EIA in Design Evolution

C5.10 The design of the Proposed Development has evolved through an iterative design process alongside the EIA process. The key considerations of environmental effects in the alternative design options considered across this process are described below:

- A landscaped 5m bund was introduced on the south western corner of the Greener Grid Park compound to screen views of the Proposed Development from sensitive visual receptors to the west and also to provide further noise mitigation to these receptors;
- The position of the battery units, internal access road and attenuation swales in the main compound have been adjusted over the course of the design development process to retain a 10metre ecological buffer to the top of the watercourse that flows from the northern boundary of the Site towards Claydon Brook;
- The extent and alignment of the permanent access road upgrade and the number of passing places along its route has been adjusted from four to two, to minimise trees loss and encroachment into root protection areas following arboricultural and ecological assessment work;
- Since the submission of the EIA Scoping Request in August 2024, the number of batteries proposed has been consolidated and synchronous compensators introduced to the Proposed Development, which has reduced adverse noise effects through selection of quieter technology; and
- A detailed grounds levels design has been completed to try and match the existing grounds levels where possible, and minimise levels changes and excavated materials, thereby avoiding having to export materials from the Site and reducing the adverse effects associated with the Proposed Development's embodied carbon.

C5.11 This consideration of design alternatives has led to the form of Proposed Development described in Section C3.0 of this Chapter (and as shown on the submitted plans at Appendix C1 of this ES), which seeks to minimise adverse environmental effects as far as

possible through embedded design measures realised through the design evolution process. No other forms of development would achieve these objectives at the Site.

C6.0 Abbreviations & Definitions

Abbreviations

- BC – Buckinghamshire Council
- EIA – Environmental Impact Assessment
- ES – Environmental Statement
- BESS – Battery Energy Storage System
- HV – High Voltage
- CEMP – Construction Environmental Management Plan
- CTMP – Construction Traffic Management Plan
- CCTV – Closed Circuit Television
- MW – Megawatt
- MWh – Megawatt/hour

Definitions

- **Construction Environmental Management Plan** - a plan that will manage the environmental effects arising from the construction of the Proposed Development.
- **Embedded mitigation** - modifications to the location or design of the development made during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken.
- **Public Right of Way** - a route formally designated by the local highway authority as a route for use by a combination of pedestrians, cyclists and equestrians depending upon the precise designation.
- **Sustainable Drainage Systems** - a collection of water management practices that aim to align modern drainage systems with natural water processes and are part of a larger green infrastructure strategy.
- **The Applicant**: the Applicant who has submitted the Planning Application. This is Statkraft UK Ltd
- **Worst Case Scenario** - a precautionary method of assessment that seeks to identify the worst possible outcome and mitigate this as far as is possible; usually the actual outcome will be less than that identified as a result and this is therefore considered a robust approach.
- **Proposed Development** – the proposed Greener Grid Park that is the subject of this Planning Application and EIA.
- **The Greener Grid Park compound**, or the **BESS Facility** – the part of the Proposed Development that makes up the main operating component.
- **The Site** – the land falling within the red line boundary for the Planning Application, as defined on the Site Location Plan at Appendix A1 of this ES.

C7.0 References

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10. British Standard 5837: '2012 Trees in Relation to Design, Demolition and Construction' (published April 2012)

11. Bat Conservation Trust Guidance Note 08/18 (Bats and artificial lighting) (2018) - https://cdn.bats.org.uk/uploads/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lighting-compressed.pdf?v=1542109349