



Longfield Solar Farm

Other Documents [PINS Ref: EN010118]

Mineral Safeguarding Assessment

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Executive Summary

This Mineral Safeguarding Assessment has been prepared in support of an application for a Development Consent Order (DCO) for the construction, operation (including maintenance) and decommissioning of Longfield Solar Farm (the Scheme). The Scheme consists of solar photovoltaic (PV) array electricity generating facility, Battery Energy Storage System (BESS) and export connection to the national electricity transmission network (NETS), including extension of the existing Bulls Lodge Substation (the Scheme).

The Scheme is defined under the Planning Act 2008 as a Nationally Significant Infrastructure Project (NSIP) because it comprises a generating station in England with a capacity exceeding 50 megawatts (MW). It therefore requires a DCO from the Secretary of State for Business, Energy and Industrial Strategy (the SoS). This document has been prepared by AECOM on behalf of Longfield Solar Energy Farm Ltd (the Applicant) and should be read in conjunction with the other documents submitted with the Application. Longfield Solar Energy Farm Ltd is a joint venture between EDF-Renewables and Padero Solar.

This Mineral Safeguarding Assessment has been prepared as the majority of the Order limits is located within a Mineral Safeguarding Area for sand and gravel. In line with policy requirements it has been prepared to consider the impact of the Scheme on safeguarded mineral.

Once the Scheme ceases to operate, it will be decommissioned in accordance with the **Decommissioning Strategy [EN010118/APP/7.12]**. This means that all PV modules, mounting poles, cabling, inverters and transformers associated with the solar farm, batter storage and Longfield Substation (solar farm infrastructure) will be removed. The Mineral Safeguarding Assessment concludes that safeguarded mineral will not be sterilised in those areas of the Order limits that will be subject to removal of the solar farm infrastructure.

The Scheme also includes an extension to Bulls Lodge Substation and a Grid Connection cable. The Bulls Lodge Substation Extension would not be decommissioned and the Grid Connection cable would remain in-situ, although it would be redundant. The Mineral Safeguarding Assessment has considered the impact of the permanent Bulls Lodge Substation Extension and the retention of the Grid Connection cable. It concludes that whilst geological mapping shows that fluvio-glacial sands and gravels may be present in the north-eastern half of the Substation Extension and in the Grid Connection Corridor, the small area of extractable mineral within the Order limits in these areas means that prior extraction is unlikely to be either practicable or economic. Notwithstanding this, if economically extractable mineral is present within the Grid Connection Corridor the redundant grid connection cable would not be an impediment to extraction. The Scheme is therefore in accordance with the national and local policy objectives to safeguard mineral resources.

1. Introduction and Background

1.1 Introduction

- 1.1.1 Longfield Solar Energy Farm Limited (the 'Applicant') is applying for a Development Consent Order (DCO) under the Planning Act 2008 for the Longfield Solar Farm (hereafter referred to as the 'Scheme'). The Scheme comprises the installation of solar photovoltaic (PV) generating panels and on-site energy storage facilities on land between Chelmsford and Witham in mid Essex (hereafter referred to as the 'Order limits'). The application also includes grid connection infrastructure to allow for the generation, storage and export of electricity to the national electricity transmission system (NETS).
- 1.1.2 The Application is required because the Scheme is classified as a Nationally Significant Infrastructure Project (NSIP). The Application is to be made to the Secretary of State (SoS) for the Department for Business, Energy & Industrial Strategy (BEIS), under Section 37 of the Planning Act 2008.
- 1.1.3 The Scheme is located on approximately 454 hectares (ha) of land, approximately 6 kilometres (km) north east of Chelmsford, within the administrative boundary of Essex County Council (ECC), Chelmsford City Council (CCC) and Braintree District Council (BDC). The Order Limits are identified in **Figure 1-1**, below, and by **Figure 1-1, Scheme Location**, of the **ES [EN010118/APP/6.3]**, delineated in red.

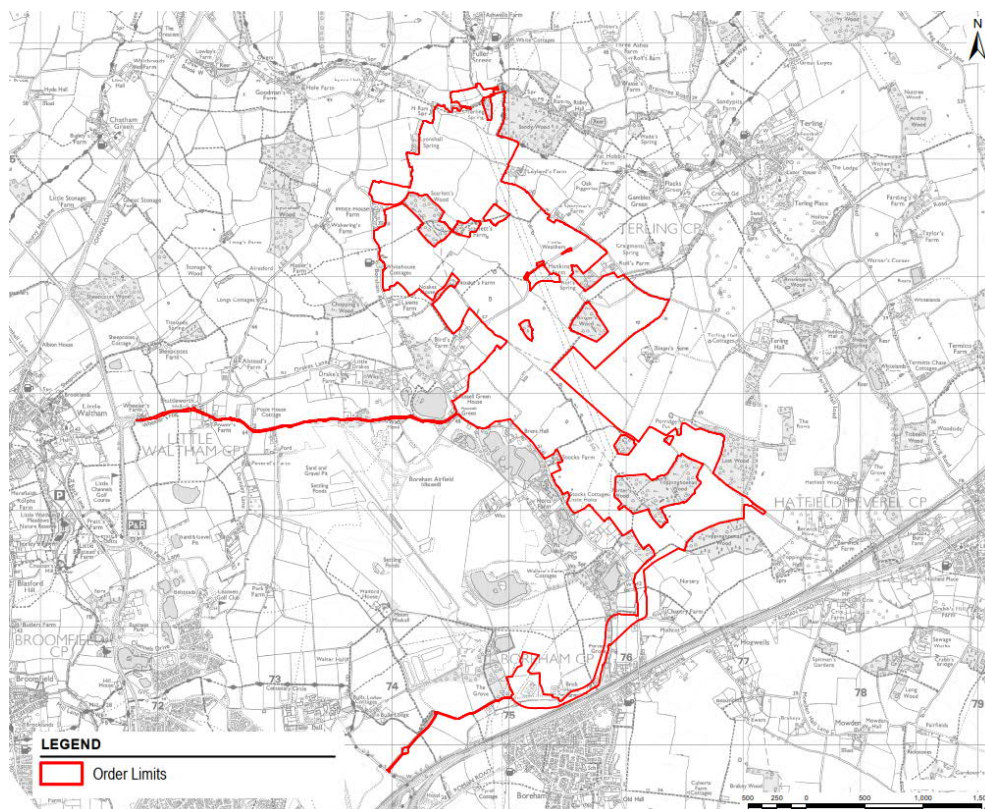


Figure 1-1: Order limits.

- 1.1.4 The Scheme is located in a predominantly rural area consisting mainly of mixed agricultural land, associated farms and scattered woodland. The

Scheme consists of the following as shown on the Works Plans [EN010118/APP/2.2]:

- a. A ground mounted solar photovoltaic generating station (Work No. 1);
- b. Battery energy storage system (BESS) compounds (Work Nos. 2A and 2B);
- c. An onsite substation compound (the Longfield Substation) (Work No. 3);
- d. Works to lay high voltage electrical cables (Work No.4), including works to lay one 400 kV cable circuit and associated infrastructure (Work No. 4A) and temporary construction laydown areas (Work No. 4B);
- e. An extension to the existing Bulls Lodge substation, comprising an electricity switching station, including access (Work No. 5A), and temporary overhead line alterations (Work No. 5B);
- f. Other works required for the Scheme (e.g. cables, boundary treatment, CCTV, lighting, landscaping, biodiversity enhancement, tracks, earthworks, surface water management, temporary construction compounds, temporary footpath diversions, diversion of cables) (Work No. 6 and listed at the end of Schedule 1 of the draft DCO);
- g. Temporary construction and decommissioning laydown areas for the Solar Farm Site (Work No. 7A) and the Bulls Lodge Substation Extension (Work No. 7B);
- h. Office, warehouse and plant storage building (Work No. 8);
- i. Works to facilitate access, including road widening of highways to facilitate access to the Order limits (Work No. 9); and
- j. Areas for habitat management (Work No. 10).

1.1.5 The Scheme is expected to operate for approximately 40 years. After the Scheme ceases to operate, the Solar Farm Site (see definition below) will undergo decommissioning. All PV modules, mounting poles, cabling, inverters and transformers associated with Works Nos. 1, 2 and 3 will be removed. The extension to Bulls Lodge Substation Extension and Grid Connection cable would remain in-situ, although the Grid Connection cable would be redundant.

1.1.6 There are three distinct elements to the proposal in respect of assessing the impacts of the Scheme upon minerals and waste infrastructure. These are illustrated by **Figure 1-2** and comprise:

- a. The area occupied by the PV generating panels and on-site energy storage facilities (**the Solar Farm Site**). This falls almost entirely within a Mineral Safeguarding Area for sand and gravel extraction, meaning that if it was a planning application under the Town and Country Planning Act 1990 (TCPA 1990) it would be subject to Policy S8 of the Essex Minerals Local Plan 2014.
- b. The corridor accommodating the cabling between the PV generating panels and the existing electricity substation to the west of Brick House Farm (**the Grid Connection Route**). This corridor includes part of the Mineral Safeguarding Area. It also falls within part of Bulls Lodge Quarry and the 250m buffer zone around the quarry and within the 250m buffer zone around the existing Boreham Recycling Centre.

- c. The area identified for an extension to the electricity substation (**the Bulls Lodge Substation Site**). This falls within both the Mineral Safeguarding Area and the 250m buffer zone around the Bulls Lodge Quarry. Part of the extension area to Bulls Lodge Substation is within the boundary of the consented Bulls Lodge Quarry.

1.1.7 In addition, land required to enable access to the site from the public highway is also included within Order Limits (**Site Access Works**).

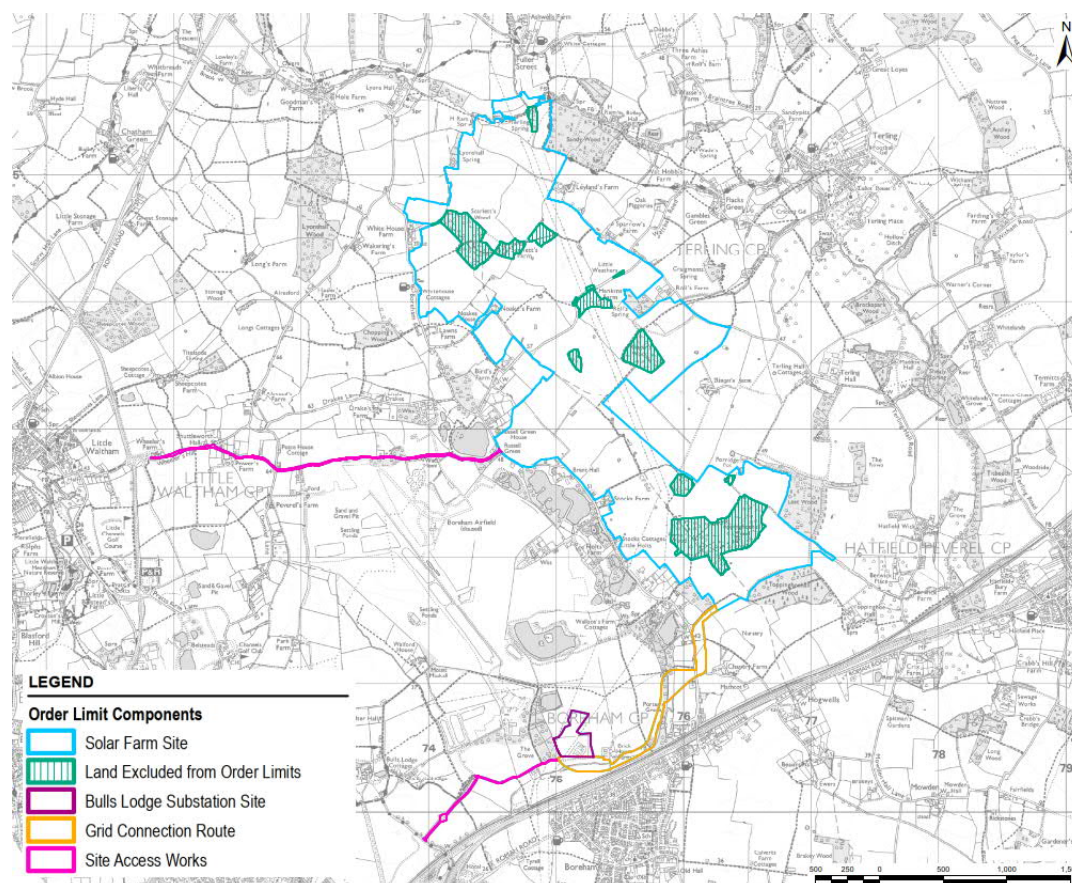


Figure 1-2: Areas within Order limits.

1.2 Minerals and Waste Planning Authority's Comments

- 1.2.1 ECC is the Mineral Planning Authority (MPA) and as such, in addition to being responsible for granting planning permission for minerals development are responsible for mineral safeguarding, minerals consultation areas and minerals site allocations.
- 1.2.2 ECC submitted a formal consultation response to the submitted Environmental Impact Assessment (EIA) Scoping Report for the Scheme on 4th December 2020. The response stated that: *"The vast majority of the current extent of the application site is within a Mineral Safeguarding Area, meaning that it is subject to Policy S8 of the Essex Minerals Local Plan 2014."*
- 1.2.3 It goes on to say that: *"...this proposal will potentially sterilise a considerable amount of mineral resource. The volume which would be sterilised is many times over that which would be allocated within a Minerals Local Plan."*
- 1.2.4 As a result, section 4.7 (socio-economics and land use) of the scoping opinion, dated December 2020, states that: *"The ES should identify potential impacts*

on mineral resources, including those resulting from sterilisation of the resource during the lifetime of the Proposed Development. Any likely significant effects should be assessed. Effort should be made to discuss and agree the approach with the County Council.”

- 1.2.5 A meeting was held between representatives of the Applicant, AECOM and Essex County Council (ECC) planners on 18th March 2021.
- 1.2.6 ECC planners advised that the Applicant would need to make the case in a Mineral Safeguarding Assessment that the Scheme is temporary and that the mineral would not be permanently sterilised as a result of the development. In this case, detailed information about the mineral reserve present within the Site (from boreholes or elsewhere) would not be required to accompany the DCO application for the solar farm.
- 1.2.7 This Mineral Safeguarding Assessment applies to all DCO development within the Order Limits. All three elements of the Scheme referred to above come within the Mineral Safeguarding Assessment.
- 1.2.8 ECC also advised that a Mineral Infrastructure Impact Assessment (MIIA) and Waste Infrastructure Impact Assessment (WIIA) are required, to assess the impact of the Scheme on minerals infrastructure and waste infrastructure respectively.
- 1.2.9 The MIIA assesses the impact of the following on safeguarded mineral infrastructure (specifically Bulls Lodge Quarry):
 - a. Grid Connection Route (Work No. 4);
 - b. Bulls Lodge Substation Extension (Work No. 5) ; and
 - c. Site Access to the Solar Farm Site and the Bulls Lodge Substation Extension (Work No. 9).
- 1.2.10 The WIIA assesses the impact of the following on safeguarded waste infrastructure (specifically Boreham Recycling Centre and Bulls Lodge Inert Recycling):
 - a. Grid Connection Route (Work No. 4);
 - b. Site Access to the Solar Farm Site and the Bulls Lodge Substation Site (Work No. 9).
- 1.2.11 The MIIA and WIIA do not form part of this Mineral Safeguarding Assessment and are submitted separately.

1.3 Report Structure

- 1.3.1 The remainder of this report is structured as follows:

Section 2, The Scheme;

Section 3, Order Limits and Surroundings;

Section 4, Relevant Planning Policy;

Section 5, Case in Support of the Scheme; and

Section 6, Conclusions.

2. The Scheme

2.1 Introduction

2.1.1 Solar PV and energy storage technologies are rapidly evolving. As a result, the parameters of the DCO will maintain flexibility to allow the latest technology to be utilised at the time of construction.

2.1.2 The principal infrastructure will be as follows:

- a. Solar PV Arrays;
- b. PV Mounting Structures;
- c. Solar Stations (comprising an inverter, transformer and switchgear);
- d. Electrical Cables;
- e. A 'Battery Energy Storage System' (BESS);
- f. An extension to the existing Bulls Lodge Substation;
- g. A warehouse building;
- h. Fencing, gates, boundary treatment and other means of enclosure;
- i. Access tracks; and
- j. Landscaping and biodiversity enhancement measures including planting.

2.1.3 The Order Limits and the layout of the Scheme is shown on the Works Plans [EN010118/APP/2.2].

2.2 Timescale and Phasing

2.2.1 Subject to being granted consent and following a final investment decision, the earliest construction could start is Q1 2024. Construction will take place over 24 - 36 months, followed by commissioning. The earliest the solar farm is expected to become operational is Q1 2026.

2.2.2 During the operational phase, activity on the Site will be minimal and would be restricted principally to vegetation management, equipment maintenance and servicing, replacement of any components that fail, and monitoring to ensure the continued effective operation of the Scheme. It is anticipated that there could be between 20 and 40 visits per week with four-wheel drive vehicles or transit vans.

2.2.3 The design life of the Scheme is expected to be approximately 40 years. When the operational phase ends, the Site (with the exception of the extension to Bulls Lodge Substation and the Grid Connection) will be decommissioned. Decommissioning is expected to take between 12 and 24 months, and will be undertaken in accordance with the **Decommissioning Strategy (DEMP)** [EN010118/APP/7.12].

2.2.4 For further detail regarding the Scheme, refer to the **Planning Statement** [EN010118/APP/7.2] and **Chapter 2: The Scheme**, of the **ES** [EN010118/APP/6.1].

3. Order Limits and Surroundings

3.1 The Order Limits and Surrounding Area

- 3.1.1 The Order Limits comprises a contiguous land separated by several areas of woodland, approximately 454 ha in size. It is centred on National Grid Reference (NGR) TL 75545 12718 and is located within the City Council administrative area of Chelmsford and the District Council administrative area of Braintree, in the county of Essex.
- 3.1.2 The landscape features within the Site consist primarily of agricultural fields mainly under arable production, with some small parcels of pasture, interspersed with individual trees, hedgerows, tree belts (linear) small woodland blocks and farm access tracks. of the nearest villages to the Site, are Fuller Street approximately 300m to the north, Gamble's Green and Terling 500m and 1.1km to the east, Boreham 500m to the south-west, Hatfield Peverel 1.5km to the south-east and Chelmsford 5.7km to the south-west. Boreham Road runs North to South along the Western edge of the Site, with the A12 carriageway abutting and bounding the Southern edge of the Site boundary.
- 3.1.3 For further detail regarding the Site and the surrounding area, please refer to **Chapter 2, The Scheme**, of the **ES [EN010118/APP/6.1]** accompanying the DCO application.

3.2 Site History

- 3.2.1 Available online historical maps show the Solar Farm Site and Grid Connection Route have been in agricultural use since the late nineteenth century. The existing Bulls Lodge Electrical Substation is shown on aerial photography on Google Maps as being constructed post 2017. Bulls Lodge Quarry, to the west of the Longfield Site was progressively developed on and around the former site of RAF Boreham, a World War II airfield.

3.3 Mineral Resources

- 3.3.1 The British Geological Society (BGS) Onshore Geoindex holds records of numerous boreholes in close proximity to the Site. These show that the superficial deposits underlying the Scheme are a mixture of Lowestoft Formation (glacial till (Diamicton), 1.2 to 17 m proven), sometimes overlain by brickearth/head deposits (clay, silt and sand, 3.9 m identified in one location). These are underlain by a sheet of fluvio-glacial sands and gravels generally between 4 and 11 m thick (although locally absent). These superficial deposits are underlain by London Clay, a sedimentary bedrock of marine origin, formed approximately 48 to 56 million years ago in the Palaeogene Period.
- 3.3.2 Key borehole records are summarised below:
- a. Borehole TR71NE12 near Fuller Street, 4.2 m of Glacial till overlying 11.3 m fluvio-glacial sands and gravels on top of London Clay;
 - b. Borehole NL71NE11 near Ridley Hall, 6.9 m of Glacial till overlying 1.3 m of fluvio-glacial sands and gravels on top of London Clay;

- c. Borehole TL71NE13 near Whathobb's Farm 1.2 m of clay with some gravel (fluvio-glacial sands and gravels) overlying London Clay;
- d. BH TL71SE6 near Leyland's Farm, 6.7 m of Glacial till overlying >8.8 m of fluvio-glacial sands and gravels;
- e. BH TL71SW46 near Scarlett's Farm, 11.6m of Glacial till overlying 6.4 m fluvio-glacial sands and gravels on top of London Clay;
- f. BH TL71SE 128 near Sparrow's Farm, 8.2 m of Glacial till overlying 10.7 m of fluvio-glacial sands and gravels on top of London Clay;
- g. BH71SE8 near Roll's Farm, 4 m fluvio-glacial sands and gravels on top of London Clay;
- h. BH TL71SE9 near Brockspark Wood 5.2 m of Glacial till overlying 4.3 m of fluvio-glacial sands and gravels on top of London Clay;
- i. BH TLSW2 near Bird's Farm 11.7 m of Glacial till on top of London Clay;
- j. BH TL71SE14 near Ringer's Farm 5.9 m of Glacial till overlying >8.5 m of fluvio-glacial sands and gravels;
- k. BH TL71SE15 near Ringer's Farm 3.9m of Brick Earth overlying 5.9 m of Glacial till overlying >4.7 m of fluvio-glacial sands and gravels;
- l. BH TL71SE132 near Terling Hall 6.7m of Glacial till overlying 8m of fluvio-glacial sands and gravels on top of London Clay;
- m. BH TL71SE130 near Porridgepot Hall 17m of Glacial till on top of London Clay;
- n. BH TL71SE20 near Lost Wood 4.6 m of Glacial till overlying 9.4 m fluvio-glacial sands and gravels on top of London Clay;
- o. TL71SE29 near Brick House Farm 2.4 m of Glacial till overlying 5.5 m clayey fluvio-glacial sands and gravels on top of London Clay; and
- p. TL71SE30 near Brick House Farm 5.5 m of Glacial till overlying 1.8 m clayey fluvio-glacial sands and gravels on top of London Clay; and
- q. TL71SE31 near Brick House Farm 5.5 m of Glacial till overlying 4.6 m fluvio-glacial sands and gravels on top of London Clay; and
- r. TL71SE32 near Brick House Farm 5.5 m of Glacial till overlying 7.3 m fluvio-glacial sands and gravels on top of London Clay.
- s. TL71SE33 2.1 m of Glacial till overlying 3.4 m fluvio-glacial sands and gravels on top of London Clay.

4. Relevant Planning Policy

4.1 Introduction

- 4.1.1 When determining a DCO application, the Secretary of State is required to have regard to any relevant National Policy Statements (NPS), as well as any Local Impact Report, any prescribed matters, and any other matters that the Secretary of State thinks are both important and relevant. Other national and

local planning policies and guidance, including adopted and emerging Development Plan policies, have the potential to be considered by the Secretary of State to be other matters which are important and relevant.

- 4.1.2 The following sections refer to planning policies in relation to minerals that could be considered important and relevant to the Secretary of State's decision. Relevant waste planning policy is considered in the WIIA.

4.2 National Policy Statements

National Policy Statement for Energy (EN-1)

- 4.2.1 The overarching NPS for Energy (EN-1) came into force in July 2011. It sets out general principles and impacts to be taken into account for all types of energy NSIP development covered by the Energy NPSs. It forms the primary basis for determining if development consent should be granted. EN-1 is underpinned by the principle that the development of largescale renewable energy generation projects are needed (amongst other types of generation capacity) in order to meet the demand for energy generation in the United Kingdom (UK), and to reduce greenhouse gas emissions from energy generation in order to meet the Government's decarbonisation targets.
- 4.2.2 Paragraph 5.10.9 of the 2011 EN-1 states that applicants should safeguard any mineral resources on the proposed site as far as possible, taking into account the long-term potential of the land use after any future decommissioning has taken place.
- 4.2.3 Paragraph 5.10.22 states that where a proposed development has an impact upon a Mineral Safeguarding Area, the Secretary of State should ensure that appropriate mitigation measures have been put in place to safeguard mineral resources.

4.3 Draft National Policy Statements

- 4.3.1 The Government is currently reviewing and updating the Energy NPSs for two primary reasons:
- a. to reflect the policies and strategic approach for the energy system that is set out in the Energy White Paper (December 2020), and
 - b. to ensure that the planning policy framework delivers the infrastructure required for the country's transition to net zero carbon emissions.
- 4.3.2 As part of the Energy NPS review process, the Government published a suite of Draft Energy NPSs for consultation on 6 September 2021. Draft National Policy Statement for Renewable Energy (EN-3) (Draft NPS EN-3) includes specific policies for solar photovoltaic generation NSIPs. The designation of NPS EN-3 in due course will therefore bring solar NSIP developments into the Energy NPSs.

Draft National Policy Statement for Energy (EN-1)

- 4.3.3 Draft NPS EN-1 sets out general principles and impacts to be taken into account for all types of energy NSIP development covered by the Energy NPSs. Once designated it will form the primary basis for determining if development consent should be granted. It is underpinned by the principle that the development of large-scale renewable energy generation infrastructure is

urgently needed in order for the Government's targets and commitments for the energy system to be met. It sets out at paragraph 3.3.21 that, along with wind, solar electricity generation will help to reduce costs and provide a clean and secure source of electricity supply. It goes on to say that a secure, reliable, affordable, net zero consistent system in 2050 is likely to be composed predominantly of wind and solar.

- 4.3.4 Paragraph 5.11.9 of the draft EN-1 repeats paragraph 5.10.9 of the 2011 EN-1. It makes clear that applicants should safeguard any mineral resources on the proposed site as far as possible, taking into account the long-term potential of the land use after any future decommissioning has taken place.
- 4.3.5 Likewise, paragraph 5.11.21 repeats paragraph 5.10.22 of the 2011 EN-1. It states that where a proposed development has an impact upon a Mineral Safeguarding Area, the Secretary of State should ensure that appropriate mitigation measures have been put in place to safeguard mineral resources.

[Draft Policy Statement for Renewable Energy Infrastructure \(EN-3\)](#)

- 4.3.6 Draft NPS EN-3 sets out additional policies for renewable energy infrastructure, including policies specific to the development of solar NSIPs. These include matters that applicants should consider in selecting a site, how assessments should be undertaken and how mitigation should be provided. There are no specific references to mineral safeguarding in draft EN-3.
- 4.3.7 Paragraph 2.49.13 is of relevance as it states that the time-limited nature of solar farms is likely to be an important consideration for the Secretary of State when assessing impacts. Although not explicitly referenced, this could include the impacts arising from a delay to the extraction of any minerals below the surface of the site. Draft EN-3 adds that the extent to which the Order limits will return to its original state may also be a relevant consideration.

4.4 National Planning Policy Framework (NPPF) (2021)

- 4.4.1 The revised NPPF was published in July 2021. The NPPF, together with the accompanying Planning Practice Guidance (PPG), sets out the Government's planning policies for England for the particular purpose of making development plans and deciding applications under the Town and Country Planning Act 1990.
- 4.4.2 Under Section 17 (Facilitating the Sustainable Use of Minerals), NPPF paragraph 209 states: *"It is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs. Since minerals are a finite resource, and can only be worked where they are found, best use needs to be made of them to secure their long-term conservation."*
- 4.4.3 NPPF paragraph 210 goes on to state: *"Planning policies should...c) safeguard mineral resources by defining Mineral Safeguarding Areas and Mineral Consultation Areas; and adopt appropriate policies so that known locations of specific minerals resources of local and national importance are not sterilised by non-mineral development where this should be avoided (whilst not creating a presumption that the resources defined will be worked); d) set out policies to encourage the prior extraction of minerals, where*

practical and environmentally feasible, if it is necessary for non-mineral development to take place...”.

- 4.4.4 Paragraph 212 also states: *“Local planning authorities should not normally permit other development proposals in Mineral Safeguarding Areas if it might constrain potential future use for mineral working”*

4.5 National Planning Practice Guidance (PPG)

Minerals PPG (2014)

- 4.5.1 The Minerals PPG (2014) confirms that minerals ‘make an essential contribution to the Country’s prosperity and quality of life’. Section 3 of the Minerals PPG states that: *“Mineral planning authorities are encouraged to plan for minerals extraction using Ordnance Survey-based proposals maps and relevant evidence provided by the minerals industry and other appropriate bodies. This approach will allow mineral planning authorities to highlight areas where mineral extraction is expected to take place, as well as managing potentially conflicting objective for use of land.”*

- 4.5.2 Section 3 advises MPAs that they should plan for the steady and adequate supply of minerals in one or more of the following ways:

“1. Designating Specific Sites – where viable resources are known to exist, landowners are supportive of minerals development and the proposal is likely to be acceptable in planning terms. Such sites may also include essential operations associated with mineral extraction;

2. Designating Preferred Areas, where are areas of known resources where planning permission might reasonably be anticipated. Such areas may also include essential operations associated with mineral extraction; and/or;

3. Designating Areas of search – areas where knowledge of mineral resources may be less certain but within which planning permission may be granted, particularly if there is a potential shortfall in supply.”

4.6 The Development Plan

- 4.6.1 The legal requirement under s38 (6) of the Planning and Compulsory Purchase Act 2004 to determine planning applications in accordance with development plan documents does not apply to applications for development consent under the PA2008. Nevertheless, the development plan may be important and relevant to the Secretary of State’s decision. Accordingly, it has been considered as part of the Mineral Resources Assessment.

- 4.6.2 The local Development Plan for the land within Order Limits comprises:

- Essex Minerals Local Plan (2014);
- Braintree Local Plan Review 2005 (saved policies);
- Braintree Local Plan Core Strategy and Proposals Map (adopted 2011);
- Braintree Local Plan (2013 – 2033) Section 1 – Strategic Plan for North Essex (adopted February 2021);
- Chelmsford Local Plan 2013-2036 (2020);

- Hatfield Peverel Neighbourhood Development Plan 2015–2033 (2019); and
- Essex and Southend-on-Sea Waste Local Plan, July 2017 (EWLP).

4.6.3 The EWLP does not contain any policies applicable to minerals.

4.7 Essex Minerals Local Plan (2014)

4.7.1 ECC adopted the Essex Minerals Local Plan (EMLP) in July of 2014. The plan provides planning policies for minerals development in Essex until 2029 and identifies future sites for mineral development. It also includes ways to reduce reliance on primary mineral resources in Essex.

4.7.2 The EMLP comprises:

- the Minerals Core Strategy, which sets out the long-term direction for minerals development and a plan to deliver this;
- development management policies for minerals planning applications;
- strategic site allocations and safeguarding for mineral extraction; and
- a Policies Map, showing site locations.

Essex Minerals Local Plan (2014) Policies

4.7.3 Policy S8 of the EMLP (2014) relates to Mineral Safeguarding Areas and Mineral Consultation Areas and the safeguarding of mineral resources/ sites and infrastructure. It states:

“By applying Mineral Safeguarding Areas [...] and/ or Mineral Consultation Areas [...], the Mineral Planning Authority will safeguard mineral resources of national and local importance from surface development that would sterilise a significant economic resource or prejudice the effective working of a permitted mineral reserve, Preferred or Reserve Site allocation within the Minerals Local Plan. The Minerals Planning Authority shall be consulted, and its views taken into account, on proposed developments within MSAs and MCAs except for the excluded development identified in Appendix 5.

Mineral Safeguarding Areas

Mineral Safeguarding Areas are designated for mineral deposits of sand and gravel, silica sand, chalk, brickearth and brick clay considered to be of national and local importance, as defined on the Policies Map.

The Mineral Planning Authority shall be consulted on:

- a) all planning applications for development on a site located within an MSA that is 5ha or more for sand and gravel, 3ha or more for chalk and greater than 1 dwelling for brickearth or brick clay; and*
- b) any land-use policy, proposal or allocation relating to land within an MSA being considered by the Local Planning Authority for possible development as part of preparing a Local Plan (with regard to the above thresholds).*

Non-mineral proposals that exceed these thresholds shall be supported by a minerals resource assessment to establish the existence or otherwise of a mineral resource of economic importance. If, in the opinion of the Local Planning Authority, surface development should be permitted, consideration shall be given to the prior extraction of existing minerals.

Mineral Consultation Areas

MCA's are designated within and up to an area of 250 metres from each safeguarded permitted minerals development and Preferred and Reserve Site allocation as shown on the Policies Map. The Mineral Planning Authority shall be consulted on:

- a) Any planning application for development on a site located within an MCA except for the excluded development identified in Appendix 5,*
- b) Any land-use policy, proposal or allocation relating to land within an MCA that is being considered as part of preparing a Local Plan.*

Proposals which would unnecessarily sterilise mineral resources or conflict with the effective workings of permitted minerals development, Preferred or Reserve Mineral Site allocation shall be opposed."

Identification of Mineral Safeguarding Areas

4.7.4 The EMLP (2014) states in its 'Vision for Essex to 2029' that:

"The needless sterilisation of mineral resources by development will be avoided by designating 'Minerals Safeguarding Areas' (MSA's) for sand and gravel, chalk, brick clay and brickearth. Existing, permitted, Preferred and Reserve mineral sites and mineral supply infrastructure will be safeguarded to ensure the effective operation of these sites is not compromised, and to prevent incompatible development taking place close to existing or planned minerals development to the potential detriment of existing or future occupants"

4.7.5 The EMLP states, amongst other things, that the Mineral Safeguarding Areas were inferred using BGS data, as well as other evidence held by the County Council, following consultation with the mineral industry, the Coal Authority, English Heritage, the BGS, neighbouring MPAs and other stakeholders.

4.7.6 According to the EMLP Policies Map (2014), the Site lie within a Mineral Safeguarding Area for Sand and Gravels, as well as a Mineral Consultation Area associated with Bulls Lodge Quarry; the latter is addressed within the Mineral Infrastructure Impact Assessment (MIIA). This is confirmed in the Scoping Opinion which included the formal response from ECC.

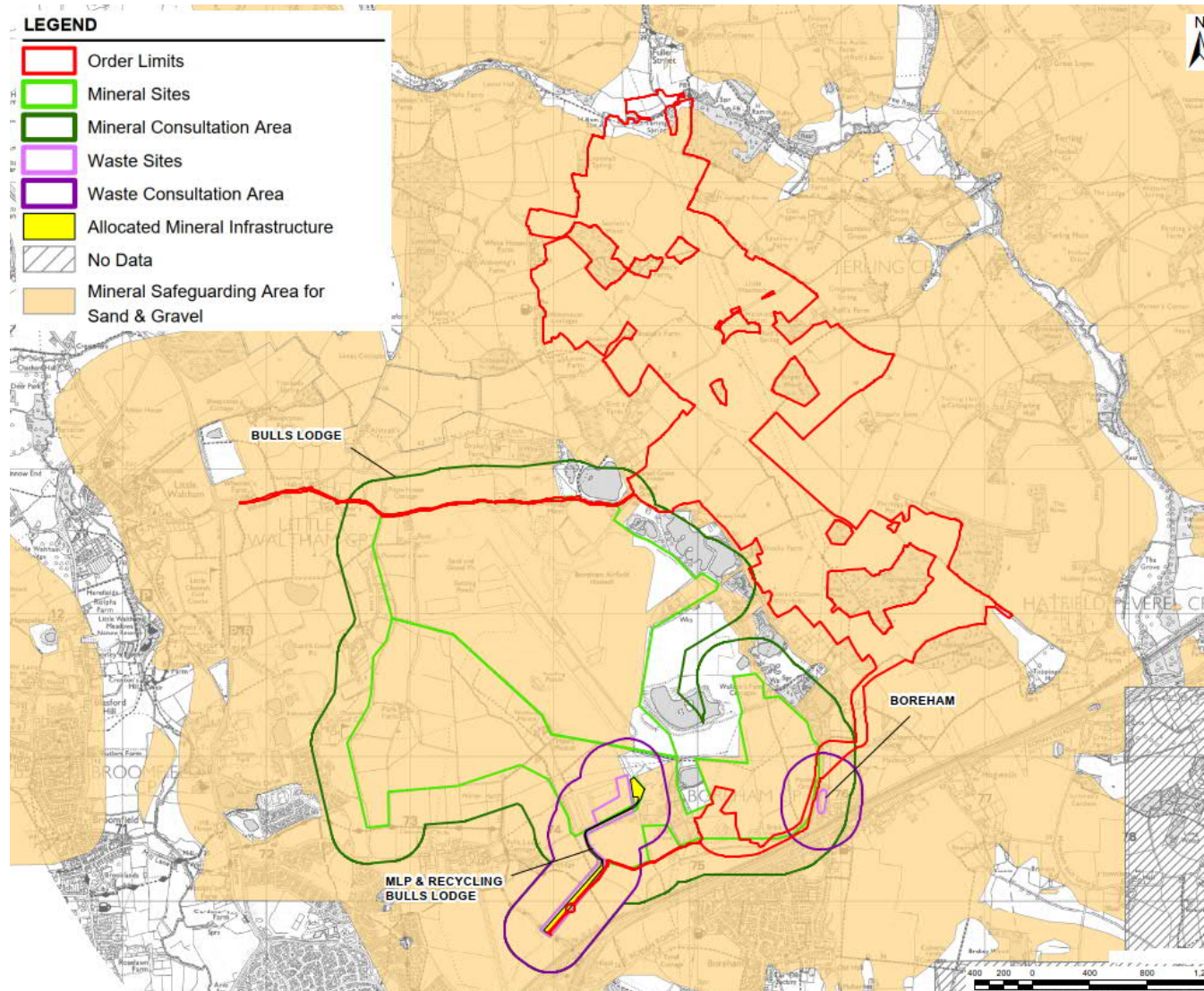


Figure 4-1: Minerals and Waste Designations in Relation to the Essex Minerals Local Plan (2014), Braintree District Development Plan and Essex and Southend-on-Sea Waste Local Plan (2017)

4.8 Braintree District

4.8.1 The saved policies of the Local Plan Review (2005), the 2011 Core Strategy, the Local Plan (2013-2033) Section 1 (adopted February 2021) and Hatfield Peverel Neighbourhood Development Plan 2015–2033 (adopted December 2019) do not contain any policies which relate specifically to minerals development, although it is noted that the policies map does show the location of Mineral Safeguarding Areas and Mineral Safeguarding Sites.

4.9 Chelmsford City

4.9.1 The Chelmsford Local Plan 2013-2036 was adopted by CCC in May 2020. The Local Plan outlines the strategic priorities and long-term vision for Chelmsford and identifies locations for delivering housing and other strategic development needs such as employment, retail, leisure, community and transport development. It contains a Spatial Strategy to deliver this vision.

4.9.2 There are no policies within the Chelmsford Local Plan which specifically relate to minerals development, however, it does acknowledge that:

“There are active quarry sites in Chelmsford as well as currently unworked sand and gravel deposits which are subject to a Minerals Safeguarding policy within the Essex Minerals Local Plan. The safeguarding policy requires that the Minerals Planning Authority - Essex County Council – be consulted on development proposals covering 5 hectares or more within the sand and gravel Minerals Safeguarding Area... The Policies Map in Section 11 identifies existing and allocated Minerals sites within the Council’s area.”

4.10 Emerging Local Plans and Neighbourhood Planning

Emerging Local Plans

4.10.1 BDC is in the process of preparing the Local Plan (2013 – 2033) Section 2 – policies, maps and sites for development, housing, employment, regeneration (the ‘draft Local Plan Section 2’) It was subject to an examination by inspectors appointed by the Secretary of State for Communities and Local Government, with Hearings in 2021. The consultation on the Inspectors’ Main Modifications finished at the end of January 2022. Once adopted this will replace both the Local Plan Review 2005 and the Core Strategy 2011. The draft Local Plan Section 2 is at an advanced stage of preparation and it is therefore a material consideration.

4.10.2 The Publication Draft Local Plan Section 2 text does not contain any policies which relate specifically to minerals development. Draft Inset Map 70 (Minerals & Safeguarding) shows Mineral Safeguarding Sites and Mineral Safeguarding Areas within the plan area. From a review of the draft inset map, the Order Limits cross a Mineral Safeguarding Site.

4.10.3 ECC published proposed amendments to the Essex MLP in March 2021. These including changes to Policy S8 for reasons compliance with national policy and also arising from the operation of this policy since the adoption of the Plan which has given rise to a number of areas where a modification or clarification of the Policy would improve the application of the Policy and/or result in a better outcome.

Emerging Neighbourhood Plans

4.10.4 According to CCC's website, Boreham Parish Council is preparing the Boreham Neighbourhood Plan. CCC approved the application to designate the Neighbourhood Area in 2017. The Plan is not yet available to view and as such is not considered further.

4.11 Commentary

4.11.1 It follows from the above recital of the planning policies which apply at both the local and national level, that consideration should be given as to whether the Scheme conflicts with the safeguarding of minerals by way of the Mineral Safeguarding Areas designated in Policy S8 of the ECC MLP, namely the Mineral Safeguarding Area for sand and gravel resources. In doing so, the requirements of the NPPF will also be addressed. This assessment is undertaken and presented in the following sections.

5. Case in Support of the Scheme

5.1 Need for the Scheme

5.1.1 There is a significant and urgent need for the deployment of solar farms and other renewable energy generation, which is being driven by government at local and national level in the UK. In June 2019, the Government raised the UK's ambition on tackling climate change by legislating for a net-zero greenhouse gas emissions target for the whole economy by 2050. Decarbonising the power sector is integral to achieving this goal and requires major investment in proven technologies, such as solar power and battery storage, which are supported by planning policy at local and national level.

5.1.2 At a local level, BDC declared a climate emergency in July 2019, with an aim to become carbon neutral by 2030, acknowledging that urgent action is required to limit the environmental impacts produced by the climate crisis. Please refer to the **Planning Statement [EN010118/APP/7.2]** for further detail regarding this.

5.2 Nature of the Scheme

5.2.1 The Scheme comprises three distinct elements. Each has a different function, and each will be treated differently in terms of decommissioning and restoration once the Solar Farm has reached the end of its operational life after approximately 40 years.

- a. The Solar Farm comprises the PV generating panels, BESS, Longfield Substation and associated infrastructure within the Longfield Site. After the operational life of the Solar Farm has expired all of this equipment will be removed and the land within the Longfield Site returned to the land owner, in accordance with the **Decommissioning Strategy [EN010118/APP/7.12]**. The only equipment that will not be removed from the Solar Farm Site is that part of the section of Grid Connection cable located within the Longfield Site. This is buried at a depth of and will become redundant; it will be left in situ after decommissioning. It is

not intended that planting would be removed as part of decommissioning.

- b. The Grid Connection cable within the Grid Connection Route will be disconnected and will become redundant. It will be left in situ. This is proposed to be left in situ as the environmental impacts of removing it would be greater than leaving it in the ground.
- c. The extension to Bulls Lodge Substation would comprise substation equipment located on a concrete pad. The Bulls Lodge Substation extension would be retained after decommissioning of the Solar Farm.

5.3 Mineral Sterilisation arising from the Scheme

- 5.3.1 As the Solar Farm will be decommissioned after approximately 40 years, there will therefore be no permanent sterilisation of underlying mineral within the Longfield Site, which comprises the majority of the Order Limits. It is not considered that the retention of a redundant section of the below ground Grid Connection cable within the Longfield Site would act as an impediment to future extraction of mineral along its route.
- 5.3.2 The construction of the extension to Bulls Lodge Substation, however, will encroach into the south-western corner of the Park Farm area of Bulls Lodge Quarry. This could potentially sterilise around 18,000 m³ of consented mineral at the Brick Farm area of Bulls Lodge.
- 5.3.3 The extension to Bulls Lodge Substation and the Grid Connection Route will be retained after the Solar Farm is decommissioned, although the grid connection cable will not be live. Retention of the Substation Extension and Grid Connection Route will potentially sterilise sands and gravels within the Mineral Safeguarding Area beneath their footprints. As per the short section of Grid Connection left in situ within the Solar Farm Site, it is not considered that the retention of the redundant shallow below ground Grid Connection cable within the Grid Connection Route would act as an impediment to future extraction of mineral beneath its footprint.

5.4 Need for Prior Extraction

- 5.4.1 Policy S8 of the Essex MLP (2014) states that “By applying Mineral Safeguarding Areas and/ or Mineral Consultation Areas, the Mineral Planning Authority will safeguard mineral resources of national and local importance from surface development that would sterilise a significant economic resource or prejudice the effective working of a permitted mineral reserve, Preferred or Reserve Site allocation within the Minerals Local Plan”. In relation to Mineral Safeguarding Areas, Policy S8 also states *that “if, in the opinion of the Local Planning Authority, surface development should be permitted, consideration shall be given to the prior extraction of existing minerals.”* Prior extraction refers to the removal of economic mineral resources that are found at or close to the ground surface (shallow resources) from development sites.
- 5.4.2 After the decommissioning of the Scheme there would be no restriction from the presence of the Scheme’s infrastructure on the extraction of mineral deposits or the future viability of exploiting the mineral resource within the Longfield Site. The Scheme would therefore simply delay the availability of the resources within the Longfield Site for possible extraction in future.

- 5.4.3 Paragraph 5.10.9 of the 2011 EN-1 states that applicants should safeguard any mineral resources on the proposed site as far as possible, taking into account the long-term potential of the land use after any future decommissioning has taken place. Paragraph 5.11.9 of the draft EN-1 repeats paragraph 5.10.9 of the 2011 EN-1. At a meeting with ECC on 18th March 2021, it was confirmed that if the Scheme could be demonstrated to be temporary (i.e. would not involve permanent development), then ECC would consider that mineral resources would not be permanently sterilised by the Scheme. As such there would be no requirement by ECC for prior extraction of the fluvio-glacial sands and gravels in advance of the Scheme's commencement. As the Solar Farm and associated development (excluding the extension to Bulls Lodge Substation) is not permanent and would be decommissioned after the lifetime of the Scheme, approximately 40 years, it is considered temporary and reversible, and no prior extraction of mineral is required. No formal mineral resource assessment has therefore been prepared.
- 5.4.4 This is supported by the recommendation made by the Examining Authority and the decision made by the Secretary of State, with respect to Cleve Hill Solar Farm (ref. EN010085). The Cleve Hill 'Examining Authority's Report of Findings and Conclusions and Recommendation to the SoS for Business, Energy and Industrial Strategy (BEIS)' (February 2020) states that "*The Proposed Development affects two Mineral Safeguarding Areas that are protected under policy CSM5 of the adopted Kent Minerals and Waste Local Plan 2013-30*". As the development would be decommissioned and the land fully restored at the end of its operational life, it was considered by the Examining Authority that it would not compromise the potential for future minerals extraction and transportation. The application was granted on 28th May 2020 and prior extraction was not required.
- 5.4.5 Regarding the land that on which the extension to Bulls Lodge Substation is proposed to be located, BGS Geological Mapping shows that Glacial Till, potentially underlain by fluvio-glacial sand and gravel, only outcrops in the north-eastern half of this area. It is therefore unlikely that sand and gravel resources are present in the south-west of the Substation Extension area.
- 5.4.6 There are no borehole logs held by the BGS which are located within the Substation Extension area. The nearest borehole for which a log is held by the BGS is located approximately 300 m to the east of the Substation Extension and some 150 m north of Brick House Farm. This log shows around 7 m of sand and gravel overlain by 6 m of overburden (clay and soil). However, the BGS 1:50,000 Geological Map (Sheet 241 Chelmsford) also shows that sand and gravel does not outcrop on the southern edge of the Glacial Till indicating that the sands and gravels are likely to thin towards the valley of the River Tey across the north-eastern corner of the extension to Bulls Lodge Substation area.
- 5.4.7 The area of the permanent Bulls Lodge Substation extension works is approximately 4 ha, and comprises land that is almost entirely within land owned by National Grid Electricity Transmission (NGET). Approximately 2 ha of that land is also occupied by the existing substation and associated pylons and electricity lines. Only a small area of the Mineral Safeguarding Area would therefore be affected by the permanent substation extension works, which

would likely only provide a small volume of mineral. A small volume of mineral is unlikely to be economic to extract as a stand-alone operation, and whether it would be likely to come to market for mineral extraction is dependent on the landowner (a statutory electricity undertaker) allowing mineral extraction adjacent to its operational built infrastructure.

- 5.4.8 In addition, working of mineral would impact on the proposed development by reducing ground levels under part of the Substation Extension. Restoration to original ground levels to allow development would require the importation of suitable inert materials. This would further reduce the economic viability of any mineral extraction. The mineral extraction and restoration would also delay the start date for construction of the Substation which would affect the programme for delivery of this nationally important renewable energy infrastructure project.
- 5.4.9 Regarding the Grid Connection Route, BGS Geological Mapping also shows that there is no mineral outcropping within the Grid Connection corridor to the west of the River Tey. Glacial deposits, including fluvio-glacial sand and gravel, do outcrop within the Grid Connection corridor to the east of the River Tey. However, the long, narrow footprint of the Grid Connection corridor in this area means that prior extraction of mineral along the route within the Order Limits is unlikely to be economic. Notwithstanding this, if economically extractable mineral is present within the Grid Connection Route, the redundant grid connection cable could be removed, posing no restriction to future extraction, and therefore no prior extraction is required.

6. Conclusions

- 6.1.1 The Solar Farm is temporary and reversible in nature, with an expected operational lifespan of circa 40 years. At the end of the Solar Farm's lifespan (i.e. circa 40 years), the solar panels and associated infrastructure would be removed, and the Longfield Site restored. No permanent installations are proposed in this area, although a section of redundant cable may be left in situ. This would not be expected to prevent extraction of mineral in the future. As such, no mineral resources within or adjacent to the Longfield Site would be permanently sterilised by the Scheme, nor would the Scheme in this area unduly restrict the extraction of mineral deposits or negatively affect the viability of exploiting the mineral resource in future; it would simply delay the availability of the resources for possible extraction in future.
- 6.1.2 The extension to Bulls Lodge Substation would be retained and a redundant cable in the Grid Connection Route left in situ after decommissioning of the Solar Farm. Whilst geological mapping shows that fluvio-glacial sands and gravels may be present in the north-eastern half of the Substation Extension and in the Grid Connection Corridor to the east of the River Tey, the small area of extractable mineral within the Order limits in these areas means that prior extraction in these areas is unlikely to be either practicable or economic. Notwithstanding this, if economically extractable mineral is present within the Grid Connection Corridor to the east of the River Tey the redundant grid connection cable could be removed to allow access if it is commercially and practically possible to do so. The Scheme is therefore in accordance with the national and local policy objectives to safeguard mineral resources.