



ARCUS

**EIA SCREENING REPORT
SUBMITTED UNDER THE TOWN AND COUNTRY PLANNING
(ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017**

**LOVEDEAN GREENER GRID PARK
ON LAND NORTH OF LOVEDEAN SUBSTATION,
NORTH WEST OF HORNDEAN**

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1 INTRODUCTION

1.1 Background

Arcus Consultancy Services Ltd ('Arcus'), on behalf of Statkraft UK LTD ('the Applicant'), formally requests an EIA Screening Opinion from East Hampshire District Council ('the Council') for the Lovedean Greener Grid Park ('the Development') on land to the north of the Lovedean Electricity Substation, north west of Horndean, and north of Waterlooville ('the Site'). A plan showing the extent of the Site (outlined in red) is provided as Figure 1 in Appendix A. A plan showing the environmental constraints in the vicinity of the Site is provided as Figure 2 in Appendix A. Site photographs are provided as Appendix B.

Pre-application consultation advice was sought from the Council and Hampshire County Council in respect to the Development, and received a response from East Hampshire District Council in October 2019, and Hampshire County Council in August 2019.

The EIA screening opinion request is made pursuant to Regulation 6 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, in order to determine whether or not a statutory Environmental Impact Assessment (EIA) is required in accordance with those Regulations (known as 'the EIA Regulations').

The report sets out a brief description of the Development, and then goes on to provide an assessment of the Development in terms of the EIA Regulations screening criteria and guidance set out in Planning Practice Guidance¹ (PPG).

1.2 The Development and the EIA Regulations (2017)

The EIA Regulations define EIA development as either:

- (a) Schedule 1 development; or
- (b) Schedule 2 development likely to have significant effects on the environment by virtue of factors such as its nature, size, or location.

A Greener Grid Park development including battery storage/ energy management is not listed in Schedule 1 of the EIA Regulations. There is also no express threshold for battery storage developments to be considered as Schedule 2 development under the EIA Regulations. However, a development area threshold of 0.5 ha is applied to category 3 (a) industrial installations for the production of electricity.

The Development exceeds the Schedule 2 area threshold of 0.5 hectares and, as such, whether the Development is an EIA development or not depends on an assessment against the screening selection criteria, as set out in Schedule 3 of the EIA regulations, which comprise:

- Characteristics of the development;
- Location of the development; and
- Characteristics of the potential impact.

PPG paragraph 018, states that an EIA will only apply to a small proportion of projects and only those which are likely to have significant effects.

The key question is whether or not the project would be likely to give rise to significant effects on the receiving environment, taking into account the selection criteria in Schedule 3. An assessment of the potential effects of the Development is presented in Section 4 of this report.

¹ UK Government (2019) Planning Practice Guidance. [online] Available at <https://www.gov.uk/government/collections/planning-practice-guidance> [Accessed 14th April 2021]

2 DEVELOPMENT CHARACTERISTICS AND LOCATION

2.1 Site Location and Surroundings

The Site is located approximately 1.5 km north west of Horndean, and approximately 2.5 km north east of Denmead, and is currently used as paddocks for horse grazing. The 'red line boundary' of the Site, shown in Figure 1 of Appendix A, shows the Site location, occupying an area of approximately 2.5 hectares (ha). Following the pre-application consultation, subsequent consultation with key stakeholders and subsequent environmental assessments, the layout and design of the Development within the Site will be refined such that environmental effects are minimised.

The topography of the Site is situated at an altitude of 85 to 95 m AOD and is relatively flat, making it suitable for the Development. The landform surrounding the Site is low-lying pasture, broken up by existing lines of mature trees and shelterbelts, and woodland to the south and east. The land dips steeply and then rises to the north and north west of the Site, to heights of approximately 160 m AOD.

South Downs National Park is located to the east, north, and west of the Site. The National Park boundary is closest to the east of the Site, located only 10 m away on the opposite side of Broadway Lane. As this is a nationally designated landscape area, and the land is higher to the north and north west of the Site, there are potentially impacts from the Development on landscape character and visual amenity, which are discussed below in Section 4.5.

The operational Lovedean 400 kV Substation, which is industrial in appearance, is located immediately to the south of the Site and is where the Development would be connected to. A 400 kV overhead electricity transmission line passes through the Site, and multiple others run close to the Site, from the north of the substation to the north, east, and west.

The location of the Development has been selected due to the proximity to the substation immediately to the south of the Site. Given the short distance between the sites, lengthy transmission cables will not be required.

An interconnector to France (the Aquind Interconnector) is also being considered in the area and is subject to a Development Consent Order application. The Aquind Interconnector development process has identified two potential sites in the Lovedean area, both within 2 km of the Lovedean substation. Option A lies 700 m to the south west of the Site, and Option B lies 500 m to the west of the Site, with Option B being the preferred location (see Plate 3 in the Aquind Interconnector Environmental Statement Non-Technical Summary²). The potential for cumulative impacts with the Development stem from the onshore aspects of this interconnector in the Lovedean area, which includes works at the existing Lovedean substation, and the construction of a new Converter Station which will comprise a mixture of buildings, outdoor electrical equipment, and telecommunications buildings. Option B (500 m west of the Site; see Figure 2) was chosen as the preferred location for this Converter Station due to its reduced landscape and visual effects in light of its distance from South Downs National Park, and the existing screening. The potential for cumulative effects with the Aquind Interconnector development are considered in this EIA Screening Report.

To the north and west are extensive areas of arable farmland and pasture. To the south east is the operational Lovedean 4.5 MW Solar Farm.

² Aquind Limited (2019) Aquind Interconnector Environmental Statement – Volume 4 – Non-Technical Summary [online]. Available at: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN020022/EN020022-000941-6.4%20ES%20-%20Vol%204%20-%20Non-Technical%20Summary.pdf> [Accessed: 7th May 2021]

2.2 The Development

2.2.1 Summary Description and Land Take Requirements

The Development is intended to provide services supporting the flexible operation of the National Grid and decarbonisation of electricity supply, e.g. by balancing electricity supply and demand. The Development will import and export electricity, but will not generate any additional electricity nor have any onsite emissions of carbon dioxide. The proposed batteries will store surplus electricity to be fed into the grid when required, while the energy management system will reduce fluctuations, thus improving stability and reducing the risk of power failures.

The Development provides services which are essential to enable the transition to low carbon/renewable energy, which tends to be intermittent and prone to fluctuation.

The area within the site boundary totals 2.5 ha.

2.2.2 Size and Appearance

The Development is anticipated to include the following components, as shown on the Site Layout Plan:

- A total of 26 battery storage units (16.17 m x 4.5 m x 2.63 m);
- Energy management building containing energy management system, coolers, and e-houses (26.0 m x 18.0 m x 12.15 m);
- Electrical infrastructure including inverters, transformers, grid connection, switchgear, and underground cabling;
 - HV Transformer 1 (20.0 m x 10.9 m x 10.8 m);
 - HV Transformer 2 (16.0 m x 8.7 m x 8.8 m)
 - 26 x BESS inverters (6.24 m x 2.4 m x 2.6 m);
 - Cooler (13.3 m x 2.3 m);
 - LV Transformer (4.0 m x 4.0 m x 2.63 m);
 - Switchgear Container (12.2 m x 2.44 m x 2.9 m);
 - 2 x Sync Comp Battery Containers (12.2 m x 2.44 m x 2.9 m);
 - Uninterrupted Motor Drive Inverter Container (12.2 m x 2.44 m x 2.9 m);
 - AC/DC Distribution Container (12.2 m x 2.44 m x 2.9 m);
 - Static Frequency Converter and Excitation Container (12.2 m x 2.44 m x 2.9 m);
 - Control and Protection Container (12.2 m x 2.44 m x 2.9 m);
 - Comms House (12.2 m x 2.44 m x 2.9 m); and
 - Back up Diesel Tank (12.2 m x 2.44 m x 2.9 m).
- Site office and welfare area;
- New site entrance;
- Onsite access tracks and parking area;
- Security perimeter fencing (3.40 m high); and
- Landscaping and planting, particularly in the north west of the Site and along the northern boundary.

2.2.3 Site / Development Access

Construction and operational access to the Development will utilise an existing agricultural track in the southern corner of the Site. This will be upgraded to specifications to be agreed with the Highways Authority. Onsite access tracks would need to be created as there are currently none on the Site. The new access tracks will be approximately 5 m wide.

2.2.4 Cumulative Development

A review of planning applications in the vicinity of the Development has been conducted. The main development which may cause cumulative impacts with the Development is the

Aquind Interconnector, which requires a Development Consent Order application to be sent to the planning inspectorate. This development will involve a new 2000 MW subsea and underground High Voltage Direct Current bi-directional electric power transmission link between England and France. This cable will originate at a new Converter Station either 700 m south west of the Site, or 500 m west of the Site, with preference for the latter option. This application was submitted in December 2019, and currently no decision has been made.

There are no other extant planning applications or permissions with potential for significant combined impacts with the Development.

3 ENVIRONMENTAL IMPACT ASSESSMENT SCREENING METHODOLOGY

3.1 Introduction

As stated in Section 1.2, screening of the Development requires an assessment as to whether it is *“likely to have significant effects on the environment by virtue of factors such as its nature, size or location”* (Schedule 2). The potential for significant effects depends on the sensitivity of the receiving environment to the type of changes proposed, combined with the magnitude and scale of changes proposed, including in combination with other developments.

Information on the methodology for EIA screening is presented in this section. The characteristics of the Site and Development are described in Section 2 above, and other potentially relevant developments in Section 2.2.4. Section 4 then describes the existing environment by EIA topic, followed in each EIA topic by an appraisal of the potential for impacts, consideration of the magnitude of those impacts, and whether or not there is the potential for significant effects.

3.2 Establishing the Baseline

In order to evaluate the likely environmental effects, information relating to the existing environmental conditions (known as the ‘baseline’ conditions) has been collected through desktop research and site visits. Information has been gathered using a variety of sources, including:

- East Hampshire District Council website (e.g. online planning application searches, Public Rights of Way map, East Hampshire Landscape Character Assessment);
- ArcGIS online and Magic.gov.uk, with data provided by:
 - Natural England;
 - Historic England;
 - The Environment Agency; and
 - Ordnance Survey open data.

The baseline is used to help describe the Site location, to identify potentially sensitive receptors on and near the Site, and to help characterise the potential impacts.

3.3 Identifying the Potential for Significant Effects

The changes to the Site and its surrounding environment which may take place during the construction and operation of the Development have been identified and considered for potential direct or indirect changes to environmental features within or outside of the Site. Changes to the environment are known as ‘impacts’, and anything which benefits or creates detriment to an environmental feature is known as an ‘effect’ – reference is made to either ‘beneficial’ or ‘adverse’ effects. Any impacts are appraised using professional judgement by experienced EIA practitioners to determine the potential for significant effects on receptors. The following effects are considered:

- Direct and indirect effects³;
- Primary and secondary effects⁴;
- Short, medium, and long-term effects; and
- Permanent and temporary effects.

Establishing the baseline, including predicted future conditions without the Development, is the key basis for predicting the potential for impacts and effects at this screening stage, combined with the depth and breadth of experience of technical EIA consultants conducting EIA and environmental assessment of a range of development types, and reviews of other similar developments.

In arriving at conclusions about the potential for significant effects, the author has, in line with EIA assessment techniques, considered (and where appropriate made reference to) the sensitivity or importance of the receptor and the predicted magnitude of change from the baseline conditions (either beneficial or adverse). This is done because the overall significance of potential likely environmental effects (when assessed in EIA) is determined by the interaction of the above two factors. However, EIA Screening is not a full, in-depth assessment (which would be done if an EIA is required), and relies mostly on understanding of the baseline and professional judgement, including previous experience of similar developments.

3.4 Mitigation

Where possible, mitigation measures will be 'embedded into' the overall design strategy rather than 'added on' to the proposals. An example of this is vegetation screening to reduce the magnitude of visual effects. By being flexible with the design, the project design has and will continue to respond to the findings of consultation and environmental assessment work.

4 ENVIRONMENTAL BASELINE AND SCREENING ASSESSMENT

4.1 Use of Natural Resources

4.1.1 Baseline

The Site is principally used as pasture for grazing by horses. The Site has been identified as having an Agricultural Land Classification (ALC) of Grade 3, and the surrounding area is also classified as Grade 3, with some areas classified as Grade 4 and Urban land.

4.1.2 Potential Effects

The Site is not a large area, compared to the available agricultural land in the surrounding area, and isn't currently used for agriculture, so very little agricultural land is being lost for the Development. There are a range of ecological and landscape enhancements that would be delivered as part of the Development which would result in improvements in terms of biodiversity and natural resources. The entire north western part of the Site has been reserved for biodiversity and landscape enhancements, highlighting the intention of the Applicant to improve the environment with the Development.

Natural resources would therefore not be affected in terms of their relative abundance and quality and there is **no potential for significant effects on non-renewable natural resources**.

³ broadly those which occur in the same time and place as the action (direct), vs. those which occur some distance away or time after the action (indirect).

⁴ primary being caused by the action itself, e.g. removing a habitat as part of clearance of a site for construction, and secondary being caused by subsequent consequence of the action, e.g. a substance / pollutant entering the environment and then being taken up by people, crops / livestock, or wildlife generally through consumption, absorption or inhalation.

4.2 Production of Waste

The production of waste during construction would be extremely limited, as the large majority of components would be brought to the site ready-made/pre-assembled. All waste generated during construction would be appropriately stored onsite and then adequately disposed of in accordance with legal requirements. During operation, the Development will generate negligible amounts of waste. Any batteries that needed replacing would be recycled. There is **no potential for significant effects on waste generation and management.**

4.3 Pollution and Nuisances: Air Quality, Contaminated Land and Water

4.3.1 Baseline

The Site is used for horse grazing and has no former history of industrial use. The Site is not located in either a high or low development risk area, with respect to historical coal mining activity⁵ and is not located within an Air Quality Management Area (AQMA). There are also no watercourses onsite, and the closest are agricultural drains located 2 km south of the Site, and King's Pond located 2.2 km south west of the Site in the town of Denmead.

4.3.2 Potential Effects

The Site is located adjacent to the north of Lovedean Substation. As a greenfield site, it is assumed there are no impacts of contaminated land, and therefore no further investigation is needed. Given the nature of the substation and the proposed Development, and the land within the Site having no former industrial use, there is considered to be a low risk of land contamination from the substation and **no potential for significant effects on land contamination.**

As the Site does not sit within an area identified as an at-risk development area by the Coal Authority, there is considered to be a low risk to the development as a result of historical coal mining activity and there is **no potential for significant effects from historical coal mining activity.**

The Development, when operating, would have no emissions to air or water, cause no deposition to land and likely have intruder-activated-only security lighting.

During construction, there would be emissions to air from vehicles and plant, but these will not be sufficient to lead to air quality effects, such as the breach of National Air Quality Objectives, at the nearest receptors. Construction of the Development is a simple process involving small quantities of materials and the ordinary use of vehicle fuels/oils. General construction good practice and safety measures, secured in a construction management plan, will be adopted.

There are no areas close to watercourses or waterbodies within the Site, therefore nearby watercourses are not considered to be sensitive to the type of development proposed.

Consequently, there are no air quality or water quality receptors considered to be sensitive to the type of development proposed and there is **no potential for significant effects on air quality or water quality.**

4.4 Risk of Accidents and to Population and Human Health

Very few potentially polluting substances will be handled or stored onsite, and hence the potential for accidents caused by, or involving, the release of substances is very low. All moving parts within the Greener Grid Park are contained and would not cause directly or

⁵ The Coal Authority (2018). Interactive Map Viewer | Coal Authority. [online] Interactive Map. Available at: <http://mapapps2.bgs.ac.uk/coalauthority/home.html> [Accessed 13th April 2021].

indirectly an appreciable risk of accidents during operation. During construction, normal construction site and transportation risks would be managed through normal good practice.

Further detail is included here on battery safety and it is considered that, following the measures set out, the fire risk potential is limited. The supplier of the energy storage technology will hold the relevant test certificates and meet the relevant electrical safety regulations. The energy storage system would be constructed with the appropriate materials and designed to minimise the risk of fire and thermal runaway. Every module would be fitted with state-of-the-art fire suppression and containment systems. Furthermore, the modules would be installed with air conditioning in order to maintain a constant and safe operating temperature, and the entire system will be subject to inspection, testing and maintenance for safe operation.

As per the previous section, the Development will not give rise to any emissions to air or water. As such there is **no potential for significant effects on human health as a result of accidents.**

4.5 Landscape

4.5.1 Baseline

South Downs National Park boundary is located 10 m from the Site boundary to the east, beyond Broadway Lane, and approximately 450 m and 750 m to the north and west of the Site respectively.

The Site falls within National Character Area (NCA) 125 South Downs (NR432)⁶, which is defined as a broad, elevated east to west chalk ridge with a predominantly steep north-facing scarp slope and a gentle southerly dip slope, several different types of heathland habitats, multiple fluvial habitats, and areas of woodland. Arable cultivation is the predominant land use, although dairy farming also takes place on the flood plains in the east. A key feature of this NCA are the principal rivers which form U-shaped valleys and flood plains in the east, and the chalk streams running off the scarp slopes.

The Council published a Landscape Character Assessment Update in November 2018 for the East Hampshire District⁷. The Site is identified as being within Landscape Character Type 3: Downland Mosaic, and specifically Type 3F. This Downland Mosaic Character Type is defined as a gently sloping landform with some undulations in the chalk created by dry valleys, and is typically located on the lowest elevations of the south facing chalk dip slope. It is typically used for housing and infrastructure, but arable fields and pastures are also common, with large or medium fields typically separated by thin or gappy hedgerows.

The specific area is described as predominantly rural with an unsettled character, and Lovedean substation and its converging overhead power cables and pylons are highlighted. The potential capacity for development in the area is described as medium to low due to the constraints of its strong rural character and the South Downs National Park.

4.5.2 Potential Effects

The Site is generally well screened by the woodland to the south and east of the Site. Existing vegetation in the form of shelterbelts and hedgerows to the west provides further screening, but the Site is currently open to the north. Considering this, at least 10 m of landscape mitigation will be included in the design along the Site's northern boundary.

The Development would lead to a change in the overall use of the landscape, from pastoral land to a Greener Grid Park including electrical infrastructure and landscaping. The

⁶ Natural England (2013). NCA Profile 125: South Downs (NE432). [Online]. Available at: <http://publications.naturalengland.org.uk/publication/7433354> [Accessed 13th April 2021]

⁷ East Hampshire District Council (2018). East Hampshire Landscape Capacity Study. [Online]. Available at: <https://www.easthants.gov.uk/landscape-studies> [Accessed 13th April 2021]

Development is relatively low lying and although it would give rise to some vertical elements in the landscape, up to a maximum height of 12.15 m, they are not significant and would be viewed in the context of the existing Lovedean Substation and the surrounding approximately 50 m high electrical transmission lines. The landscape has the capacity to accommodate the Development due to the nature of the landform and existing and proposed vegetation which would provide screening. The magnitude of landscape impacts decreases with distance from the Development, and at a distance of approximately 500 m would be low during the construction and operational phases of the Development.

When the Development and the proposed Aquind Interconnector located near to the Site are considered together, there is the potential for cumulative impacts on the landscape. The maximum height of the Aquind Interconnector Converter Station will be 26 m, much higher than the Development, which only reaches 12.15 m. This means from many locations, including the South Downs National Park boundary which is nearly adjacent to the Site's eastern boundary, the Development will be viewed with the Lovedean substation, the Aquind Interconnector Converter Station, and other electrical infrastructure behind it. The Aquind Interconnector Environmental Statement states that significant adverse effects are predicted on landscape character, associated local landscape features, the setting of the South Downs National Park and visual receptors during construction, but as planting matures, this significance would reduce and would not be significant within ten years. Considering this, the smaller scale Development is likely to cause minimal cumulative effects on the landscape, as it will be viewed in the context of the Lovedean substation and Aquind Interconnector Converter Station and their associated infrastructure, or it will be blocked by these developments, when viewed from the south west.

Additional screening will be proposed as part of the Development, particularly to the north, where at least 10 m of landscape mitigation will be included in the design, further reducing views of the Development, especially from the National Park. Given the location of the Site on pastoral land close to an operational substation with numerous high voltage electricity transmission lines, the topography within and around the Site, and its already screened nature with woodland to the south and east, and shelterbelts to the west (which can be readily extended alongside the Development boundary), it is considered that there is **no potential for significant effects on the landscape, including cumulatively.**

4.6 Visual Receptors

4.6.1 Baseline

There are a number of properties, groups of properties, settlements and recreational features located within the vicinity of the Site. These are detailed below:

- Individual residential properties to the north west, north east, and south of the Site, with the closest being Hinton Daubnay 350 m to the north east, and Broadway Farm 500 m to the south;
- The village of Lovedean to the south east (nearest properties are approximately 500 m from the Site);
- No Public Rights of Way (PRoW) are within the Site, but the public footpath 'Monarch's Way' runs approximate 55 m to the north east of the Site, at its closest point; two public footpaths run from west to east 550 m and 900 m south of the Site; one footpath runs from west to east 750 m south east of the Site, and connects to a byway open to all traffic (BOAT) approximately 800 m south east of the Site; and
- No major road receptors are present within the 1 km search area, with the closest major road routes being the B2150 located 2.3 km south west of the Site, and the A3 (M) located 2.6 km east of the Site.

These receptors may have views of the Development although only those within 1 km are considered potentially sensitive to changes in views.

4.6.2 Visual Effects on Residential Properties within 1 km

Visibility in its own right is not necessarily detrimental, particularly given the inanimate nature of the Development and the nature of the receiving environment being located on low-lying agricultural and pastoral land in a generally rural but well vegetated landscape with hedges and areas of trees. Given that the Site is adjacent to Lovedean substation, numerous overhead lines cross the landscape, and an operational solar farm is located approximately 450 m south east of the Site, it would not be the only manmade infrastructure visible, even from the higher areas to the north of the Site.

Residents of rural properties are considered to be of high sensitivity to the Development as they are static 'receptors' whose enjoyment of the property is likely to be affected by the quality of visual amenity experienced there. Approximately 131 residential properties lie alone or within groups within approximately 1 km of the Site Boundary, with the village of Lovedean, just outside Horndean, located approximately 500 m south east of the Site. The closest property is Hinton Daubnay to the north east of the Site, at a distance of 350 m. All of the properties, including Hinton Daubnay, are not likely to experience any substantial effects due to intervening vegetation which screens and filters views, and the Site being viewed within the context of the existing substation infrastructure and overhead power lines. The properties located in Lovedean village are also likely to be screened from the Development by the woodland blocks to the east and south of the Site.

When the Development and the proposed Aquind Interconnector Converter Station located near to the Site are considered together, there is the potential for cumulative visual impacts on residential properties. Any views from Hinton Daubney to the north east of the Site, when looking south west, would see the Development as well as the Converter Station and the Lovedean substation. As the latter structures are larger and taller than the Development, it is likely that they will have a more significant visual impact, which will not be exacerbated by the presence of the Development, particularly with additional screening that would be proposed along the Development's northern boundary. The existing woodland areas to the east of the Site alongside Broadway Lane provide significant screening such that views are not expected.

Overall, the magnitude of effects on residential properties are low or negligible and **significant visual effects are not likely, including cumulatively.**

4.6.3 Visual Effects on users of PRow and other recreational features

4.6.3.1 Visual effects on the 'Monarch's Way' Footpath

'Monarch's Way' Footpath commences in Worcester and ends in Shoreham, West Sussex. Close to the Site, the footpath runs from Hambleton to the north west of the Site, and passes by the Site to the north east and east as it runs to Horndean. The footpath is approximately 55 m to the north east of the Site at its closest point. Views of the Site to the east and north east whilst walking the footpath will be limited owing to intervening screening in the form of hedgerows at field boundaries, and the woodland block to the east of the Site. Views from the footpath to the north of the Site, where the Site is currently more open, will be screened by additional hedgerow planting that will form part of the design of the Development as a minimum of 10 m of landscape mitigation has been proposed to the north of the Site. The Landscape and Visual Impact Assessment (LVIA) will inform the design of the Development, and will include screening to be planted where necessary.

Part of the footpath to the north and north east of the Site will also be subjected to views of the Aquind Interconnector Converter Station, in addition to those of the Development. Whilst the Converter Station is taller and larger than the Development, the Development is closer to the footpath.

The footpath has medium sensitivity and the magnitude of effect before mitigation is low. Therefore, following mitigation the magnitude can be reduced to negligible and **significant effects on recreation features are not likely, including cumulatively.**

4.6.3.2 Visual effects on other PRoW within 1 km of the Site

Two public footpaths cross from west to east, 550 m and 900 m south of the Site. Users on these routes will have their view of the Development blocked by the Lovedean Substation, the future Aquind Interconnector Converter Station, and the area of woodland to the south of the Site. The view from the footpath further to the south is also blocked by the Lovedean Solar Farm to the east of the route. Similarly, the public footpath and BOAT located 750 m to the south east of the Site have views of the Site which are blocked by the areas of woodland to the south and east of the Site. These PRoW have medium sensitivity, and the magnitude of effect before mitigation is low. Therefore, following mitigation that magnitude can be reduced to negligible and **significant effects on recreation features are not likely, including cumulatively.**

4.7 Cultural Heritage and Archaeology Receptors

4.7.1 Designated Heritage Features

4.7.1.1 Baseline

There are no designated archaeological or cultural heritage assets within the Site.

The nearest heritage asset is the Grade II listed building 'Ludmore Cottages', 500 m north of the Site. In addition, there are two more Grade II listed buildings located in Lovedean village within 1 km of the Site, and 'Catherington' Conservation Area is located approximately 1.6 km east of the Site.

There are no other heritage designations beyond those stated above with the potential to be significantly adversely affected by the Development.

4.7.1.2 Potential for Effects

Blocks of trees and hedgerows, tree lines, and buildings associated with other nearby residential properties would screen views between the Development and all of the Listed Buildings identified, particularly those to the southeast. There may be some glimpsed views from Ludmore Cottages, although there is intervening vegetation and the Development would be seen in the context of the overhead transmission lines and Lovedean substation. Furthermore, screening along the Development's northern boundary within the minimum 10 m set aside for landscape mitigation, would further reduce any effects when viewed from Ludmore Cottages.

When considering potential cumulative impacts of the Development with the Aquind Interconnector Converter Station, the two listed buildings located to the south east and 'Catherington' Conservation Area located to the east are not expected to have any visibility of either development, given the intervening screening, landform, and other manmade structures between them and the Site, for example a Caravan Storage Park between the Conservation Area and the Site. Ludmore Cottages may have glimpsed views of both the Development and the Aquind Interconnector Converter Station, however the latter would be much taller and dominant such that there would be limited cumulative effects on the listed building, which would reduce as landscape planting matures. As a result, no heritage features are considered sensitive to the changes of the type proposed, and there is **no potential for significant effects on heritage features or their setting, including cumulatively.**

4.7.2 Non-designated Heritage / Archaeology

4.7.2.1 Baseline

The Site has not previously been developed, but it is unknown whether the Site has been used for agricultural purposes including ploughing which would have disturbed any remains close to the surface.

4.7.2.2 Potential for Effects

The potential for unknown archaeology to exist cannot be ruled out and may require further investigation (geophysics or trial trenching) as part of the planning application or as a condition attached to any planning consent. If potential impacts on archaeological resources resulting from the Development are identified, they would be adequately mitigated through further archaeological evaluation, the requirement for which would be agreed with the Council Archaeologist and implemented by a Written Scheme of Investigation (WSI). Following the evaluation and any required mitigation, there is **no potential for significant effects on archaeology.**

4.8 Community and Recreation

The closest settlements are the village of Lovedean, on the outskirts of Horndean, located approximately 500 m south east of the Site, and the village of Catherington, located 1.8 km to the east of the Site. Lovedean village will view the Development in the context of the Lovedean substation, and so there are unlikely to be any major visual impacts on the settlement. Catherington village will also view the Development in the context of the Lovedean substation, and the future Aquind Interconnector Converter Station, although the Development is in front of the substation and proposed Converter Station location when viewed from the village. The distance to the village, and the numerous areas of woodland and shelterbelts between the village and the Site will likely ensure the visual impacts of the Development are negligible on the receptors within the village.

A public footpath runs from the east to the north of the Site, and there are multiple public footpaths, and a BOAT located to the south and south east of the Site. These are discussed further in Section 4.6.3.

No National Cycle Routes are located within 1 km of the Site, with the nearest being along the A3 road, 2.3 km east to south east of the Site. Due to the distance between these routes and the Site, and the built-up urban areas between the routes and the Site, it is unlikely that the Site is visible from these cycle routes, and therefore there will be negligible visual impacts from the Development on the users of the routes.

Lovedean Recreation Ground is located approximately 1.7 km south east of the Site, and Furzeley Golf Club is located 3.3 km to the south west of the Site. Given the distance to these receptors, the intervening landform (vegetation and urban development) and the presence of the Lovedean substation and potentially the Aquind Interconnector Converter Station, means it is unlikely that the Development will have any impact on these recreational receptors, including cumulatively.

Indirect visual effects on recreational features have been further discussed in Section 4.6.3. There are no recreational features within the red line boundary of the Site, and therefore no direct effects upon recreational features are anticipated during the construction or operational phases of the Development. As such there is **no potential for significant direct effects on recreational receptors, including cumulatively.**

4.9 Ecological and Ornithological Receptors

4.9.1 Baseline

There are no sites designated for ecological or ornithological interest within the Site. In terms of nearby designations, multiple areas of Ancient Woodland are located within 1 km of the Site, with the closest being Crabdens Row, adjacent to the southern boundary of the Site, and Rabbit Copse located 400 m to the east of the Site. Beyond 1 km of the Site, the closest ecological designations are Catherington Down SSSI and Local Nature Reserve, located 1.2 km to the north east of the Site, and Yoells Copse Local Nature Reserve, located 1.2 km to the south east of the Site.

No further ecological/ornithological designated sites beyond these have the potential to be impacted.

Required ecological and ornithological surveys, including a Phase 1 Habitat Survey and Arboricultural Survey, are currently being completed, and their results and any required mitigation will be included in reports submitted with any future planning application. The Development will be designed to avoid or minimise potential impacts on habitats and species, informed by the surveys, and additional planting and landscaping will be provided to increase the biodiversity value of the Site.

4.9.2 Potential Effects

The Development is relatively limited in extent and will actively enhance areas for the quality and quantity of habitats of biodiversity value relative to the grazing baseline, particularly to the north west of the Site and along the northern border.

The closest site designated for ecological or ornithological interest is Crabdens Row Ancient Woodland along the southern boundary of the Site. No development would be located within a 15 m buffer of this Ancient Woodland at the field edge between the Site and the substation to mitigate any potential impacts. The cable connection between the Development and the adjacent substation is anticipated to be drilled beneath the ancient woodland using horizontal directional drilling (HDD) such that the ancient woodland is not impacted by the works.

The ecological surveys undertaken in support of the planning application will include consideration of the qualifying interests of international, national, and local designations. Given the intervening distance and the widespread availability of similar or better-quality land in the wider area for ecological or ornithological resources to use, the Development is unlikely to give rise to significant effects in respect to the international and national designations. Similarly, the type and scale of the Development proposed along with the low impact construction method, avoidance measures, and embedded mitigation, will ensure that the Development will not give rise to significant effects in respect to the adjacent and nearby local designations.

Overall, the Development is relatively limited in extent and will provide some enhancement to existing habitats. Offsite habitats and species will not be affected by changes on the Site of the type proposed and there is **no potential for adverse significant effects on ecological or ornithological receptors, with potential for some beneficial effects.**

4.10 Flood Risk

4.10.1 Baseline

The Site has no nearby watercourses or water features, and is located in Flood Risk Zone 1. This definition is provided in the National Planning Policy Framework (NPPF) where Flood Risk Zone 1 is categorised as having a less than 1 in 1000 annual probability of fluvial or sea flooding, and is the lowest flood risk category.

4.10.2 Potential Effects

Given the Site area will exceed 1 ha, despite being in Flood Zone 1, a Flood Risk Assessment and drainage strategy will be submitted as part of any future planning application. The potential to impact offsite receptors and surface water run-off will also be considered within the assessment.

The Development would not give rise to adverse effects in respect to flood risk, and there is **no potential for significant effects on flood risk**.

4.11 Noise and Vibration

4.11.1 Baseline

The nearest receptors of potential noise effects are the residential properties located to the north west, north east, and south of the Site, as identified in the visual receptors section above, the closest of which is Hinton Daubnay, located 350 m to the north east of the Site. The nearest village is Lovedean, located approximately 500 m south east of the Site.

A baseline noise survey was undertaken in March 2021; the acoustic environment was found to be typical of a rural location. Noise from roads and the Lovedean substation was slightly audible, but noise levels were generally very low. Given the low background levels a noise assessment of likely impact, in accordance with BS4142:2014+A1:2019 '*Method for rating and assessing industrial and commercial sound*', will be submitted as part of any future planning application.

4.11.2 Potential Effects

Construction of the Development would be short term. The potential adverse effects of noise and vibration during construction are therefore limited, and would only occur for short periods, e.g. during excavation works. The temporary duration and extent of adverse effects is typically secured by limited working hours set out in appropriately worded planning conditions, or a Construction Environmental Management Plan, as would be used for a wide range of other non-EIA development types.

Should the construction phase of the Development overlap with the construction phase of the Aquind Interconnector Converter Station, there could be the potential for cumulative noise impacts although these would not be significant subject to planning and construction best practice measures which could be implemented to minimise these effects, such as Construction Traffic Management Plans and Construction Environmental Management Plans which would recognise both developments.

During the operational phase of the Development, low levels of noise can be generated by the electrical systems such as the battery containers, inverters, transformers and synchronous condensers. The battery units will make noise from their air-cooling systems and high voltage alternating current systems. Embedded design measures such as acoustic fencing and building cladding could be used to ensure no significant noise effects will occur, including cumulative noise arising from the operation of the Aquind Interconnector Converter Station.

Consequently, there is **no potential for significant effects of noise and vibration**.

4.12 Traffic and Transport

4.12.1 Baseline

The Site would be accessed via an existing agricultural track (which will be upgraded to the specifications of the Highways Authority) in the southern corner of the Site off Broadway Lane to the east of the Site. This road provides access to the B2150 via Denmead.

It is noted that some vegetation removal would be required with the construction of the new access point, although any development impact on trees or other vegetation would be assessed through an Arboricultural Impact Assessment and ecological surveys as required, to be submitted with any future planning application. The Development access will also be designed to minimise arboricultural impacts to trees along Broadway Lane. Broadway Lane is the existing access used for the operational substation, and runs between Denmead and the South Downs National Park, and will therefore have regular associated traffic.

4.12.2 Potential for Effects

Construction traffic will consist of heavy goods vehicles (HGVs), light good vehicles and cars, and limited abnormal load movements are expected to be required. Movements associated with the construction phase are expected to contribute a minimal amount to the Annual Average Daily Traffic Flow (AADTF) of the roads leading to the Site. As a proportion the traffic increase on Broadway Lane would be higher, albeit for a short duration, and would be similar to traffic levels of agricultural vehicles during harvest periods. A Transport Statement will be submitted with any future planning application detailing traffic volumes and routes and any required mitigation.

During the operational phase of the Development, additional traffic would be limited to maintenance vehicles and the magnitude of change would be negligible.

Traffic volumes generated by the Development during construction and operation are not likely to be sufficient to lead to any delay or other traffic-related effects. Consequently, there are no traffic and transport receptors considered to be sensitive to the type of development proposed and there is **no potential for significant traffic effects**.

There may be cumulative impacts with the Development, if the construction phase overlaps with the planned three-year construction phase of the Aquind Interconnector Converter Station. If this is the case, the minor roads around the Site, including Broadway Lane and the B2150, will likely experience higher transport loads and more abnormal load movements. These impacts will be considered within the Transport Statement and Construction Traffic Management Plan submitted with any future planning application, and where necessary any mitigation or traffic management measures will be proposed to ensure there is **no potential for significant cumulative effects on traffic**.

4.13 Land Use and Soil

4.13.1 Baseline

The Site is classified as Agricultural Land Classification Grade 3, based on available mapping. However, given the Site's current land use for pastoral land for grazing rather than arable cultivation, it is likely to be lower-quality agricultural land.

4.13.2 Potential Effects

The limited area of land lost from horse grazing, and its location adjacent to the existing Lovedean substation means that the land use at the Site is not considered to be sensitive to the type of development proposed and there is **no potential for significant effects on land use and soil**.

5 CONCLUSIONS

This EIA screening report has identified the sensitive receptors in the baseline environment, has explained the potential effects of the Development proposed, and has found that no significant effects in EIA terms are predicted as a result of the Development, and the Development therefore does not warrant an EIA.

Schedule 3 of the EIA Regulations states that:

"the environmental sensitivity of geographical areas likely to be affected must be considered having regard to (a) the existing and approved land use; (b) the relative abundance, availability, quality and regenerative capacity of natural resources; and (c) the absorption capacity of the natural environment, paying particular attention to a number of areas including wetlands, coastal zones, mountains and forest areas, nature reserves and parks, areas classified or protected under legislation, areas in which the environmental quality standards have already been exceeded, densely populated areas or landscapes of historical, cultural or archaeological significance."

These have been considered in this EIA Screening assessment, and special consideration has been given to landscape and visual resources, traffic and residential amenity. As discussed in the previous sections, the Development is mainly low-lying with only a few taller elements, giving rise to relatively limited localised vertical elements in the landscape, and would be implemented alongside enhanced visual screening and habitat enhancement where required and particularly to the north west of the Site, and along the northern boundary. The landscape has the capacity to accommodate the Development due to the topography of the landform and existing vegetation, including the existing tree-lines, hedgerows, shelterbelts, and woodland to the south and east which would provide screening.

Furthermore, the Development would be seen in the context of the large operational National Grid substation to the south, and the numerous high voltage electricity transmission lines which cross and pass close to the Site. In addition to this, the Aquind Interconnector Converter Station is proposed to be built within 500 m of the Site. As the Aquind Interconnector Converter Station is taller and larger than the Development, its impacts will be more significant, especially in terms of landscape, visual receptors, recreational assets, and cultural heritage assets. As the Development will mainly be viewed in the context of this Converter Station, and the other electrical infrastructure discussed above, the cumulative landscape and visual impacts with the Development are not significant, including from the South Downs National Park. If the construction phases of the two developments were to overlap there may be further cumulative impacts in terms of traffic, noise and vibration. However, this could be managed using appropriate planning controls and construction best practice methods, to ensure any effects are not significant.

The results of ecological surveys will be used to identify any required ecological mitigation. Good practice measures will be implemented to protect all breeding birds during construction, and areas of high-quality habitat for birds will be retained and enhanced where possible to provide an increase in biodiversity value of the Site. The north western area of the Site has been specifically highlighted as an area for biodiversity enhancements.

Appendix A

Figure 1 – Site Location

Figure 2 – Environmental Considerations