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To: [Cleve Hill Solar Park](#)
Cc: Francesca.Potter@kent.gov.uk; [Stevie Andrews \(stevie.andrews@canterbury.gov.uk\)](mailto:Stevie.Andrews@canterbury.gov.uk); [James Freeman](#)
Subject: Swale Borough Council Local Impact Report and request to attend Accompanied Site Inspection
Date: 10 June 2019 09:44:40
Attachments: [image001.png](#)
[Appendix B_LOCAL_IMPACT_REPORT.pdf](#)

Dear Sir,

On behalf of Swale Borough Council I am attaching a Local Impact Report for the Examining Authority's attention and assistance.

I also confirm that Swale Borough Council will wish to attend the Accompanied Site Inspection on Wednesday 24th July.

I am now out of the office until 17th June, and any queries on this project in the meantime ought to be directed to James Freeman.

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CLEVE HILL SOLAR PARK

GRAVENEY, FAVERSHAM, KENT

LOCAL IMPACT REPORT

A REPORT PREPARED BY SWALE BOROUGH COUNCIL

JUNE 2019

1.0 INTRODUCTION

- 1.1 This Local Impact Report (LIR) has been prepared by Swale Borough Council to highlight the many ways in which the proposed development of a solar park and battery storage facility on flat, low lying agricultural land alongside The Swale will affect the locality and local community. It is not intended as a precise technical document – the application is accompanied by a great deal of technical information – but as a broad overview of the likely issues that might arise from the proposed development. This LIR is intended as a factual document and does not attempt to come to a conclusion on the acceptability of the proposals. It does, however, seek to identify where the proposals are at odds with local policy, and to distinguish between matters that are of most potential impact and those that are either temporary or less significant in the longer term based on a local perception of the impact of those matters.
- 1.2 This LIR has been prepared in the light of guidance set out in The Planning Inspectorate's Advice Note One: Local Impact Reports. KCC are preparing their own LIR using their own expertise to cover matters relating to ecology, flood risk, archaeology, highway safety, and minerals and waste planning which the Borough Council does not have expertise in. This LIR is not intended to repeat or contradict KCC's views.

2.0 LOCATION AND SITE CHARACTERISTICS

- 2.1 The 491.2ha site of the proposed solar park and battery storage facility comprises an area (387.6ha) of low quality almost completely flat agricultural land, along with smaller areas of grazing marsh (35.1ha), flood defences (58.5ha) and an existing electricity substation (10ha) set alongside the Thames Estuary which, at this point, flows to the north of The Isle of Sheppey. A narrow channel open at both ends and known as The Swale runs between the mainland and The Isle of Sheppey. On either

side of The Swale the landscape is mostly low lying, flat and open, with very long views available without the need for artificial elevation. The land the subject of the proposed development is at such a low level that it is entirely surrounded on the seaward side by artificial seawalls to prevent a repeat of past flooding, which arises when high tides and strong winds conspire to create a surge up the estuary potentially affecting thousands of acres of land.

- 2.2 The Swale is entirely tidal and at certain times of year the extensive mudflats revealed at low tide play host to migratory wading birds in huge numbers to such an internationally important extent that the area is designated as a Site of Special Scientific Interest (SSSI), Ramsar site and European Special Protection Area (SPA). These designations (which share common boundaries here) also apply to parts of adjoining non-tidal areas; but not to the vast majority of the application site which has long been in intensive agricultural use. No solar panels or other equipment related to the proposed solar park are intended to be positioned within these designated areas.
- 2.3 This remote coastal area is served only by narrow roads and is generally tranquil with limited passing traffic. The main land use activity is agriculture, but tourism based on footpath access to the coast and to good birdwatching opportunities is an important part of the local economy. The local community of Graveney is scattered over a wide area and at a very low density of population. Farms are generally large and the landscape is heavily managed to make the best out of it, with extensive windbreaks and polytunnels, most of which are sited on flatter areas which limits their long distance impact on local views. From higher land to the south and south-east of The Swale the visual impact of modern agriculture is very evident with significant areas of glasshouses and polytunnels clearly seen as stark regular shapes in an undulating landscape. These appear from high points as large reflective areas which draw the eye and detract from the rural character of the area.
- 2.4 The former marshland of the solar park site, now drained and intensively farmed, is largely hidden to view from local populations by windbreaks, whilst the flat expanse of the site with its long distance unbroken views from the sea wall is a stark contrast to the rolling countryside that sits inland from it. The fact that a public footpath entirely surrounds the coastal edges of the site (and others cross the site) means that very clear public views across the entire site can be found; those views amply showing the very emptiness and unusual distance from any settlement that can be achieved here even in the south-east of England. The main detraction from the sense of isolation here is the highly prominent row of tall electricity pylons running in a completely undisguised manner parallel to the shore along the centre of the site. These pylons carry the main National Grid supply around most of the coastal perimeter of Kent. A smaller local overhead electricity supply line runs on timber poles across the southern part of the site; connecting isolated properties.

3.0 PLANNING HISTORY

- 3.1 As agricultural land, the application site has had very limited formal planning history and, in Town and Country Planning terms, the most significant event has been the development of the London Array off-shore windfarm substation at Cleve Hill; right next to the currently proposed substation and solar park. The London Array windfarm

was originally intended to comprise of up to 341 wind turbines and is so far off-shore that it cannot be seen from the site of the substation. However, the undersea cables reach land in The Swale and were cut through the seawall and buried beneath the current application site to reach the closest point to the north Kent coast along the line of the electricity pylons with flood free high ground; Cleve Hill itself. Approved on appeal in 2007, the substation itself is vast (measuring 10ha and featuring 2ha of hardstanding alone), and was originally intended to house five transformers alongside a new National Grid switch house. Due to off shore licensing issues the windfarm progressed in two phases, only the first phase having been built and connected via three of the five potential transformers to the Grid switch house. The remainder of the substation was built out minus the two remaining transformers, before the off shore issues lead to abandonment of the second phase of the windfarm, leaving only just over half the new substation utilised, and leaving spare capacity in the National Grid switch house. It is this spare capacity in the switch house that the current solar park hopes to utilise, although it is not proposed to use the spare capacity in the London Array substation itself, and the current proposal includes creating a completely separate new substation on flat land nearby.

4.0 DESCRIPTION OF PROPOSED DEVELOPMENT

4.1 The proposed solar park lies immediately adjacent to the London Array substation and spreads itself out across the flat low lying land that the existing substation stands back from and above. The development comprises an artificially bunded substation and energy storage complex, with the bunding designed to deal with flood risk, along with solar panels spread out across the land at a height designed to minimise risk from flooding were the seawalls ever to be breached. Due to this flooding constraint the solar panels are set to be erected at a higher than normal height of up to 3.9m above ground level. The application site has been enlarged during the pre-application consultation period to include the seawalls, enabling the applicant to take on their maintenance requirements from the Environment Agency. The site has also been extended to the east to include a significant area of habitat management to off-set possible impacts on wildlife currently using the application site as hinterland from the mudflats.

4.2 The development envisaged includes;

- Solar panels set at least 1.2m off the ground and rising from a minimum height of 3.0m to a maximum height of 3.9m above ground level across an area of up to 232.27ha, enclosed by 2m high fencing
- Solar panel surfaces of up to 177.3399ha arranged on an east-west facing basis – with possibly 884,388 solar panels
- 80 transformers of up to 3m in height set amongst the solar panels
- A substation bund rising to 5.316m above sea level (or 3 to 4 metres above surrounding land levels) enclosing an area not exceeding 10ha, and requiring importation of over 11,000 cubic metres of materials
- 7,440 energy storage units to a height not exceeding the height of the bunding
- An electricity substation with components not exceeding 12.8m in height
- Underground connection to the existing National Grid London Array switch house

- Undergrounding of the existing pole mounted overhead electricity line running across the southern part of the site
- A new 2km long permanent road along the centre of the site requiring over 6,700 cubic metres of stone to be imported to the site
- A new permissive footpath across the site
- New planting to screen the landward sides of the site
- Reversion of at least 50.1ha of arable land to a habitat management area

5.0 PLANNING POLICY

5.1 National Planning Policy

5.1.1 Section 105 of The Planning Act 2008 promotes National Policy Statements (NPSs) above the Development Plan for Nationally Significant Infrastructure Projects (NSIPs). However, there is no NPS for solar energy or battery storage projects and all that there is to refer to is more general NPSs including the Overarching National Policy Statement for Energy (EN-1), the National Policy Statement on Renewable Energy (EN-3), and the National Policy Statement for Electricity Networks (EN-5). Having said that, even EN-3 does not provide any guidance on solar energy or battery storage installations and can effectively be discounted; whilst EN-5 principally relates to new overhead electricity lines and associated infrastructure, which are not proposed here.

5.1.2 NPS EN-1 is a very general document delegating most advice to five technology-specific NPSs (none including solar power or battery storage) but setting the stage for promotion of low carbon energy production facilities and a reduction in greenhouse gas emissions. To that extent EN-1 is relevant and supportive of the principle behind this application, but the NPS also supports reducing energy demand, greater interconnection of systems and decentralised and community energy systems. The NPS sees most scope for new renewable energy to be from wind, wave, waste and biomass systems and does not highlight solar power or battery storage as having a role in a new energy mix.

5.1.3 EN-1 highlights the need for Infrastructure Planning Commission (IPC) decisions to have regard to habitats and to consider whether the project may have a significant effect on a European site, consider alternatives, seek good design and minimise flood risk by not consenting development in flood zones 2 or 3 unless the sequential (and exception) test is applied. In terms of flood risk the advice is to locate more vulnerable parts of the development in areas of least flood risk. In terms of landscape issues the advice of EN-1 is that;

Coastal areas are particularly vulnerable to visual intrusion because of the potential high visibility of development on the foreshore, on the skyline and affecting views along stretches of undeveloped coast.

and

It may be helpful for applicants to draw attention, in the supporting evidence to their applications, to any examples of existing permitted infrastructure they are aware of with a similar magnitude of impact on sensitive receptors. This

may assist the IPC in judging the weight it should give to the assessed visual impacts of the proposed development

EN-1 also refers to the impact on tourism and on rights of way, saying that;

Rights of way, National Trails and other rights of access to land are important recreational facilities for example for walkers, cyclists and horse riders. The IPC should expect applicants to take appropriate mitigation measures to address adverse effects on coastal access, National Trails and other rights of way. Where this is not the case the IPC should consider what appropriate mitigation requirements might be attached to any grant of development consent.

5.1.3 In the absence of a specific NPS relating to solar power or battery storage, and given the inevitable tensions between the efficiency of the technology, use of greenfield sites, areas of wildlife conservation and heritage significance and use of agricultural land versus deployment of solar technology on rooftops or use of previously developed sites, there is clearly a big question about whether any NSIP project for solar power, let alone one of this scale in such a sensitive location, should be approved on an ad hoc basis without regard being had to comprehensive and strategic policy in the form of an NPS. The battery storage technology proposed is also new and largely untested, meaning that its possible impacts are not yet fully understood

5.1.4 The National Planning Policy Framework (NPPF) contains no specific policies for NSIP development, meaning that the NPSs, which do not refer to solar energy or battery storage projects, are the main source of national policy in relation to this application. Accordingly, as required by Section 105 of The Planning Act 2008, in the absence of a specific NPS for solar power, the Secretary of State must have regard to this LIR and is not bound to decide the application in accordance with any particular NPS.

5.2 Kent County Council Planning Policies

5.2.1 The site is covered by policy DM7 (Safeguarding Mineral Resources) of the Kent Minerals & Waste Local Plan in relation to Sub-Alluvial River Terrace Deposits.

5.3 Swale Borough Council Planning Policies

5.3.1 The Borough Council adopted Bearing Fruits 2031; The Swale Borough Local Plan on 26 July 2017. This is an NPPF compliant Local Plan of recent origin, and it contains a number of relevant planning policies, including;

- Policy ST 1 Delivering Sustainable Development in Swale
- Policy ST 7 The Faversham Area and Kent Downs Strategy
- Policy CP 1 Building a strong, competitive economy
- Policy CP 4 Requiring Good Design
- Policy CP 5 Health and wellbeing
- Policy CP 7 Conserving and enhancing the natural environment – providing for green infrastructure

- Policy CP 8 Conserving and enhancing the historic environment
- Policy DM 3 Rural Economy
- Policy DM 6 Managing transport demand and impact
- Policy DM 14 General Development Criteria
- Policy DM 19 Sustainable Design and Construction
- Policy DM 20 Renewable and Low Carbon Energy
- Policy DM 21 Water, Flooding and Drainage
- Policy DM 22 The Coast
- Policy DM 23 Coastal Change Management
- Policy DM 24 Conserving and Enhancing Valued Landscapes
- Policy DM 26 Rural Lanes
- Policy DM 28 Biodiversity and Geological Conservation
- Policy DM 29 Woodland, Trees and Hedges
- Policy DM 30 Enabling development for landscape and biodiversity enhancement
- Policy DM 31 Agricultural Land
- Policy DM 32 Development involving listed buildings
- Policy DM 33 Development affecting a conservation area
- Policy DM 34 Scheduled Monuments and archaeological sites

These policies should be referred to in assessing the proposals. It is noted that policies DM 32, DM 33 and DM 34 are not referred to by the applicant in Table 6.1 of the Environmental Statement; although they do refer to a policy “DM 18 Flooding and drainage” which does not exist in the Plan.

- 5.3.2 The application site is specifically included in an Area of High Landscape Value (Kent Level) under policy DM 24 and it sits within a Coastal Change Management Area (policy DM 23).
- 5.3.3 The application site lies immediately adjacent to areas covered by policies DM 28 International & National Designated Site of Biodiversity &/or Geological Value, and parts of the site including sea walls are within this designation.
- 5.3.4 In addition to the adopted Local Plan, the Borough Council has published the Swale Landscape Character and Biodiversity appraisal (2011) which highlights the different landscape types across the Borough. The application site falls within the Graveney Marshes landscape character area which includes a significant area of tidal mudflats beyond the sea wall. In fact, the application site occupies the vast majority of the non-tidal land surface of this entire character area. The area is defined by the following key characteristics;
- Large open area of alluvial marshland
 - Large-scale arable fields divided by long straight drainage ditches
 - Typical features ditches, sea wall, estuarine saltmarsh, sand and mudflats
 - Atmospheric and tranquil landscape with large open and often dramatic skies

The assessment notes that the area contains little semi-natural vegetation and that during the twentieth century the landscape has been transformed from an area of traditional grazing to one of monoculture with limited value in terms of biodiversity,

this mainly being confined to the ditches and some bird species which inhabit the arable areas. Both the condition and sensitivity of this area are described as moderate although the arable areas are said to be in poorer condition, and the overall priority for the area is to conserve and create.

5.3.5 The existing electricity pylons and the newly built London Array substation are said to be detracting features which are highly visible, and the cultural integrity of that area is said to have been entirely removed by modern farming practices. Ultimately, this leaves great potential to restore and extend the inter-tidal/grazing marsh wetland network which would help to buffer and extend the interest of the internationally important Swale SSSI/SPA.

6.0 LOCAL IMPACTS

6.1 Landscape

6.1.1 Landscape Character Assessment and Impact Assessment and Visual Impact Assessment are subject to national guidelines and policies as listed in the applicant's submission. In addition, Swale Borough Council has local guidelines and policies which are also listed in the applicant's submission. Key points related to guidelines and policies relevant to the Development include the following:

1. Landscape Institute and the Institute of Environmental Management Guidelines, 2013

6.1.2 The third edition of Guidelines for Landscape and Visual Impact Assessment (GLVIA3), by the Landscape Institute and the Institute of Environmental Management and Assessment (IEMA) clarifies Landscape and Visual Impact Assessment as "a tool used to identify and assess the significance of and the effects of change resulting from development on both the landscape as an environmental resource in its own right and on people's views and visual amenity".

6.1.3 GLVIA3 places greater emphasis (than GLVIA2) on professional judgement, combines the assessment of landscape and visual impact, elaborates on 'significance' and expands on 'cumulative' effects. Value of landscape is assessed on its condition, scenic quality, rarity, how representative it is, wildlife conservation value, recreation value, perception and local association.

2. National Character Area 81: Greater Thames Estuary

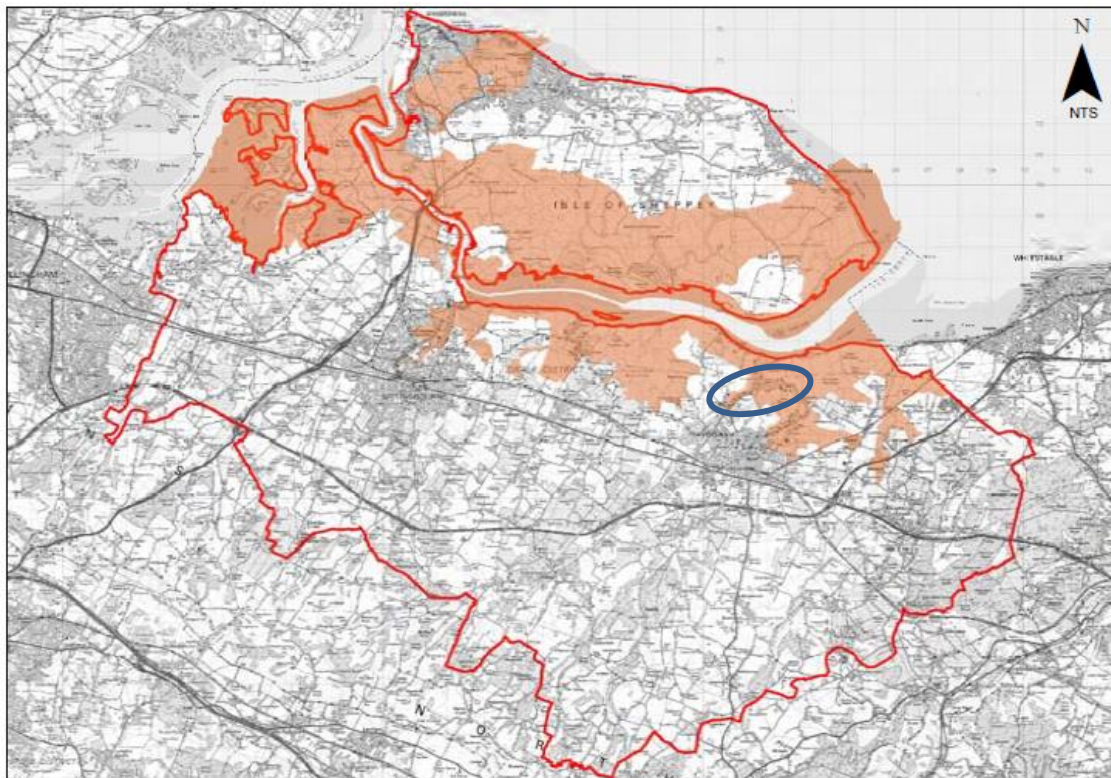
6.1.4 National Character Areas are areas of "similar landscape characteristics, and which follow natural lines in the landscape rather than administrative boundaries".

6.1.5 The landscape characteristics of the Greater Thames Estuary National Character Area are summarised by Natural England as "predominantly a remote and tranquil landscape of shallow creeks, drowned estuaries, low-lying islands, mudflats and broad tracts of tidal salt marsh and reclaimed grazing marsh" and Statement of Environmental Opportunity (SEO) 1 sets out to maintain and enhance this expansive, remote coastal landscape. SEO 2 aims to work with landowners and managers to incorporate measures to improve biodiversity, geodiversity, pollination, water quality, soil quality and climate adaptation and to prevent soil erosion, whilst SEO 3 aims to

ensure that the tranquil and remote character of the estuary is maintained. Lastly, it states that arable farmland surrounding the estuaries supports internationally important populations of breeding and overwintering birds, notably Brent geese.

3. Swale Borough Council Landscape Character and Biodiversity Appraisal 2011

- 6.1.6 Swale Landscape Character and Biodiversity Appraisal, Supplementary Planning Document (SPD), classifies the area, within which the Development falls, as 'Marshland Landscape Type' covering areas named Nagden Marshes, Graveney Marshes and Cleve Marshes.



Approximate location of the Development within the 'Marshland Landscape Type'

- 6.1.7 The Development site is predominantly within the Graveney Marshes character area and a small part is within the Graveney Arable Farmlands character area. The SPD notes that the Graveney Marshes area is a "landscape (that) has been divided via long straight drainage ditches, into vast fields that now accommodate large-scale cereal production" and has undergone "significant engineering" to prevent flooding with an "enormous seawall". It is also worth noting that trees are rarities here and the small clumps that do exist help to mark the location of isolated churches and farmsteads on the pockets of higher land. The SPD also assesses biodiversity and as the "terrestrial landscape is so intensively farmed it now has limited value in terms of biodiversity. Within the arable landscape itself, ditches are the principal features of interest". Guidelines for the character area include conserving "the undeveloped and distinctive character of the marshland" and the restoration of "coastal grazing (of) intensive arable production".

6.1.8 Immediately to the south of the site the SPD classifies the area as part of the Graveney Fruit Farms and the Graveney Arable Farmlands within the Fruit Belt Landscape Types characterised as an “enclosed and intimate landscape”. The key features listed in the SPD include poplar or alder dominated shelter belts and small isolated woodlands (which) are also scattered across the area and add to the sense of enclosure, however, polytunnels have become a characteristic feature throughout the fruit belt, which is a sort of industrialised agriculture.

4. Bearing Fruits, Swale Borough Local Plan, adopted 2017

6.1.9 Adopted Local Plan policy DM 24, Conserving and Enhancing Valued Landscape refers to locally defined Areas of High Landscape Value (Kent Level) and the policy requires “the conservation and enhancement of the landscape” and “avoidance, minimisation and mitigation of adverse landscape impacts” unless social and or economic benefits...outweigh the harm”. The Local Landscape Designation for this area (North Kent Marshes - South Swale) was confirmed through the Swale Local Landscape Designation Review, 2018 (LUC). The recommendations from this review were agreed at a Swale Local Plan Panel in November 2018. One requirement set out in the Local Landscape Designation is to conserve and enhance identified qualities including the sense of remoteness and wildness. The preamble to the policy also refers to tranquillity, which are areas defined as being “undisturbed by noise” and as being associated with “dark skies”. The Local Plan “requires demonstration of how development will affect tranquillity and aim to at least maintain or improve it”. Intermittent loss of dark skies is likely to be associated with operation of security lighting on this development.

6.1.10 The development will have a very significant effect on this landscape character which is not in accordance with the aims of policy DM 24.

6.2 Ecology, including ornithology

6.2.1 The proposed solar park development site itself adjoins a number of ecological designations, and the fringes of the application site include sea walls and an area of freshwater grazing marsh overlap with these designations. The designations include;

- The Swale Special Protection Area (SPA)
- The Swale Ramsar site
- The Swale Site of Special Scientific Interest (SSSI)
- South Bank of Swale Local Nature Reserve (LNR)

Together, these overlying designations (the SPA area) recognise the very considerable ecological importance of the mudflats, saltmarsh and grazing marsh habitats found at this point. All the above designations have a common boundary along the northern side (and at the western tip) of the site, and therefore the development site overlaps them to the same extent along this boundary. However, the LNR is far smaller than the other areas (and fully contained within their

boundaries) such that elsewhere the development site overlaps these other designated areas but not the LNR. Mostly, the overlap just relates to the areas necessary to maintain the sea walls, but to the eastern end of the site there is an area of freshwater grazing marsh within the site boundary which forms part of the SPA, Ramsar site and SSSI (but not the LNR). It is important to note that no part of the solar park itself is proposed to be constructed within any of these designated areas, and there should therefore be no direct impact on these designated areas.

6.2.2 Other nearby sites of nature conservation value including the Outer Thames Estuary SPA, The Swale National Nature Reserve (NNR) and further NNRs and LNRs, form a chain of wildlife sites along the Thames Estuary that the designations affected by the development site form part of. The vast majority of the development site comprises flat arable land crossed by irregular ditches; the ditches being of significantly greater ecological interest than the arable land itself, which has been subject to intensive agricultural methods for many years. However, it is clear that the land beyond the designations' boundaries is considered to be functionally linked to the SPA area by reason of birds foraging amongst appropriate crops at certain times of year, and that loss of such areas would harm the significance of the SPA area. The development seeks to mitigate this loss by a so-called Arable Reversion Habitat Management Area (ARHMA) where part of the existing arable land adjoining the freshwater grazing marsh area within the SPA area is left undeveloped but managed to benefit wildlife. Ditches within the development site are also valuable habitats which ought to be maintained and/or enhanced.

6.2.2 The applicant has liaised extensively with Natural England (NE), the Kent Wildlife Trust (KWT) and the RSPB. The applicant has agreed a Statement of Common Ground (SOCG) with NE, which details methodology for studying the likely impacts of the development on the importance of the SPA area, including acceptance of the ARHMA proposal as a means of mitigating loss of access to the development site for some forms of wildlife. The Council does not have superior expertise in these areas to NE and in terms of impacts on the SPA area we defer to the advice of NE. The Council does not seek to detract from the SOCG agreed with NE. However, Natural England's focus on the SPA area does not mean that they have paid the same level of attention to the ecological effect of the development on the undesignated parts of the site except insofar as they affect the SPA area. There remain potential impacts here which NE may not have commented specifically on, which others might be better qualified to comment on, and the Council would not wish NE's position to be misunderstood.

6.2.3 Noise and activity arising from construction activity is potential disturbing to birds using the SPA area, and needs to be well managed, but the applicant has proposed an Outline Construction Environmental Management Plan (CEMP) and an Outline SPA Construction Noise Management Plan (SPA CNMP) to minimise such impacts.

6.2.4 Relevant Local Plan policies for nature conservation are;

- Policy ST 1 Delivering Sustainable Development in Swale
- Policy CP 7 Conserving and enhancing the natural environment – providing for green infrastructure

- Policy DM 22 The Coast
- Policy DM 28 Biodiversity and Geological Conservation
- Policy DM 29 Woodland, Trees and Hedges
- Policy DM 30 Enabling development for landscape and biodiversity enhancement

These policies read together seek to safeguard, and where possible enhance, the area's unique biodiversity when considering development proposals. It is not clear to the Council that the development will have a direct impact on any area designated for its ecological significance, and it is recognised that mitigation measures are planned to offset the expected impact of the development on functionally linked land outside the designated areas. Nor is it clear that the development will have a direct impact on any protected species. However, such species are recorded within the site and it is therefore important to note that any development adversely impacting on their habitats will be at odds with adopted Local Plan policy.

6.2.5 What is far less clear is what the impact will be on wildlife that is not using the area as hinterland to the SPA. It appears that with its proximity to the SPA, its historic marshland nature and the fact that it still crossed by habitat rich ditches, the development site may well be far richer in biodiversity than much agricultural land elsewhere. Studies have shown a wide variety of species using the area including ground nesting birds and birds of prey. It is apparent from the applicant's own flight activity surveys and other surveys that no bird species confine their use of the area to the ditches, and it is not clear that simply by drawing the solar panels back from the ditch edges will avoid any effects on their use of the area. The highest number of bird flights over the area recorded in table 9.7 of the applicant's Environmental Statement was by marsh harriers, which use the arable land especially along ditch margins for foraging. The suggested solution of siting solar panels back from the ditch edges by a minimum of 15m (this is presented as a substantial increase in the amount of suitable habitat available compared to the originally proposed 5m setback, but of course it is not an improvement over the existing situation) is proposed as a possible way of minimising the effects on marsh harriers' use of the area, with "potential" positive effects. This does not avoid effects on the areas between ditches by way of fragmentation of the habitats, loss of capacity for ground nesting birds, nor does it demonstrate that marsh harriers are likely to be content to continue foraging when solar panels are in place. The extent of the continuous array of solar panels will create large areas where foraging and ground nesting cannot take place, creating only narrow corridors with access to the ground, without the variety or continuity of habitat currently available.

6.2.5 The extent to which solar panels cover the area of the solar park is very high. The traditional solar park with south facing panels and sheep grazing between them implies gaps between the panels and a mosaic of habitats. In the proposed development the gaps between panels will be minimal and any sheep or ground nesting birds will have to confine themselves to the perimeters of the solar panel blocks. In other words the amount of potential grazing or nesting land left over in this scheme is far less than might be expected in a south facing array, which will mean that impacts on biodiversity will be very different and likely more severe than in another scenario.

6.2.6 Overall, there is no certainty that effect on wildlife will be neutral or positive, or that the aims of relevant Development Plan policies will be met.

6.3 Residential Amenity

6.3.1 There are very few residential properties close to, or with views across, the development site. However, for those that there are, the defining characteristic is their sense of remoteness and the extraordinarily long views across the flat open landscape of the development site (and, for some, in other directions). Interior views from cottages at Nagden extend to well beyond the 1km or so that the site stretches to its western point, whilst to the east views as far as the beach huts at Seasalter (3km away) can be had. These represent a significant portion of views for the properties at Nagden. However, from Warm House the situation is even more significant. From here the vista to the north is entirely across the development site. Views from here can be had to and beyond Hollowshore (2km to the west) to Shellness (5km north east) and even as far as caravan parks at Leysdown-on-Sea at approximately 7km away. Within these views the landscape is flat and empty, with even small objects at ground level being visible; the only significant visual intrusion is power lines.

6.3.2 The solar panels will reach 3.0m tall closest to these properties (taller further away) and the applicant has proposed that the siting of solar panels is drawn back from the overall development site boundaries near these properties, and that new screen planting is carried out to remove views of solar panels in due course. The effect of this will not simply be to soften, filter or remove views of the panels, but to completely remove the uninterrupted long distance views that are currently available across the site. No attempt has been made to retain any views through the site, which could have been achieved by omitting certain blocks of solar panels, and the impact on the amenities of the nearest residents will be unrelenting. Similar interruptions to these views from new planting will affect All Saints Church, Graveney and Graveney Court, but here the proportion of available views will be far less due to the distance they sit from the site and the amount of their views that the site will affect.

6.3.3 The applicant has assessed the impact of the changes to views from the nearest residential properties as ranging from Moderate/Major to Minor Beneficial and they do not consider that residents would experience unattractive or unpleasant impacts. This does not reflect the scale of the change that these properties will experience. The setting back of solar panels by 60 to 100m is almost insignificant in the sheer scale of the views that are currently available, and the very flat and featureless nature of the landscape means that such even very great distances appear shorter than they are, and such small set backs are essentially immaterial to the effect of the tall solar panels.

6.4 Cultural heritage

6.4.1 The development site does not contain any designated heritage assets in the form of listed buildings, scheduled monuments or designated conservation areas. However, both the Graveney Church conservation area and parts of the Graveney Bridge and Faversham conservation areas lie within one kilometre of the development site, with

clear views of the site being available from the Graveney Church area. Also, within one kilometre of the development site are 10 grade II listed buildings and one grade I listed building, from some of which there are direct views to the site, especially those at All Saints Church at Graveney and Graveney Court. Having said that, the long distance views available across this flat land open landscape mean that far more such listed buildings will have views across the site from further afield, including those at Harty on the Isle of Sheppey.

6.4.2 Whilst there are thus no direct impacts on any such heritage asset the setting of these assets is a recognised and important planning consideration. Section 66(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990 states that when considering whether to grant planning permission for development which affects a listed building or its setting, regard shall be had to the desirability of preserving the building or its setting, or any features of special architectural or historic interest which it possesses. Section 72 contains similar requirements with respect to buildings or land in a conservation area. In this context relevant case law has clarified that 'preserving' means doing no harm.

6.4.3 The National Planning Policy Framework (NPPF) of February 2019 at paragraph 190 states that;

Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this into account when considering the impact of a proposal on a heritage asset, to avoid or minimise any conflict between the heritage asset's conservation and any aspect of the proposal.

At paragraph 192 the NPPF states that;

In determining applications, local planning authorities should take account of:

a) the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;

b) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and

c) the desirability of new development making a positive contribution to local character and distinctiveness.

Paragraph 193 says that;

When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.

At paragraph 194 the advice is;

Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:

a) grade II listed buildings, or grade II registered parks or gardens, should be exceptional;

b) assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional;*

Paragraph 195 goes on to say;

Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

a) the nature of the heritage asset prevents all reasonable uses of the site; and

b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and

c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and

d) the harm or loss is outweighed by the benefit of bringing the site back into use.

Finally, paragraph 196 states that;

Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.

6.4.4 In the now well known Barnwell Manor case, an Inspector held that a proposal for four wind turbines would have a less than substantial effect on the setting of designated heritage assets, some of which were Grade I listed. He then proceeded to carry out a straightforward balancing exercise in accordance with (old) paragraph 134 of the NPPF. He concluded that the benefits of the proposal outweighed the less than substantial harm to the setting of the heritage assets, and granted planning permission. That case ended up in the Court of Appeal in February 2014, which upheld the High Court's decision to quash the grant of planning permission. The Court of Appeal held that in enacting section 66(1) Parliament intended that the desirability of preserving the settings of listed buildings should not simply be given careful consideration but "considerable importance and weight" when carrying out the balancing exercise. This gives rise to a strong statutory presumption against granting

planning permission for development which would cause harm to the settings of listed buildings. Even where the harm would be “less than substantial” (as the applicant suggests in relation to All Saints Church) the balancing exercise cannot ignore the overarching statutory duty imposed by section 66(1).

- 6.4.5 Nevertheless, later decisions have fallen into the same trap of carrying out a balancing exercise after concluding the relevant proposal will lead to less than substantial harm to designated heritage assets, without demonstrably giving “considerable importance and weight” to the desirability of preserving those heritage assets. In such cases, the High Court has quashed the grants of planning permission.
- 6.4.6 It is therefore clear that the setting of such heritage assets must be dealt with directly, and not lost amongst a balancing exercise. In this development the undeveloped and rare open landscape setting of a number of heritage assets, including the grade 1 listed All Saints Church at Graveney will be affected. If this harm is substantial, and it is arguable that it is, a decision to grant planning permission should be “wholly exceptional”. Even in relation to heritage assets of lower status a decision should be “exceptional” and at present there is no national NPS guidance on the weight to be given to solar power or battery storage installations in relation to protection of heritage assets.
- 6.4.7 Development Plan policies related to heritage assets include DM 32 and DM 33 which seek to protect the setting of and important views of, from and within historic buildings and area. Policy DM 32 (Development involving listed buildings) states inter-alia that development proposals, including any change of use, affecting a listed building, and/or its setting, will be permitted, providing that a range of criteria are met, including appropriate design, scale, materials, situation and detailing. Policy DM 33 (Development affecting a conservation area) states inter-alia that development within, affecting the setting of, or views into and out of a conservation area, will preserve or enhance all features that contribute positively to the area’s special character or appearance. The Borough Council expects development proposals to meet a range of criteria, including responding positively to its conservation area appraisals where these have been prepared.
- 6.4.8 Conservation Area character appraisals exist for all three of the conservation areas which would be impacted indirectly by the solar park proposal, and which are referenced above. These are now a little dated (the two Graveney Conservation Area appraisals dating from 1999 - a joint appraisal also including the settlement of Goodnestone - whilst that for Faversham dates from 2004), but are nevertheless a material consideration, particularly given the requirement of Policy DM 33 to take such appraisals into account where they exist. It is notable in this respect that the ‘Landscape’ section of both the Graveney Conservation Area appraisal documents refers to the flat, expansive nature of the Graveney marshes continuing to exert an influence on the character of development at Graveney, despite the land having been converted almost entirely to arable use, and that whilst the marshes no longer have a truly wild appearance, the presence of these wide and open spaces extending up to the very edge of the church graveyard is a strong reminder of just how remote the place has been. The setting context for the conservation areas is, however,

recognised as being already somewhat compromised by the replacement of many traditional orchards with arable crop based landscapes, together with intensive horticulture and fruit growing which at certain times of the year, results in large areas of polythene (i.e. in the form of polytunnels) being prominent in the landscape.

- 6.4.9 The applicant's assessment of the scale of harm to heritage assets from the operational phase of the development, including the grade 1 listed All Saints Church, is universally minor or below. There is no assessment of the different effects at different times of year in terms of screening from deciduous tree species, and the assessment plays down the strong relationship between the church (and other listed buildings and the conservation area at the church) with the open marshland landscape. Furthermore, the submitted assessment fails to take into account the matter of cumulative change to setting, as referenced in Historic England's Historic Environment Good Practice Advice in Planning Note 3 (2nd. edition, December 2017) titled 'The Setting of Heritage Assets'. This document and its predecessor version was introduced by the Government's national advisory body on heritage management in the wake of the Barnwell Manor case (referred to above) to help local planning authorities (and other interested/relevant parties) more fully understand how the matter of setting to heritage assets should be taken into account in relation to development proposals with the potential to impact on a heritage asset's setting.
- 6.4.10 The grade I listed Church of All Saints, the adjacent grade II listed Graveney Court and the associated Graveney Church conservation area have already been visually impacted by modern farm development immediately to the north, and whilst the church in particular is largely screened from these modern, bulky insertions into the open landscape by a grouping of deciduous trees, the screening value of these trees is limited (particularly in the winter when the trees are not in leaf) and as a result, the remote rural character previously associated with the church and adjacent Graveney Court building has already been noticeably eroded. A similar scenario applies to the setting of grade II listed Sparrow Court and grade II listed Sandbanks Farmhouse, the settings to both of which are now heavily compromised by intensive polytunnel based farming, and associated development including stationary caravans for temporary farm workers. The Historic England advice on cumulative change advises that where the significance of a heritage asset has been compromised in the past by unsympathetic development affecting its setting, to accord with NPPF policies, consideration still needs to be given to whether additional change will further detract from, or can enhance, the significance of the asset. Negative change could include severing the last link between an asset and its original setting; positive change could include the restoration of a building's original designed landscape or the removal of structures impairing key views of it.
- 6.4.11 It is perfectly possible to see the harm to the setting of these assets as substantial, especially as according to the applicant's Table 11.4 even a medium effect on an asset of medium sensitivity of above will result in at least a moderate effect, and it is accepted that All Saints Church is an asset of high sensitivity and, arguably the effect on its setting could be assessed as "high" leading to a "major" impact on its setting. If such a "major" impact were to be found, given the NPPF and directly relevant Historic England advice above, and the Section 66 considerations, this might indicate a strong reason not to grant planning permission for the development.

6.5 Transport

- 6.5.1 In contrast with many forms of built development, the operation of a solar park and battery storage facility, even on the scale proposed, is unlikely to result in much on-going traffic once construction is completed. Nor will the impact of new access roads be a long term feature of the landscape (unless the additional “Northern Access Option” road to the north of the London Array substation shown on some submitted plans is constructed). If the existing newly built London Array access road is relied on to its maximum extent it is essentially the effect of construction traffic on roads leading to that access road that will be noticed locally. Graveney residents already have experience of a major infrastructure project being constructed here with all materials being transported through the village and past the village school and church from the time that the London Array substation was constructed. They will be the best position to describe the disruption and long term effects of that project.
- 6.5.2 The construction phase of this project is indicated as 24 months, with traffic to and from the site via the village throughout that entire period. For most (if not all) of that period there will be over 100 two way trips per day, rising to over 200 such trips in the final months of the construction period. An average of over 60 HGV movements per day are anticipated, along with larger numbers of smaller vehicle movements year round, with no quiet or break periods, just an ever increasing intensity until the project is completed. It should also be noted that the site’s working hours are intended to be 7am to 7pm, Monday to Friday and 7am to 1pm on Saturdays. Furthermore, paragraph 2.6.8 of the CEMP explains how Abnormal Indivisible Loads will be transported to the site at off-peak periods, typically at night; and there is also a suggestion of an additional hour’s of work (start up and clean down) at either end of each working day, meaning that working hours are in fact planned to be 6am to 8pm on weekdays and 6am to 2pm on Saturdays. Clearly traffic to and from the site will begin before these times and finish after them to enable work within these times to be maximised, resulting in traffic for all but a very few hours of each weekday, and for a large part of each weekend. By way of contrast, the Environmental Statement for the construction of the London Array substation predicted an overall average of 5 HGVs (10 movements) per day (peaking at 30 HGVs per day for a short period, but only if various phases of work overlapped) and a peak of 80 staff on site at any one time (compared to the 400 envisaged now) throughout the two year construction period. That project involved the use of a vehicle holding area on Thanet Way and two way radio communications to prevent vehicles clashing on the route through Graveney, which do not appear to be included in the applicant’s plans. A similar traffic impact will be experienced at the decommissioning phase of the project which the applicant expects to take between 6 and 12 months.
- 6.5.3 The proposed route of construction traffic through Graveney from Thanet Way is essentially a narrow country lane with very few pavements or pedestrian refuge points, passing through three conservation areas, past numerous houses set close to the road, past a primary school and village church, over a narrow railway bridge, and lacking in places white lines or the ability for two HGVs to pass, or indeed for HGVs to pass smaller vehicles in some places. Some of these points are highlighted in Appendix D to the applicant’s proposed Outline Construction Traffic Management

Plan (CTMP) although the southern end of Head Hill Road where larger vehicles cannot easily pass smaller vehicles between the high banks is not so shown.

- 6.5.4 The fact that the route is relatively flat, and that it acts as a safe route between Faversham and Whitstable and is connected with the National Cycle Route means that it is very, very popular with cyclists. It does not appear that this issue has been recognised by the applicant in the CTMP, and there is a real danger that the additional traffic will affect either the attractiveness of the route to, or the safety of, the increasing number of cyclists using this route. There can be no doubt that use of this route by such a volume of construction traffic over an extended period on the proposed access route will be nothing but harmful to road traffic, road safety and amenity considerations.
- 6.5.5 Relevant Development Plan policies in this regard include DM 14 (General development criteria) DM 26 (Rural lanes). Policy DM 14 seeks to ensure that ALL development projects adhere to a certain basic level of acceptability including, in this regard, achieving safe vehicular access. The proposed construction access route for its entire distance along Head Hill Road and Seasalter Road is a defined rural lane (as shown on the Local Plan Proposals Map) to which policy DM26 applies. The policy seeks to ensure that planning permission is not be granted for development that would either physically, or as a result of traffic levels, significantly harm the character of rural lanes shown on the Proposals Map, and requires that development proposals should have particular regard to their landscape, amenity, biodiversity, and historic or archaeological importance. It is unlikely that this development project is compatible with this policy.

6.6 Public Rights of Way

- 6.6.1 Adopted Local Plan policy DM 6 (Managing transport demand and impact) seeks to give priority to the needs of pedestrians and cyclists, and to retain existing rights of way, with the creation of new routes in appropriate locations. The development site is surrounded and crossed by various public footpaths from which extensive uninterrupted views can be had. The project does not seek to obstruct any existing rights of way, but the impact of solar panels at up to 3.9m high will radically alter the experience of using long stretches of these paths. The project also proposes a new permissive footpath running through the eastern part of the proposed solar panel layout, close the proposed substation.
- 6.6.2 Footpath ZR484 affords access to an extensive length of the undeveloped coast of Kent (undeveloped apart from sea defences) and provides rare access to miles of solitude, and allows wide views of the Thames estuary with its abundant activity and wildlife. These are very valuable locally distinctive views which are characteristic of views along The Swale. Views out to sea will not be significantly affected by the development; but the sense of solitude will be, with the sense of being as far from civilisation as one can be in the south-east of England replaced by that of being adjacent to a vast man made expanse of glass and metal, the far end of which will not be visible.

- 6.6.3 Views inland from the coastal path will enjoy the benefit of an elevated position on the sea wall providing clear views of the entire development, with the horizon formed by higher land in the distance. The development will replace uninterrupted views of almost featureless agricultural land dissected by ditches, with relentless rows of solar panels where the ditches will be less prominent, and evident more from the breaks in the panels than for their own sake. These views will no longer include the ditches that break up the vast emptiness, unless one is directly aligned with a ditch. The effect will be overwhelming and it will radically alter the perception and variety of inland views, as well as affecting patterns of bird flight which one can enjoy today. From the sea wall the solar panels will not be screened by new planting and will at all times present a raw alien appearance; albeit they will not obstruct the horizon formed from wooded hills in the distance.
- 6.6.4 From footpath ZR485 which crosses the western part of the site, the effect of solar panels up to 3.9m tall will be to entirely obstruct any views from the path other than those of the panels themselves. This will become a largely redundant walk through an industrialised landscape with only views of the sky and pylons available, except when passing under the existing pylons when narrow constrained views along the new access road running along the route of the pylons will be available. The same can also be said of the new permissive footpath which, albeit running on a slightly raised embankment, will still be flanked on both sides by solar panels for the vast majority of its length. This permissive path will pass close to the proposed substation which will be surrounded by a high bund. For a short section it will be this bund that is the main factor in preventing views from the path towards the sea wall and across the flat land to the east. This new route will add an alternative legal option for walkers, but it unlikely to be an attractive route and this, combined with the effect of the panels of the views for ZR485 may deter many from using these shorter routes, leaving only the longest outermost perimeter route a desirable option. It would be possible to leave more space alongside the footpaths to allow wider views through the site towards the sea or inland, by having open areas left within the solar park other than those forced on the scheme by ditches and pylons, but no such options have been proposed.
- 6.6.5 Another public footpath ZR488 cuts across the far eastern end of the development site. It does not run between solar panels and proposed planted screening will (in time) largely hide the panels even from very close range when users are level with the flat ground supporting the panels. However, the path then rises across Cleve Hill which rises to over 15m high, at least 10m above the level of the majority of the development site. From the higher parts of this path there will be clear views of the vast majority of the solar panels (but not of the substation itself) stretching away into the distance. This will significantly affect the understanding of the landscape from the path, and provide the clearest view of the sheer scale of the development. The panels will run as far as the nearer of the two taller pylons crossing Faversham Creek, and the vast scale of that extent of panels will completely alter the perception of the character of the area from that position.
- 6.6.6 The effect on users of the footpaths of this arrangement will be significant and it will undoubtedly make the paths far less attractive to users. One particular reason for the severity of the impact is that the inherent flood risk of the site that creates most of

these issues, and if it were not for the flood risk panels could be set lower to the ground on a more human scale, views for the new permissive footpath would be better, and the substation bund would not be required.

6.7 Tourism and Economy

- 6.7.1 The development site itself comprises privately owned farmland with no public rights of use or access other than on designated public rights of way. It does not adjoin any public open space other than the shingle beach along its coastal edges. The main impact of the development on the recreational or tourism value of the site arises from the impact of a vast swathe of solar panels, higher than any person's head, adjacent to the public rights of way. This has been touched on above in terms of the future attractiveness to users of footpath ZR485, the proposed new permissive path, and the perimeter footpath. These effects can only be surmised, but in the context of paths that do not form direct or shortest routes between users and amenities, it must be assumed that the main reason for users to take these paths is for the sheer pleasure of the views, isolation and closeness to wildlife that the paths afford. Without these attractions it is likely that use of the paths will drop significantly, reducing the potential recreational and tourism value of the area.
- 6.7.2 In terms of significance, the perimeter path forms part of the Saxon Shore Way round Kent coastal path, and is line to be part of the England Coast Path. Moreover, it is part of a rare continuous sea level path that borders areas of international significance for wildlife; and from Seasalter Road it represents one of the closest undeveloped points to a vehicular public highway that the north Kent coastal path has to offer. It is therefore particularly accessible to the less adventurous or committed user. Natural England currently perceives a threat to the adjoining wildlife area from new house building and resultant increased recreational use (dog walking) of this coastal path. Accordingly, they are requiring the Council to charge a tariff on all new homes granted planning permission within 6km of any entry point to the path. This is to allow mechanisms and controls to be put in place to safeguard the importance of the area, which is of course the reason why many choose to visit it. With this proposal, it could be argued that at the same time that funds are being extorted from development several miles away to safeguard the importance of the area, permitting a development of this scale and nature could by all accounts deter users more effectively than all the control measures the tariff is seeking to fund.
- 6.7.3 The Borough of Swale is very varied in terms of landscape and biodiversity, rising as it does from the geologically important cliffs on Sheppey, through The Swale and on almost to the top of the Kent Downs Area of Outstanding Natural Beauty. Its tourism sector relies heavily on heritage (at Faversham) and ecology (along The Swale). A significant part of this is the access to the undeveloped coastline, and this development threatens that asset despite the fact that the applicant assesses these changes as negligible, minor or moderate based on the possibility that some will see the panels as more attractive than the current long uninterrupted vistas. What cannot be denied is that glimpses of ground nesting birds or low level foraging along ditches will be obscured by solar panels up to 3.9m tall, and that opportunities for observing ground based or low flying wildlife on the development site over vast distances will all but cease apart from in the area at the eastern end of the site closest to most human

activity. Again, the effect here could have been lessened by leaving open areas within the solar park where ground nesting birds could still nest and be observed from footpaths.

- 6.7.4 It is worth remembering that all these impacts will be greater than might otherwise be so due to the need to position the solar panels well above ground level, and to enclose the substation in a high earth bund due to the site's inherent risk of flooding. Moreover, once again we do not have the benefit of any NPS policy on stationing solar panels in areas of high flood risk, as opposed to using other potential locations where the impacts might be proportionately less.
- 6.7.5 Development Plan policies relevant to this issue include ST1 (Delivering sustainable development in Swale) which seeks development to support a prosperous rural economy, including for tourism, ST7 (The Faversham area and Kent Downs strategy) which aims to support local economies, especially those which maintain or enhance the countryside and CP1 (Building a strong, competitive economy) which seeks to safeguard or enhance Swale's tourism assets and potential (including coast, countryside, built heritage and rural tourism) and consolidate or widen the Borough's tourism potential. It is clear that the development is not intended to further the beneficial management or visitor enjoyment of the area, and as such the development can only be seen as contrary to the aims of such policies in a manner which is more likely than not to deter visitors from seeking out the solitude, long distance views and appreciation of wildlife that the area currently enjoys, to the detriment of recreational and tourist objectives..

6.8 Land Use and Agriculture

- 6.8.1 Policy DM 31 (Agricultural Land) of Bearing Fruits 2031; The Swale Borough Local Plan seeks to prevent development on agricultural land unless there is an overriding need that cannot be met on land within built-up area boundaries, with special restrictions on better quality land, including grade 3a land. The majority of the land to be developed in this project is grade 3b land (over 90 per cent) with less than 10ha being in higher grades. The impact on high quality agricultural land of the project is therefore limited.
- 6.8.2 Nevertheless, the strategic question of whether large areas of productive agricultural land should be used for solar power generation, as opposed to focussing solar generation on rooftops and previously developed land has not been addressed by any NPS. As such, the appropriateness of developing such a large area of agricultural land in this national policy vacuum remains open to debate. From a local point of view it does seem that this question should be answered before a potentially policy making decision to approve a solar farm of this scale of productive agricultural land is made.

6.9 Climate Change

- 6.9.1 Adopted Local Plan policies DM 19 (Sustainable Design and Construction) and DM 20 (Renewable and Low Carbon Energy) fall within section 7.6 of the Local Plan entitled "Meeting the challenges of climate change, flooding and coastal change" and

set out the Borough Council's approach to creating a more sustainable built environment, requiring new developments to achieve better environmental standards, and promoting renewable and low carbon energy generation. Policy DM 20 in particular sets out tests for new renewable or low carbon energy developments, including a preference for previously developed land, use of only poorer quality agricultural land with continued agricultural use and enhancement of biodiversity, with minimisation of adverse landscape and amenity impacts.

6.9.2 The Council has prepared specific advice on large scale solar arrays dated July 2014. This indicates the main factors that the Council will need to consider when considering applications for large scale solar farms as:

- *encouraging the effective use of land by focussing large scale solar farms on previously developed and non-agricultural land, provided that it is not of high environmental value;*
- *where a proposal involves greenfield land, whether (i) the proposed use of any agricultural land has been shown to be necessary and poorer quality land has been used in preference to higher quality land; and (ii) the proposal allows for continued agricultural use where applicable and/or encourages biodiversity improvements around arrays.*
- *that solar farms are normally temporary structures and planning conditions can be used to ensure that the installations are removed when no longer in use and the land is restored to its previous use;*
- *the proposal's visual impact, the effect on landscape of glint and glare and on neighbouring uses and aircraft safety;*
- *the extent to which there may be additional impacts if solar arrays follow the daily movement of the sun;*
- *the need for, and impact of, security measures such as lights and fencing;*
- *the care that should be taken to ensure heritage assets are conserved in a manner appropriate to their significance, including the impact of proposals on views important to their setting. As the significance of a heritage asset derives not only from its physical presence, but also from its setting, careful consideration should be given to the impact of large scale solar farms on such assets. Depending on their scale, design and prominence, a large scale solar farm within the setting of a heritage asset may cause substantial harm to the significance of the asset;*
- *the potential to mitigate landscape and visual impacts through, for example, screening with native hedges;*
- *the energy generating potential, which can vary for a number of reasons including, latitude and aspect.*

6.9.3 It is self evident that this proposal has potentially significant climate change benefits and accords with the general thrust of policies to encourage renewable energy production and reduce carbon emissions. The question that needs to be answered though is whether this proposed development, or its extent, is consistent with these objectives, and whether or not such a large scale solar farm is truly a sustainable form of development. Or will its local impacts be so considerable that they in fact outweigh the benefits; benefits which might better be achieved by a series of smaller installations with less impact on a particular location by being more easily accommodated within their surroundings?

6.9.4 One obvious possible disadvantage of the proposal from a climate change point of view is the obstacle it provides to suggested managed realignment of the Kent coast as promoted in the Medway Estuary and Swale Strategy (MEASS), and the need for it to respond to rising sea levels by mounting solar panels higher than would otherwise be needed; and surrounding the proposed substation/battery storage area with a high bund – although this largely arises from the decision to propose the erection of the substation on low lying land rather than on nearby rising ground.

6.10 Noise and Vibration

6.10.1 Adopted Local Plan policy DM 14 (General Development Criteria) includes a requirement (8) to cause no significant harm to amenity or to other sensitive uses or areas. The operation of solar panels is not likely to be noisy, so the potential noise impacts of the development are likely to be limited to construction activity including construction traffic movements (in an area of very low background noise levels), and to the operational noise arising from 80 transformers and from the substation and battery storage elements of the development as well as noise related to the decommissioning phase of the project. However, these will be sited some distance from the nearest sensitive properties and it would be possible to control construction and decommissioning working hours.

6.10.2 Predicted noise levels from equipment intended to be used (much of which would be installed within an earth bunded substation compound) is not considered likely to raise background noise levels significantly enough to result in any complaint. Noise mitigation measures can be included in the final design to ensure that noise does not exceed background levels, and this would be assisted if transformers are sited as far from likely affected properties as possible within the area of solar panels they serve, rather than at the nearest end. Construction will be a temporary feature of the project and may involve piling foundations (an operation which will give rise to noise above background levels if close to properties) and conventional means of transportation, essentially road vehicles. Provided hours of construction are limited to reasonable hours the effect of noise should only affect certain properties for short periods and construction noise should not be a major factor in the assessment of the project. However, with 12 hour days planned plus an hour each end for start up and clear down, the average day's work extends from 6am to 8pm. This seems excessive and it would be preferable if all activity is contained within not more than the 7am to 7pm period.

6.11 Air quality

6.11.1 There are no Air Quality Management Areas (AQMAs) close to the development site. The greatest impact on air quality relating to the development is likely to be that arising from construction traffic. Whilst this will be disadvantageous to air quality the Council has no evidence that local air quality is currently poor or will be reduced to dangerous levels by the project.

6.12 Glint and Glare

6.12.1 Such a large area of solar panels clearly has potential for glint (a momentary flash) and glare (a more sustained reflection) both during construction and operation of the solar farm. These effects are likely to be short lived and, apart for very close

neighbours to the site, at some distance from anyone affected. Any effects are not thought likely to create any danger o road users due to the considerable distance that the solar panels are set away from the highway. This is not likely to be a significant adverse impact of the development.